

UNIVERSIDAD
ANA G. MÉNDEZ

UAGM



Catalog 2023-2024

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UNIVERSIDAD ANA G. MÉNDEZ

CATALOG

2023-2024

Gurabo Campus

Additional Locations: Barceloneta, Cayey, Ponce, Yabucoa, Abington-Pennsylvania, Reading-Pennsylvania, Lebanon-Pennsylvania, Fogelsville-Pennsylvania, St. Croix, and St. Thomas

Branch Campuses: Orlando, South Florida and Tampa-Florida

Cupey Campus

Additional Locations: Aguadilla, and Bayamón

Branch Campuses: Orlando, South Florida and Tampa-Florida

Carolina Campus

Additional Locations: Barceloneta, Cabo Rojo, and Santa Isabel

Branch Campuses: Orlando, South Florida and Tampa-Florida

POLICY STATEMENT

This catalog contains the major points of the current agreement between the students and the Institution. Within this agreement, the institution reserves the right to make changes in course offerings, curricula, and other policies affecting its programs. Due to the changing nature of professions, the institution is continuously reviewing and restructuring many of its academic programs to enhance their quality, improve efficiency, or to comply with requirements of professional boards, accrediting agencies, and governmental laws and regulations, among others. In that process, some of the programs and courses mentioned in this catalogue may be modified, consolidated with other programs or courses, or eliminated. When the curriculum of any one program is revised, the institution will automatically initiate the transfer process of every student enrolled in said program to the revised curriculum but without increasing, the number of credits required of the student to finish the program. If you have questions about a program or course, you should contact the appropriate university school or department. In case that a program is eliminated, the program director will prepare a course schedule to assure the graduation of those students enrolled in the program within applicable institutional regulations.

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OUR PROFILE

Universidad Ana G. Méndez (UAGM) is a private non-profit institution of higher education and a component of Ana G. Méndez University System. UAGM has three main campuses: UAGM-Gurabo Campus, UAGM-Cupey Campus, and UAGM-Carolina Campus. Governance (governing bodies) is established as follows: Board of Directors, University Board and Academic Senate.

A Board of Directors of thirteen members governs the AGMUS. The Executive Officers of the Central Administration are; The President, the Executive VicePresident, the Vice-President for Financial Affairs, the Vice President for Planning and Institutional Effectiveness, the Vice President of Academic Affairs, the Vice-President for Administrative Affairs, the Vice-President for Marketing and Student Affairs, the Vice President of Human Resources. The Board of Directors is composed of 12 members: 4 permanent and 8 elected. The Board is organized in diverse working committees that include: Government Commission, Academic and Student Affairs Commission, Finance Commission, Audit Commission, and Executive Committee.

The University Board is a single governance body at central level. It is constituted by: UAGM President (presides), Nine (9) UAGM vice-presidents, Operational and Executive Vice President, Vice President of Academic Affairs, Vice President of Marketing and Students Affairs, Vice President of Planning and Institutional Effectiveness, Vice President of Human Resources, Vice President of Financial Affairs, Vice President of International Affairs, Vice President of Administrative Affairs, Vice President of Telecommunications and Academic Innovation, Chancellor of each campus, Two (2) full-time faculty members per campus, and a student representative per campus.

The Academic Senate is one per campus. It is constituted by: Chancellor (presides), Campus Academic Dean, Dean of Student Affairs, Dean of Institutional Effectiveness, Deans of Academic Divisions, Director of License and Accreditation, Director of Library and Technological Integration, Two (2) Full-Time Faculty per academic division and specialized school, Two (2) student representatives, and Directors of each additional location. In the case of the Academic Senates, and in compliance with the bylaws, as many faculty members will be added by vote to ensure faculty majority in this governing body.

Universidad Ana G. Méndez-Gurabo Campus

Universidad Ana G. Méndez-Gurabo Campus is a nonprofit institution of higher education with a wide range of academic degrees from professional certificates to doctoral degrees. It is located 15 miles southeast of San Juan, Puerto Rico, within easy reach of the entire eastcentral part of the island. The campus is 558,761 square feet. It has 78 classrooms, 16 science labs, and 12 computer labs, providing an ideal atmosphere for the learning experience. The university currently operates five (5) Additional Locations located in Barceloneta, Cayey, Yabucoa, and Ponce, and three (3) US Branch Campuses in Florida. The academic system is organized into academic divisions and schools: Engineering, Design and Architecture Academic Division; Sciences and Technology Academic Division; Health Sciences Academic Division; Liberal Arts Academic Division; Business, Tourism and Entrepreneurship Academic Division; School of Professional Studies and Technical Programs; Specialized School of Dental Medicine; Specialized School of Naturopathic Medicine; and Specialized School of Veterinary Medicine. It is a professionally oriented institution with a variety of offerings, from technical certificates to doctoral degrees. The institution serves a diversified student body mostly from the surrounding communities, with a variety of economic and educational backgrounds. Founded in 1972, Universidad Ana G. Méndez-Gurabo Campus has continued to grow in the new millennium. The student population of more than 9,000 is composed of young adults and professionals. The academic staff consists of more than two hundred (200) full-time faculty members. The full-time faculty members hold doctorates and master's degrees in their fields of expertise. Nearly sixty (60) percent of Universidad Ana G. Méndez-Recinto de Gurabo's full-time faculty hold a doctoral degree. The gender distribution of the faculty is 59% female and 41% male.

Additional Locations

The additional location of UAGM Barceloneta is located on Highway PR-2, Km. 59.0, Puerta del Norte Building, Barceloneta, Puerto Rico. UAGM Barceloneta is 40,000 square feet. It has 11 classrooms with a capacity of

approximately 25 students, 7 science labs, and 2 computer labs.

The additional location of UAGM Cayey is located on State Highway 14, Km. 58.8, Barrio Montellano, Cayey, Puerto Rico. UAGM Cayey is 26,000 square feet. It has 7 classrooms with a capacity of approximately 25 students, 2 science laboratories and 3 computer laboratories.

The additional location of UAGM Ponce is located on State Highway 14, Km. 3.4, Barrio Machuelo, Ponce, Puerto Rico. UAGM Ponce is 28,321 square feet. It has 5 classrooms with a capacity of approximately 25 students, 3 science laboratories and 1 computer laboratory.

The additional location of UAGM Yabucoa is located on Highway 901, Km.1.4, Barrio Juan Martín, Yabucoa, Puerto Rico. UAGM Yabucoa is 35,207 square feet. It has 10 classrooms with a capacity of approximately 25 students, 2 science labs, and 5 computer labs.

Universidad Ana G. Méndez- Cupey Campus

Universidad Ana G. Méndez- Cupey Campus is a private post-secondary educational institution and a member of the Ana G. Méndez University System (AGMUS), a non-profit organization. The campus is 901,597 square feet. It has 48 classrooms, 29 science labs, and 8 computer labs. The university currently operates two (2) Additional Locations located in Bayamón and Aguadilla and three (3) US Branch Campuses in Florida. The by-laws of the Ana G. Méndez University System stipulate the objectives, powers, officers, committees, meetings and financial affairs of the Institution. They also specify the way in which the by-laws and regulations of each one of the autonomous institutions will be approved. The University does not reject or deny the legitimate rights, or discriminate against any person for reason of race, sex, color, physical handicap, social condition, nationality, age, political affiliation, religious, social or trade union beliefs. It offers technical and professional certificates, associate, bachelor's, master's and doctoral degrees. The academic system is organized into academic divisions and schools: Engineering, Design and Architecture Academic Division; Sciences and Technology Academic Division; Health Sciences Academic Division; Liberal Arts Academic Division; Business, Tourism and Entrepreneurship Academic Division; School of Professional Studies and Technical Programs; Specialized School of Dental Medicine. It is a professionally oriented institution with a variety of offerings, from technical certificates to doctoral degrees. The student population of 6,000 is composed of young adults and professionals. The academic staff consists of one hundred fifty (150) full-time faculty members. The full-time faculty members hold doctorates and master's degrees in their fields of expertise. Nearly forty-seven (47) percent of Universidad Ana G. Méndez-Recinto de Cupey's full-time faculty hold a doctoral degree. The gender distribution of the faculty is 70% female and 30% male.

Additional Locations

The additional location of UAGM Aguadilla is located on Highway 111, KM 0.5, Barrio Palmar, Aguadilla, Puerto Rico. UAGM Aguadilla is 70,715 square feet. It has 22 classrooms with a capacity of approximately 25 students and 5 science laboratories.

The additional location of UAGM Bayamón is located on Highway 167 Government Center Paseo del Parque corner Santiago Veve, Government Center, Bayamón, Puerto Rico. UAGM Bayamón is 159,734 square feet. It has 55 classrooms with a capacity of approximately 25 students, 6 science labs, and 3 computer labs.

Universidad Ana G. Méndez- Carolina Campus

Universidad Ana G. Méndez- Carolina Campus and three (3) additional locations in Puerto Rico; these are situated in the towns of Cabo Rojo, Barceloneta and Santa Isabel. The Carolina main campus is in the Eastern part of the island. Its 21 acres suburban campus and its modern and spacious buildings provide an ideal atmosphere for the learning experience. The campus is 329,113 square feet. It has 39 classrooms, 21 science labs, and 11 computer labs. In addition, Carolina campus has a total of three (3) branch campuses in the continental United States. The branch campuses are in the state of Florida: (a) Metro Orlando campus in Orlando; (b) South Florida campus in Miami Lakes; and (c) the Tampa Bay campus in Tampa. As a professionally oriented institution, UAGM- Carolina Campus offers, postsecondary certificate programs, associate degrees, over baccalaureate programs and master programs, in the areas of business,

culinary arts, tourism, science and technology, education, social work, criminal justice and criminology. The academic system is organized into academic divisions and schools: Engineering, Design and Architecture Academic Division; Sciences and Technology Academic Division; Health Sciences Academic Division; Liberal Arts Academic Division; Business, Tourism and Entrepreneurship Academic Division; School of Professional Studies and Technical Programs; Specialized School of Dental Medicine. Founded in 1949, as Puerto Rico Junior College (PRJC), it continued to mature into a four-year institution in 1992 as Colegio Universitario del Este (CUE) and finally evolving into a university in 2001 as Universidad del Este. Student population consists mostly of commuting young adults from the surrounding communities. The overall enrollment at UAGM- Carolina Campus is 5,000 comprised of undergraduate and graduate students. Master's degree programs were initiated in October 2001 at UAGM- Carolina Campus and in 2005 at the additional locations. The academic faculty consists of 156 full time professors. Fifty-three (53%) per cent of the full-time faculty has doctorates while the rest of the faculty possesses master's degrees in their fields of expertise. The gender distribution of the faculty is 58% female and 42% male.

Additional Locations

The additional location of UAGM Barceloneta is located on Highway PR-2, Km. 59.0, Puerta del Norte Building, Barceloneta, Puerto Rico. UAGM Barceloneta is 50,000 square feet. It has 13 classrooms with a capacity of approximately 25 students, 4 science labs, and 4 computer labs.

The additional location of UAGM Cabo Rojo is located on Highway 100, Sector Miradero, Km 4.8, Cabo Rojo, Puerto Rico. UAGM Cabo Rojo is 24,524 square feet. It has 6 classrooms with a capacity of approximately 25 students, 3 science laboratories and 3 computer laboratories.

The additional location of UAGM Santa Isabel is located on Highway 153 South, Km. 12.5, Barrio Paso Seco, Santa Isabel, Puerto Rico. UAGM Santa Isabel is 16,364 square feet. It has 12 classrooms with a capacity of approximately 25 students, 1 science lab and 5 computer labs.

HISTORY OF UAGM

During the 1940's, three distinguished educators, Dr. Ana G. Méndez, Dr. Florencio Pagán Cruz, and Mr. Alfredo Muñiz Souffront, recognized the need for new developments in the field of education that would keep pace with the social and economic advances that were taking place in Puerto Rico at that time. With this in mind, in 1947 they began to lay the groundwork for establishing a modern institution of higher learning. In 1949, Puerto Rico Junior College was founded, and incorporated according to Puerto Rican laws on June 30, 1950. The Puerto Rico Council of Higher Education licensed the Institution on June 27, 1957, which was followed by the Middle States Association of Colleges and Secondary Schools accreditation on May 1, 1959. It has been subsequently reaccredited since 1959 until the present. Until December 2018, Ana G. Méndez University System operates four institutions called: Universidad del Turabo, Universidad Metropolitana, Universidad del Este, and Universidad Ana G. Méndez. Presently, effective in January 2019, Ana G. Méndez University System made a change of name to Universidad Ana G. Méndez with two institutions: Universidad Ana G. Méndez and Ana G. Méndez Univeristy. Universidad Ana G. Méndez have three main campuses: Universidad Ana G. Méndez- Gurabo Campus, Universidad Ana G. Méndez-Cupey Campus, and Universidad Ana G. Méndez-Carolina Campus.

UAGM VISION

The Universidad Ana G. Méndez will be recognized as an institution focused on academic excellence, research and service, with social responsibility and local and global projection.

UAGM MISSION

The Ana G. Méndez University (UAGM) is a private non-profit educational institution, committed to the quality of teaching, research, innovation, entrepreneurship, and internationalization. It serves a diverse student population through a multi-campus structure. The UAGM has the purpose of contributing to the formation of citizens committed to the well-being of the local and global community. Also, the university offers post-secondary, undergraduate, graduate, and continuing education academic programs, through the various face-to-face and distance modalities, framed in the highest quality standards.

UAGM GURABO CAMPUS MISSION

The Gurabo Campus and its locations are accredited units of Universidad Ana G. Méndez that are committed to academic excellence, research, innovation, entrepreneurship, internationalization, and the socio-humanist development of a diverse population. By developing academic and professional competencies we form citizens capable of contributing to the local and global communities. Its resources support its post-secondary, undergraduate, graduate, and continuing education academic offer, using diverse learning modes and following the highest standards of quality.

UAGM CUPEY CAMPUS MISSION

The Cupey Campus and its locations are accredited units of Universidad Ana G. Méndez that develop academic and professional competencies through education, research, innovation, technology, entrepreneurship, and internationalization. It fosters integral citizens, who are committed to life-long learning, as well as to the socio-economic, political, social, cultural, and environmental development of the local and global communities. Its resources support its post-secondary, undergraduate, graduate, and continuing education academic offer, using diverse learning modes and following the highest standards of quality.

UAGM CAROLINA CAMPUS MISSION

The Carolina Campus and its locations are accredited units of Universidad Ana G. Méndez that develop responsible and solidary citizens, capable of contributing to sustainable development through a social-humanist education of excellence that values research, internationalization, entrepreneurship, technology, culture, and commitment to the community. This is fulfilled by offering students an atmosphere of respect, academic freedom, and intellectual challenge, in addition to the necessary resources to help them develop high cultural and ethical values, critical thinking, intellectual curiosity, language and technological skills, as well as the personal and professional skills required for success in their professions and daily lives.

LICENSURE

Puerto Rico Office of Registration and Licensing of Educational Institutions
P.O. Box 9023271 San Juan, Puerto Rico 00902-3271

ACCREDITATION

REGIONAL ACCREDITATION

Middle States Commission on Higher Education 3624 Market Street Philadelphia, PA 19104-2680

SPECIALIZED ACCREDITATIONS BY CAMPUS

Agency	Campus	Validity
Commission on Collegiate Nursing Education (CCNE)	Gurabo	BSN 03/14/2022 – 12/31/2027 MSN-FNP 06/2020 – 06/3030
Accreditation Commission for Education in Nursing (ACEN)	Carolina	ADN & BSN 2022-2030
	Cupey	BSN 2020 - 2028 MSN 2023-2030
Council for the Accreditation of Educator Preparator (CAEP)	Gurabo	4/27/2020 – 06/30/2026
	Carolina	2014-2028
	Cupey	10/24/2016-12/31/2023
Council on Naturopathic Medical Education (CNME)	Gurabo	Accreditación inicial/Initial accreditation: 01/2021-2025
Council on Social Work Education Commission on Accreditation (CSWE)	Gurabo	Master: 2019-2029 Bachelor: 2019-2027
	Carolina	Master: 2019-2027 Bachelor: 2022-2030
	Cupey	2021-2025
International- The Association to Advance Collegiate Schools of Business (AACSB)	Gurabo	2016 – 2020 – 2021 - 2026
Accreditation Council for Business Schools and Programs (ACBSP)	Carolina	2022-2032
	Cupey	2013-2023
ABET	Gurabo	09/2017 – 09/30/2023
	Carolina	2015-2023
Accreditation Council for Education in Nutrition and Dietetics Academy of Nutrition and Dietetics (ACEND)	Gurabo	2023-2027
Accrediting Council on Education in Journalism and Mass Communication (ACEJMC)	Gurabo	2018-2024
American Culinary Federation Education Foundation, Inc. Accrediting Commission (ACFEF-AC)	Carolina	2025
	Cabo Rojo	2024

Agency	Campus	Validity
Accreditation Commission for Programs in Hospitality Administration (ACPHA)	Carolina	2016-2023
American Psychological Association Commission on Accreditation (APA)	Gurabo	2016-2023
Committee on Veterinary Technician Education and Activities (CVTEA)	Gurabo	2018-2023 (Gurabo); 2020-2025 (Ponce, Barceloneta)
American Chemical Society (ACS)	Gurabo	Since 2016 The inclusion of a department on the approved list of the ACS is not granted for any defined period. All approved schools are required to report annually.
International Association for Continuing Education and Training (IACET)	Carolina Cupey	2018-2023
National Architectural Accrediting Board, Inc. (NAAB)	Gurabo	2019- 2022 (Reaccreditation visit 2023)
Landscape Architectural Accrediting Board American Society of Landscape Architects (LAAB-ASLA)	Gurabo	2019 - 2025
National Accrediting Agency for Clinical Laboratory Sciences (NAACLS)	Gurabo	2021 - 2026
Middle States Commission on Higher Education (MSCHE)	Gurabo	2015-2024
	Carolina	2015-2024
	Cupey	2023-2031

MEMBERSHIPS

- American Association for Adult and Continuing Education American Association for Counseling and Development American Association of Collegiate Registrars and Admissions Officers
- American Association of Higher Education
- American Council on Education American Library Association
- Asociación Universitaria de Programas de Honor Puerto Rico College Board of Puerto Rico
- Council on Higher Education Association Hispanic Association of Colleges and Universities Library Administration and Management Association National Collegiate Honors Council Puerto Rico Association of Higher Education
- Puerto Rico Association of Honors Programs
- Puerto Rico Association for Counseling and Development Puerto Rico Chamber of Commerce Puerto Rico
- Library Association Puerto Rico
- Manufactures Association the Association for Institutional Research

UAGM CONTACT INFORMATION

Campus/ Additional Location	Telephone	Physical Address	Postal Address
Gurabo	(787) 743-7979	Carr. 189, Km.3.3 Gurabo, PR 00778	PO Box 3030 Gurabo, PR 00778-3030
Barceloneta	(787) 884-4414	Carr. PR 2 Km. 59.0 Edificio Puerta del Norte Barceloneta, PR 00617	PO Box 2050 Barceloneta, PR 00617
Cayey	(787) 263-2177	Carr. 14, km 72. 2 Ave. Antonio R. Barceló Cayey PR 00737	PO Box 9000 Suite 281 Cayey, PR 00737
Ponce	(787) 812-5001	Carr. 14 Km. 3.4 Bo. Machuelo Ponce, 00715	PO Box 740 Mercedita, PR 00715
Cupey	(787) 766-1717	1399 Avenida Ana G. Méndez, San Juan, PR 00928	PO Box 21150 San Juan, PR 00928-1150
Aguadilla	(787) 882-7070	Carr. 111 KM 0.5 Barrio Palmar, Aguadilla, PR 00605	PO Box 70 Aguadilla, PR 00605
Bayamón	(787) 288-1100	Carr. 167 Centro de Gobierno, Paseo del Parque esquina Santiago Veve, Centro Gubernamental, Bayamón, PR 00960	PO Box 278 Bayamón, PR 00960-0278
Carolina	(787) 257-7373	Ave. Principal Sabana, Carr. 190, Km 1.8, Barrio Sabana Abajo Carolina, P.R. 00983	PO Box 2010 Carolina, PR 00984-2010
Barceloneta	(787) 884-4414	Carr. PR 2 Km. 59.0 Edificio Puerta del Norte Barceloneta, PR 00617	PO Box 2050 Barceloneta, PR 00617
Cabo Rojo	(787) 255-2033	Carr. 100 Sector Miradero km. 4.8, Cabo Rojo, PR 00623	Box 1159 Cabo Rojo, PR 00623
Santa Isabel	(787) 845-3050	Carr. 153 Sur, Km. 12.5, Bo. Paso Seco, Santa Isabel, PR 00757	PO Box 756 Santa Isabel, PR 00757-9998

POLICY STATEMENT

This catalog contains the major points of the current agreement between the students and the Institution. Within this agreement, the institution reserves the right to make changes in course offerings, curricula, and other policies affecting its programs. Due to the changing nature of professions, the institution is continuously reviewing and restructuring many of its academic programs to enhance their quality, improve efficiency, or to comply with requirements of professional boards, accrediting agencies, and governmental laws and regulations, among others. In that process, some of the programs and courses mentioned in this catalogue may be modified, consolidated with other programs or courses, or eliminated. When the curriculum of any one program is revised, the institution will automatically initiate the transfer process of every student enrolled in said program to the revised curriculum but without increasing, the number of credits required of the student to finish the program. If you have questions about a program or course, you should contact the appropriate university school or department. In case that a program is eliminated, the program director will prepare a course schedule to assure the graduation of those students enrolled in the program within applicable institutional regulations.

NON-DISCRIMINATION STATEMENT

Universidad Ana G. Méndez does not discriminate based on race, handicap, national or ethnic origin, creed, color, sex, social condition or political, religious, social or trade union beliefs.

NON-PROFIT STATUS

Universidad Ana G. Méndez is a private, secular, non-partisan educational institution and a member of the non-profit Ana G. Méndez University System, which operates university level institutions.

PROGRAMS AND CURRICULUM

Our admissions policy requires that the student have finish high school or have approved an Equivalency Exam from the Department of Education of Puerto Rico or its equivalence. As a way of helping the students to overcome any cognitive difficulty and adaptation to university life, UAGM offers special academic courses; tutorial as well as mentoring programs to improve his success in his studies. The academic programs at UAGM are conducive to obtaining a certificate, associate, bachelor's, master's, or doctor's degrees. The Certificate program allows the student to continue toward an associate or baccalaureate degree after the student graduates from this level. The associate, baccalaureate, master's, and doctor's degree programs are geared toward a profession and to prepare the graduate to enter the employment market immediately. The curricula include courses in general education, core/professional courses, and major/specialization courses but emphasis is also given to the technical and occupational courses. The continuing education programs are offered in accordance with the needs of public and private agencies, mainly in skilled areas where employees need to be re-skilled or retrained for a specific job.

All practicum courses, internships and/or clinical experiences irrespective of their mode or schedule, are exclusively provided during daylight hours, subject to potential exceptions. UAGM delivers its curriculum primarily in the Spanish language, with exceptions being made for select courses taught in English.

DEFINITIONS FOR TEACHING MODALITIES

Courses may be taught through different teaching modalities as defined below. The institution reserves the right to decide the modality to offer each course.

1. **Face-to-face courses with Web supported/facilitation:** Face-to-face course in which activities are incorporated through a web-based technological platform authorized by the UAGM. This includes the distribution of syllabi, course planning and study materials, as well as communication and exchange of information between the student and the faculty. Assignments completed online do not replace the required contact hours in the face-to-face course. The same rules will be applied for these courses as for face-to-face courses. This includes the same value of credit hours and contact hours regardless of the teaching modality.
2. **Online courses:** Course in which all the contact hours are offered through the online modality supported using the technological platform authorized by the UAGM. Include synchronous and asynchronous activities in course planning and delivery. It requires a previously planned instructional design.
3. **Blended courses:** course that combines the face-to-face modality with a distance education modality. 50 percent or more of the contact hours are offered face to face and the remainder in the distance education modality selected, either using the educational platform or the channel authorized by the UAGM. The component offered in the distance modality will meet all the requirements of teaching modality selected.
4. **Remote courses:** course in which no less than 75% of the contact hours are offered synchronously supported by the use of the technological platform authorized by the UAGM. The remaining 25% of the hours may be offered in

individual and group asynchronous activities. It requires a previous work plan of the course.

5. **Interactive video conference courses:** courses offered totally or partially through interactive, bidirectional, and multimedia transmission between two or more points. Students can participate in the interactive videoconference in person or through a simultaneous connection at one or more remote additional locations. The connection can be supported by technology available on the web or other means of telecommunication with or without the presence of a teacher. It requires that the teacher and the students know how to use the technology used.
6. **Accelerated adult program:** The accelerated adult program has five or eight-week class sessions per course that meet four-hours per week during a part-of-term. The courses are offered evenings and Saturdays (morning and afternoon). The student may take a maximum of two classes per session, completing six credits every five or eight weeks. Registration is continuous, with courses beginning fourteen times a year, and the possibility of completing up to fifty-four credits in an academic year. This way, the program provides greater flexibility for students, since they can accelerate their academic progress or design a class program that conforms to the different commitments they may have during the year.

COMMUNITY RELATIONS

UAGM mission as a learning community is assisted through the relations developed with the community. Among the relations developed with the community are active participation on special projects through professional organizations, the educational consortia's, clinical affiliations, and advisory boards. UAGM- participates in these consortia as part of the Sistema Universitario Ana G. Méndez as well as its own self standing partnerships and agreements by each campus.

ADMISSION REQUIREMENTS

The following are the general admission requirements:

- Have graduated from an accredited secondary school or its equivalent.
- An Official Transcript of credits of the school he/she attended, or an official document of an institution or agency recognized by the U.S. Department of Education certifies the equivalency of a high school degree.
- Health vaccination certification for applicants younger than twenty-one (21) years.

ELIGIBILITY INDEX

A grade point average of 2.00 for most degree programs is required, but some specific programs require other specific requirements. The program section includes the specific requirement by each one.

GENERAL ADMISSION REQUIREMENTS FOR NEW STUDENTS

POSTSECONDARY PROGRAMS (TECHNICAL CERTIFICATES)

- Have graduated from a college licensed by the Office of Registration and Licensing of the Board of Postsecondary Institutions (JIP Spanish acronymous) or have taken General Educational Development (GED) or its equivalent.
- Complete the Application for Admission.
- Submit one of the following documents: transcript of high school credits, graduation certificate, average certification, or GED approval certification for the applicable population.

- Present a valid Immunization Certificate (if you are under 21 years of age).
- For the Certificate in Practical Nursing, an overall high school GPA of 1.90 or higher is required.

UNDERGRADUATE PROGRAMS (ASSOCIATE DEGREES AND BACCALAUREATES)

- Have graduated from a high school, licensed by the Board of Postsecondary Institutions (JIP) or have taken the GED or its equivalent.
- Have an overall high school GPA of 2.00 or higher.
- Complete the Application for Admission.
- Submit one of the following documents: transcript of high school credits, graduation certification, average certification, or GED approval certification for the applicable population.
- Present a valid Immunization Certificate (if you are under 21 years of age).

OTHER ADMISSION PROVISIONS FOR NEW STUDENTS IN UNDERGRADUATE PROGRAMS (ASSOCIATE DEGREES AND BACCALAUREATES)

- Students who do not meet the required average of admission will be evaluated by the Academic Division.
- Some academic programs will have specific admission requirements, and these will be described in the catalog of the institution, to which the students to be admitted will refer.
- Some teaching modalities will have admission requirements, and these are contained in other policies and administrative orders. The admissions offices of the UAGM are obliged to know these requirements and enforce them.
- The CEEB test is not an admission requirement. However, in those programs that have specific achievement requirements in mathematics, English and Spanish, the results of this test may be used or instead, allow students to take the institutional placement tests.
- If you completed high school or equivalency exam, through an independent teaching modality that is not part of the services offered by the Puerto Rico Department of Education. Instead of a credit transcript, you must present evidence of having completed a study program equivalent to high school and submit the equivalence certified by the Puerto Rico Department of Education or the notarized certification of home-schooled students.

ACCELERATED PROGRAMS

- 21 years of age or older
- 2 years work experience
- For undergraduate programs must have 12 credits approved or attempted at post-secondary level from an accredited institution
- For graduate programs must have completed a bachelor's degree from an accredited university

GRADUATE PROGRAMS

- Have completed a bachelor's degree (undergraduate/bachelor's degree) at an accredited university.
- Meet the GPA established by the academic program of interest at the undergraduate level. Please refer to the specific requirements by academic division for details of some exceptions.
- Complete the application for admission.
- Submit **ONE** of the following documents: diploma, transcript of university credits (official certification of grades) where you obtained the bachelor's degree or bachelor's degree or the degree certification. Note: There are programs that require full time with a degree conferred.

OTHER ADMISSION PROVISIONS FOR NEW STUDENTS IN GRADUATE PROGRAMS

- Students who do not meet the required admission average will be summoned to interview and evaluated by a committee organized for this purpose.
- Some academic programs may have specific admission requirements. Refer to the academic divisions section in the Catalog.

OTHER ADMISSION PROVISIONS FOR NEW STUDENTS IN MASTER'S PROGRAMS GRADUATED FROM THE UAGM

- An expedited admission will be established for UAGM graduates.
- Students who meet the minimum required average will be admitted directly, exempting them from letters of recommendation, essays, exams, and interviews.
- The student will be provided with an extension of time in the delivery of the required documents until mid-October (in cases such as Architecture).
- There will be exceptions to this flexibility in programs within the divisions of Health Sciences, Liberal Arts, Engineering, Design and Architecture, Business, Tourism and Entrepreneurship, Science and Technology that are regulated by specialized accreditations.

DOCTORAL PROGRAMS

- Hold a master's degree or an equivalent degree from an accredited institution of higher education. Except for the Doctor in Naturopathic Medicine and the Doctor in Toxicology and Drug Design which requires a bachelor's degree in specific disciplines.
- Meet the GPA established by the academic program of interest.
- Submit official credit transcripts from all the institutions of higher learning that the student attended.
- Upon invitation, take part in an interview with a department representative or the admissions committee.
- Submit the three recommendation forms included in the admission application.
- Submit an essay on a topic selected by the Division's Admissions Committee.
- Submit an updated résumé that reflects professional experiences and academic achievements.
- Certain programs may require graduate admission test.
- Additional requirements may apply.

ADMISSIONS PROCEDURES

- Submit an application for admission.
- Submit an official high school transcript or its equivalent. If the applicant is not a high school graduate, he should submit evidence that he is taking the last credits to complete his requirements.
- Meet all admissions requirements by the date scheduled in the Institution's calendar.
- Candidates for admission may be interviewed by representatives of the school.
- Students holding degrees from other accredited higher learning institutions that wish to pursue studies must meet the admissions requirements set forth by the Institution.
- Incomplete applications or those not fulfilling the established requirements will be considered for conditional

admission. The Institution may invalidate the student's admission and conditional registration. Students are required to submit all documentation within 45 days after classes have initiated.

- Veterans and beneficiaries should submit all admissions requirements before the first day of classes and not within the 45 days after the beginning of classes.

READMITTED STUDENTS

An applicant for readmission is a student who has interrupted his studies for one academic term (summer sessions do not count) and wishes to continue studying. The student must meet the academic requirements established in the Institution. The student will be readmitted to a new program sequence if the previous program has been placed in moratorium or Teach-out status.

REQUIREMENTS FOR READMISSION

- The applicant must have a grade point average equivalent to the retention index.
- The applicant must have complied with the suspension period for academic index or for disciplinary reasons.
- The applicant may be required to attend an interview with representatives of the school or a guidance counselor.
- The applicant must comply with all requirements of the selected program.
- Compliance with all UAGM by-laws, rules, and regulations.

PROCEDURE FOR READMISSIONS

- Submit an application for readmission.

TRANSFER STUDENT POLICY

Transfer students are considered for admission if they have followed a course of study in a post-secondary institution or university that is accredited, and the course content is comparable to that offered at UAGM Campuses or appropriate for the degree program. Students may be admitted if they fulfill the following requirements:

1. Must have passing grades in at least six (6) credits of the twelve (12) credits attempted from an accredited university. The passing grade for undergraduate programs must be "C" or above, and for graduate programs "B" or above.
2. Comply with the admission requirements for transfer as established by his/her program of choice.
3. Compliance with all UAGM Campuses by-laws, rules, and regulations.
4. Veteran students should submit transcripts from previous trainings taken. No veteran student will be certified until this requirement has been met.

PROCEDURES FOR TRANSFER

- Submit an application for transfer.
- Submit an official transcription from the institution the student is transferring from.
- The applicant may be required to: Submit a copy of the catalog of the institution where the student attended if the applicant studied outside of Puerto Rico.

SPECIAL STUDENTS

Students with an academic degree who wish to take courses to fulfill a professional requirement or complete another major may apply as a Special Student.

TRANSITORY STUDENTS

Students who are enrolled in another university or college and wish to take courses not leading to a degree can apply as transitory student. They need an official permit from their university or college.

REQUIREMENTS FOR SPECIAL AND TRANSITORY STUDENT

- Fill out a Special Student application form.
- Applicants with a college degree must submit a copy of the degree or an official permit authorizing them to enroll.
- The applicant may be required to attend an interview with representatives of the school.

INTERNATIONAL STUDENTS' REQUIREMENTS AND PROCEDURE

Requirements

- The international student applying for admission, readmission or transfer must meet with the requirements of the program.

Procedure

- International students applying for admission must meet the requirements set forth by the Institution in the general admissions.
- The international student must complete Form I-20 and meet with the Designated School Official (DSO) of the Institution.
- Present a sworn statement certifying financial capability to disburse for his studies.

RIGHTS RESERVED

The UAGM Campuses reserves the right to admit, readmit, or register any student for any class session, semester, or part-of-term. It also reserves the right to suspend temporarily, partially, totally, or permanently any student according to the by-laws of the Institution.

RULES AND REGULATIONS FOR ADMISSION AND REGISTRATION

Students should familiarize themselves with all rules, norms and regulations of the Institution through the Student Handbook, Student Regulation, and the Institutional Catalog that are located at the institution's website: <http://uagm.edu>. The Institution reserves the right to enforce the observance of those rules, norms and regulations that safeguard the ideals and standards for which it stands and may ask a student to withdraw if he/she does not comply with these rules or refuses to cooperate with a working member of the Institution. The decision reached by the administration in such cases is final. All students should regularly examine the bulletin boards and the <https://myuagm.uagm.edu/> website of the Institution to be informed of official announcements.

ADMISSIONS POLICY

The two main objectives of the UAGM Campuses in the admissions, readmissions, and transfer policies are:

1. To provide admissions to as many qualified applicants as the physical facilities and programs allow.
2. To provide the educational opportunities that will best contribute to the success of those students capable of doing college work.

SUPPORT SERVICES

Universidad Ana G. Méndez has learning centers and academic services in each of our campuses:

1. Online Student Services

From the main page students can access:

- a. Campuses and university centers sections
- b. MiUAGM Portal

2. Email

UAGM will assign the student at the time of making admission a username and a password that will be the credentials that students will use in all the university platforms. To obtain this information students must access: <https://ociteapps.uagm.edu/sica>

3. Student Portal

At myuagm.uagm.edu students can see their class schedule, enroll online, connect to the virtual classroom through Blackboard Collaborate, find contact information for their teachers, access student services, see their grades, among other services.

4. Blackboard

It is also important that students know their Blackboard Classroom where they can see announcements of their courses, upload assignments and more. To access Blackboard and the tutorials we offer, use the link: uagm.edu/blackboard.

5. Virtual Library

Students can access virtual library services through library.uagm.edu.

6. Zona U

In Zona U students will find an integrated service center where they can complete the steps of admissions, financing study and enrollment in one place. UAGM are ready to assist students at convenient times for them.

7. Technical Support

If students do not know their username and password, or if they have problems identifying it, may contact technical support at 787-751-1374 or 787-751-0178 Ext. 7487.

8. Appointments

Students can make an appointment in person or by phone through: uagm.edu/citas or 787-751-1403.

9. Quality of Life Office

Office that promotes the integral formation of the student through interdisciplinary services that allow them to develop their personal, emotional, academic, occupational, and social potential. The services we offer are Counseling:

Personal

- a. Vocational/occupational
- b. Academic
- c. Psychotherapy
- d. Social Work
- e. Satisfactory Academic Progress Standard (NPAS)
- f. Mental health prevention and promotion fairs
- g. Reasonable accommodation and vocational rehabilitation

10. Office of Comprehensive Student Development

UAGM has several Student Associations, scholarship and internship opportunities, and employment through the Placement Office for students to continue their professional development. These experiences will provide the student with a variety of opportunities to become involved in the university environment and enrich their social, cultural, and educational experiences. Through these services student can:

- a. Develop their social, communication and leadership skills
- b. Meet students with the same interests
- c. Have opportunities for scholarships and internships
- d. Participate in activities and projects for professional growth
- e. Have exposure to professional experiences

11. Retention Services

Academic Advising

- a. Assistance with the student class schedule
- b. Interpretation of student curricular sequence
- c. Track their academic progress
- d. Referrals for other needs

Assistance with the student class schedule

- a. Personal
- b. Academic
- c. Vocational
- d. Satisfactory Academic Progress Standard (NPAS)
- e. Groups workshops

Mentoring

- a. Academic support services in face-to-face and remote mode.
- b. Services are offered individually and/or in groups.
- c. Participants are assisted by peer students.
- d. The services are scheduled in basic and major courses.

12. Financial Aid

The Financial Aid Office is available all year round to clarify doubts related to FAFSA. Students can also apply for work-study programs. Students can access fafsa.gov to complete their FAFSA application.

13. Medical Assistance

Students can receive professional guidance on common symptoms such as fever, headache, vomiting, diarrhea, and get medical advice on what to do in an emergency. Also:

- a. Coordination of medical appointment
- b. Initial evaluation
- c. Orientation and reading of laboratories
- d. Guidance on health issues and healthy lifestyles
- e. Referrals and issuance of medical orders (if necessary)
- f. Guidance on preventive measures to avoid the contagion and spread of COVID-19

14. Psychological Services Clinic

The clinic provides services to children, adolescents, and families throughout the community, and we are here to support students. The clinic offers initial and orientation interviews, psychological therapy in individual, couple, family and group modalities, animal assisted therapy, referrals to neuropathic medicine, aromatherapy, horticulture, and psychoeducational workshops. The clinic also carries out psychological evaluations (psychometric, psychoeducational, personality and neuropsychological screening).

15. Naturopathic Medicine Clinic

The clinic provides services in medicinal herbs, Chinese Medicine and Acupuncture, homeopathy, clinical nutrition, specialized tests, comprehensive health assessment and more.

STUDENTS REGULATIONS MANUAL

The Universidad Ana G. Méndez (UAGM) Student Regulations Manual establishes the students' rights and duties, as well as the rules that govern order, safety, and the healthy coexistence of the student community in their respective campuses and university centers. These Regulations apply to all students, in any sponsored, represented, or participating activity in which the campuses and university centers partake, in and outside the university grounds.

Universidad Ana G. Méndez (UAGM) is part of the Ana G. Méndez University System, Inc. (hereinafter SUAGM). It is a non-profit corporation for the benefit of the public interest that operates in accordance with the laws of the Commonwealth of Puerto Rico and the laws of the jurisdictions where it provides services in response to the needs and demands of the environment. The Student Regulations Manual applies to all students on the UAGM campuses and university centers in Puerto Rico.

The Students Regulations Manual is available at the following link: <https://www.uagm.edu/es/estudiante-consumidor/informacion-estudiantil-student-information>.

ACADEMIC YEAR DEFINITION

The academic period is divided into two semesters and one summer, which in turn can be subdivided into smaller sessions called terms.

CREDIT HOUR POLICY

Definition: The U.S. Department of Education defines "credit hour" as:

"...An amount of work representing in intended learning outcomes and verified by evidence of student achievement that is an institutionally established equivalency that reasonably approximates not less than:

1. One hour of classroom of direct faculty instruction and a minimum of two hours of outclass student work for approximately fifteen weeks for one semester or trimester hour of credit, or ten to twelve weeks for one quarter hour of credit, or the equivalent amount of work over a different amount of time; or,
2. At least an equivalent amount of work as required in paragraph (1) of this definition for other academic activities as established by the institution, including laboratory work, internships, practicum, studio work, and other academic work leading to the award of credit hours."

Policy: UAGM Campuses has implemented a variation of the traditional unit of measuring the academic experience associated with a "credit hour." The Registrar's Office uses this policy to program courses each semester. The various formats used to schedule the courses are for: traditional lecture sessions, laboratory sessions, group activities, practicum, clinical internships, Thesis/Business projects and independent study.

1. Traditional lecture sessions

- a. A credit hour is associated with a minimum of 50 minutes per credit hour. UAGM Campuses programs in three formats: A 16-week semester includes a final examination or project presentation or Part-of-Term sessions of 8-weeks in each semester or Part-of-Term sessions of 5-weeks.
- b. Scheduling of courses is programmed as: A 3-credit course should meet no less than 2100 minutes during the semester, and a 4-credit course should meet no less than 2800 minutes during the semester. In addition, for every hour of class, there are two hours of outside student work. The out-of-class work is typically categorized as reading, studying, problem solving, writing, or preparation.

2. Variations of Teaching Modalities

Courses that utilize different educational approaches may seek variations from the standard credit hour definitions. The expectations are that quality, and rigor of learning and academic work associated with a "credit hour" will be

consistent regardless of location, teaching modality or class duration. Variations to the standard credit hour policy are considered for recommendation by UAGM Governing Boards Program Committee as stated in the SUAGM Institutional by-laws.

1. Face-to-face courses with Web enhancement/facilitation: blended courses use online content delivery for less than 30% of the course delivery. This course may have or not decrease in scheduled "seat time" associated with a credit hour with the expectations that the additional activities correspond directly to the reduced seat time.
2. Online courses: use online content delivery for greater than 79% of the course and may meet infrequently or not at all in a face-to-face session during the semester.
3. Graduate level courses: some graduate level courses are scheduled for less "seat time" because of an expectation of more than 2 hours of "out-of-class time" for every 1 hour in class. Graduate level courses meet or exceed 700 minutes of seat time per credit.
4. Non-standard course duration / Non-traditional course duration / Accelerated adult program course duration: credit hours awarded for learning and academic work completed in short sessions (summer sessions, half-semester, or Part-of-Term) will be comparable to the standard 15 + 1 week semester but distributed over a shorter time-period.

AUTHENTICATION OF STUDENT IDENTITY ON DISTANCE EDUCATION

UAGM has established mechanisms to verify and demonstrate the identity students enrolled in online courses offered by the institution in its Student Authentication Policy. For these purposes, the following has been developed:

1. Platforms Access and Secure Password through a unique user ID (username) created by the Banner System, and digital mechanisms and procedures to protect users account with two-step verification.
2. Supervised exams using digital tools to monitor the environment in which a student is taking a remote exam and locking the screen and some computer functions as web browsing and accessing other areas of the computer. Other available option is taking the exam in an institutional laboratory with a proctor.
3. Teaching-learning practices - The faculty is the main agent in the use of this mechanisms. Through the synchronous and asynchronous interactions of the course and the possible recording of the same, the faculty establishes academic relationships with his students to facilitate knowledge and motivate participation in the teaching and learning process. This allows them to identify a profile of each student, not only of their physique but also of how they think, analyze, apply knowledge, and behave.

Any violation shall be considered a breach of academic integrity/honesty and shall be subject to disciplinary action which may include: any type of suspension, expulsion, or any other type of action in accordance with Article IX: Disciplinary Procedure of the Student Regulations Manual.

ACADEMIC INFORMATION REGISTRATION AND OTHER RELATED PROCEDURES

The Office of the Dean of Student Affairs determines the registration procedure, and no program of study is valid without the approval of this administrative officer. The Office of Enrollment is responsible for the registration process. The Registrar's Office is responsible for the maintenance of all official academic student records and for issuing transcripts, certifications, registration, and graduation certificates. Candidates for admission, readmission, or transfer and special students may not register until each has received an official and final statement of acceptance from the Office of Admissions.

The Institution does not necessarily guarantee the class program of study chosen by the student during the early registration period if the course does not attain the minimum of students per section. The Institution does not guarantee the program chosen if the student does not observe the scheduled date and hour for registration. After this period, the Institution may use such offerings for other students, especially in the period scheduled for changes in class programs. The Registrar's Office will determine if there is space in the requested sections. Each student is responsible

for having met prerequisites prior to registration in a continuation course.

EARLY-REGISTRATION

Early-registration is the process by which the active student has the opportunity to select the courses for which he will officially register during the registration process.

LATE REGISTRATION

Late registration is held after official classes begin, in the period determined for late registration. Students who did not attend early registration or who failed to attend registration on the date assigned may register during the late registration period, provided there is space in the sections they select. No student will be able to register after the period determined for late registration.

REALLOCATION OF STUDENTS

At the end of the registration period, the Registrar may reallocate students where elimination and rescheduling of courses have taken place. Such changes should take place on the dates designated for this purpose in the Academic Calendar.

Important Note:

Registration is not complete until the student has paid all fees required by the Office of the Financing Studies; and he has signed a statement consenting to follow and observe the rules, norms, and regulations of the Institution.

OFFICIAL ADMISSION TO CLASSES

At the beginning of the semester or part-of-term each student should present his official registration class schedule to each of his professors. The absence of any one of these impressions or unofficial changes in the class schedule will invalidate it. The student may present a printed copy of his program with official digital seals. Students should attend classes and/or sections where they are enrolled, and professors should admit to their classes only those students that have been officially registered in the appropriate courses and sections. The Registrar's Office is not responsible for recording grades of students who attended classes and/or sections in which they were not officially registered.

CORRECTIONS OR CHANGES IN NAMES AND ADDRESSES

Students with address changes should notify the Registrar's Office. This office will provide them with the appropriate forms to fill out. The same procedure should be followed for corrections to be made for the change of name. For changes of name, the student must submit a petition legally signed and with a certified affidavit.

CLASSIFICATIONS OF STUDENTS

Students are classified as follows:

Undergraduate:

A. By credit hours enrolled:

1. **Full-time Students** - those who have fulfilled the admission requirements of the Institution and have a load of twelve or more credit hours per semester in a program leading to a degree.
2. **Quarter Students** - those who have fulfilled the admission requirements of the Institution and have a load of eleven to nine credit hours per semester in a program leading to a degree.

3. **Half-time Students** - those who have fulfilled the admission requirements of the institution and have a load of eight to six credit hours per semester in a program leading to a degree.
4. **Less than Half-time Students** - those who have fulfilled the admission requirements of the Institution and have a load of five or less credit hours per semester in a program leading to a degree.

Undergraduate Academic Load

Level	Full Time	Three Quarters Time	Half Time	Less than Half Time
Associate	12 or more credits	11 to 9 credits	8 to 6 credits	5 or less
Bachelor	12 or more credits	11 to 9 credits	8 to 6 credits	5 or less
Technical Certificate	12 or more credits	11 to 9 credits	8 to 6 credits	5 or less

B. By credit hours leading to an undergraduate degree:

1. **First Year Students** - those with a secondary school diploma or the equivalent who are registered at the Institution in courses leading to a degree.
2. **Second Year Students** - those who have completed a minimum of 31 credit hours of work at the Institution.
3. **Third Year Students** - those who have completed a minimum of 61 credits at the Institution.
4. **Fourth Year Students** - those who have completed a minimum of 91 at the Institution.
5. **Fifth Year Students** - those who have completed a minimum of 121 credit hours at the Institution.

Graduate:

A. By credit hours enrolled:

1. Master's

- a. **Full-time Students** - those who have fulfilled the admission requirements of the Institution and are carrying three or more credit hours per semester in a program leading to a degree.
- b. **Half-time Students** - those who have fulfilled the admission requirements of the Institution and are carrying two or less credit hours per semester in a program leading to a degree.

2. Doctorate

- a. **Full-time Students** - those who have fulfilled the admission requirements of the Institution and are carrying three or more credit hours per semester in a program leading to a degree.
- b. **Half-time Students** - those who have fulfilled the admission requirements of the Institution and are carrying two or less credit hours per semester in a program leading to a degree.

Graduate Academic Load

Level	Full Time	Three Quarters Time	Half Time	Less than Half Time
Master	3 or more credits	N/A	2 to 1 credit	N/A
Doctorate	3 or more credits	N/A	2 to 1 credit	N/A

B. By credit hours leading to a degree

1. **First-year Students** – Those who have completed a minimum of 3 to 12 credit hours at the University.
2. **Second-Year Students** – Those who have completed a minimum of 13 to 24 credit hours.
3. **Third-Year Students** – Those who have completed a 25 or more credit hours at the University.

Professional Certificate:

A. By credit hours enrolled:

1. **Full-time Students**-those who have fulfilled the admission requirements of the Institution and have a load of twelve or more credit hours per semester in a program leading to a certificate.
2. **Quarter Students**-those who have fulfilled the admission requirements of the Institution and have a load of eleven to nine credit hours per semester in a program leading to a certificate.
3. **Half-time Students**- those who have fulfilled the admission requirements of the institution and have a load of eight to six credit hours per semester in a program leading to a certificate.
4. **Less than Half-time Students** – those who have fulfilled the admission requirements of the Institution and have a load of five or less credit hours per semester in a program leading to a certificate.

Professional Certificate Academic Load

Level	Full Time	Three Quarters Time	Half Time	Less than Half Time
Professional Certificate	12 or more credits	11 to 9 credits	8 to 6 credits	5 or less

RE-CLASSIFICATION OF STUDENTS

Students who wish to change majors may re-classify from one major to another. This also applies to students who wish to change from the program level, for example, from associate to a bachelor's degree program. These types of re-classifications are authorized if the student complies with the admissions requirement of the new major or new program.

SPECIAL CONDITIONS AND REGULATIONS

- Students who have registered in the maximum permitted academic load and need three more credits to complete the graduation requirements in the same semester will be allowed to take three additional credits with the written authorization of the appropriate Dean or Associate Dean of the School or Program Director/Coordinator.
- No student will have an academic load greater than 21 credits. The maximum academic load in the summer will be: twelve to fifteen (12-15) credits. An academic load of (18) credits will be permitted to students who are candidates for graduation in the summer and have the written authorization of the appropriate Dean or Associate Dean of the School or Program Director/Coordinator.
- All students will be given a reasonable time in which to graduate or complete their declared major.

CHANGES IN PROGRAMS OR SCHEDULES

A student may change their program of study in accordance with the following rules:

- The student must have written authorization of the Dean or Associate Dean of the School or Off-Campus location representative to be processed by the Registrar's Office.
- The Institution will make every reasonable effort to offer courses as announced, but it reserves the right to change the time schedule or to withdraw a course or courses. The school may identify other similar courses to substitute the eliminated course.

WITHDRAWALS

- Partial or total withdrawals are allowed during a regular semester, part-of-term, or summer session as

specified in the academic calendar.

- The deadline for voluntary total withdrawals will be included in the semester or part-of-term academic calendar of classes in the semester or summer session.
- The institution reserves the right to require a student to withdrawal from any course or from the Institution, for any of the following reasons:
 - Possibility of hazard to the health of the student or that of other students if attendance was continued.
 - Refusal to obey regulations or serious misconduct on the part of the student.

Types of Withdrawals:

1. **Partial Withdrawal** - is the official separation of one or various courses in the student's official class program. The student's academic record will reflect a W as the grade obtained.
2. **Total Withdrawal** - is the official separation of all the courses of the student's official program. The student's academic record will reflect a W as the grade obtained.
3. **Administrative Withdrawal** - The institution reserves the right to process a student as a partial or total withdrawal; temporarily, by means of exception and/or through a resolution from the Discipline Council or another Institutional Council. The student's record will reflect as a W grade.
4. **Non-Official Withdrawal**
 - a. **Non-Official Withdrawal for Online Courses** - The institution has a Process Census Taking and Non-Official Withdrawal for students enrolled in online courses. The policy applies to all students enrolled in complete online courses.
 - b. **Non-Official Withdrawal for Classroom** - Applies to all students who have abandoned a course without filing an official withdrawal and obtains a WF grade in all their courses.

CENSUS

The Census Taking is the process whereby the faculty certifies to the Register's Office the students who never attended the enrolled courses. The faculty identifies students who never attended courses at the start of classes in the Registry of Census Taking. The Office of the Registrar processes a withdrawal for non-attendance in the courses identified by the professor (WN).

Regular attendance and participation in class discussion and activities is expected. It will enhance and enrich the experience for the entire class. If the student expects to miss class for any reason it is the student's responsibility to notify the professor by email or telephone prior to class. Professors are not required to allow students to make up work. Students are responsible for all material covered during the course, regardless of whether they are present in class. Thus, attendance is strongly recommended to better facilitate student achievement of academic goals.

Classroom Census

The Institution is not required by any state or regional accrediting agency to take attendance. Nevertheless, a census is made during the first weeks of each semester or Part-of-Term to determine whether the student attended at least once during the period of enrollment. This census is made for reporting requirements only. Nevertheless, professors may take into consideration the student's attendance when grading and should explain the possible impact of absences on the student's final grade, if any. The student is also responsible for all material covered during the course, even if he misses classes during the semester or Part-of-Term. Thus, attendance is strongly recommended to better retain the student and facilitate achievement of his/her academic goals.

LEAVE OF ABSENCE (LOA)

Leave of absence allows a student who is officially enrolled, with the exception of the requirement of the register or the unceasing attendance at the university. This *Leave of Absence* is granted for:

- Medical justifications.
- The student that has been activated for military service and/or The National Guard outside the territory of Puerto Rico or due to a national emergency within Puerto Rico.

The University requires the student to formally request, in a written form *A Leave of Absence* and provide the information that justifies his/her request. If the request is based on medical reasons, the student should document the request with official evidence from his/her doctor. If the request is for military reasons, the student should bring a copy of his/her military orders, which will include the time and place that he/she will be required to meet, and the place assigned. The students are responsible for the knowledge and orientation on the implications of a *Leave of Absence* in their financial aid and their progress towards the degree. The students under a *Leave of Absence* should have Academic Progress.

DECEASED STUDENTS

The relatives of the student or graduate who died must submit evidence of the death (death certificate) at the Registrar's Office.

STUDENT EVALUATION PROCEDURES

- Professors are required to provide a minimum of three partial grades and one final evaluation activity with the value of a partial grade, during every given semester or part-of-term (undergraduate). These partial grades may consist of tests, or any other kind of evaluation activity select by the professor.
- Professors are required to provide a minimum of two partial grades and one final evaluation activity with the value of a partial grade, during every given semester or part-of-term (graduate). These partial grades may consist of tests, or any other kind of evaluation activity select by the professor.
- Professors may grant an opportunity to make up a test or quiz, which had been previously announced, to any student with a valid excuse.
- Students must complete all work required for a partial grade before the end of the semester; otherwise, he will be given a zero (0) for that assignment.
- It is the student's responsibility to clarify any questions about partial grades before the date scheduled for the final evaluation activity of the course.
- Students should complete the Institutional Assessment instruments administered in each course at the end of each semester.

GRADING SYSTEM

The unit of measure for determining the course value is the credit, which is equivalent to one hour of classroom work per week during a given semester or part-of-term or two hours of class per week during a summer session. The accelerated adult program has five or eight- week class sessions per course that meet four-hours per week during apart-of-term. The credit equivalent for laboratory work has been determined according to the rules of each School. Scholastic standing in completed courses is indicated by the following letter grades:

Letter grade system and grade points per credit:

A = 4 excellent

B = 3 good

C = 2 satisfactory

D = 1 deficient

F = 0 failure (no grade credit)

In special cases, the following grading system will be used:

W - Withdrawal

WN - Administrative withdrawal (no grade points)

WF - Student deserted the classroom or excessive unjustified absences from course.

IB, IC, ID - Incomplete work. Students absent from final examination or failed to complete and turn in final work assignment but must have complied with all the partial requirements of the course.

P - Pass

NP - Non-passed

* - Repeated course reflected in the transcript.

T - Transfer course

AU - Audit courses

NR - Non-Reported (grade) by professor

A **“W”** indicates a withdrawal from a course with the official approval of the Office of the Registrar.

A **“WN”** Indicates no assistance to a course within the first few days after classes begin (no grade points). Reported to the Office of the Registrar in the official by the professor.

A **“WF”** indicates a student failure to continue attending his classes and does not officially drop the course.

An **“I”** indicates a student, who is absent from the final examination or failed to complete and turn in final work assignment but must have complied with all the partial requirements of the course. The professor must calculate the grade with a (0) as the final exam.

A **“AW”** indicates an administrative withdrawal approved by the Dean of Student Affairs given for one of the following reasons:

1. Possibility of danger to the health of the student or that of other students if enrollment were to be continued.
2. Refusal to obey regulations or serious misconduct on the part of the student.
3. Deficient academic work (below required academic standards).
4. New admissions that do not complete the admissions application with the required documentation by the date scheduled in the Institution's calendar.

INCOMPLETES

A student will receive a provisional grade of Incomplete (I) in the following instances:

- If his absence from a final examination can be justified
- If his absence of not more than 25% of his work in laboratory experiences, practice teaching or seminar can be justified.
- If the student has complied with all partial requirements of the course during the semester or part-of-term.

In order to remove an Incomplete, the student should take the corresponding final examination or work requirement within the dates established in the academic calendars. Those students receiving Incomplete in prerequisite courses during the summer session must take the final examination or work requirement within the first fifteen days of the following summer session. The professor has the responsibility of removing all Incompletes. The Dean of the School or the Director or Coordinator of Academic Affairs of the Off-Campus Additional Location, if the professor is not available, will make the corresponding changes in the official course grade register at the Registrar's Office. In the case of students not complying with these established rules, the professor will assign a “0” in the corresponding work missed by the student and will report the final grade to the Registrar after calculating the corresponding grades.

GRADE POINT AVERAGE

The grade point average is obtained by dividing the total number of honor points by the total number of credit hours in which the student has received a final grade, even those where an F or WF is final. The credits taken at UAGM-CAMPUSES will be the only ones used to compute the student's grade point average.

GRADE APPEALS

Any student may appeal a grade. If the student does not agree with the grade, he/she must initiate the appeal process speaking to the professor within thirty (30) calendar days following the next semester start date. If the issue is not solved between the student and the faculty, the student may elevate to the program/department director. If still not satisfied, the student can consult the Dean of Academic Affairs and file an official appeal at the Registrar's Office. A committee hearing will be scheduled, and their decision is final.

GRADE REPORTS

Once assigned by the professor, the grades are final, unchangeable within the context of the institution's academic discretion, and certified by the Registrar's Office. Reports of the grades will be available to each student at the end of each academic term and at the end of the Second Summer Session through MiUAGM, students' online services.

STUDENTS' RECORDS

The Office of the Registrar has custody of all students' academic records. These are confidential.

TRANSCRIPTS

Official transcripts, which bear the seal of the Institution, will not be given to students or alumni, but sent directly to institutions specified by the students in their official requests to the Registrar's Office. Requests for transcripts of credits should be made fifteen working days in advance. In those cases where a student is in debt with the Institution, the Registrar will not certify the courses approved until the student has satisfied his debt. Any claim concerning a transcript request should be presented at the Registrar's Office no later than 90 days after making the request.

Important Note:

The admission / registration procedures are essential steps for establishing a relationship between the student and the Institution. However, the payment of the appropriate fees formalizes this relationship semester-by-semester or session-by-session. All these requirements must be fulfilled for a student to be considered in good standing with the Institution.

SATISFACTORY ACADEMIC PROGRESS (SAP) POLICY

Satisfactory Academic Progress (SAP) measures the academic progress of the student towards the attainment of an academic credential. Federal regulations require that all students who receive Title IV funds as part of their financial aid package maintain SAP. The SAP policy applies to all students within categories, e.g., full-time, part-time, undergraduate, and graduate students, and may differ based on program enrollment.

The evaluation criteria for SAP include a qualitative and quantitative component. The qualitative measure is based on the cumulative grade point average (CGPA). The quantitative measure is based on the number of credit hours the student attempts and earns. This calculation is completed by dividing the cumulative number of credit hours a student successfully earns by the total number of credit hours the student attempts over the student's academic career in a particular program at the Institution. Students are also expected to complete their program within 150 percent (%) of the length of the program as measured in credit hours.

MAINTAINING SATISFACTORY ACADEMIC PROGRESS

The Satisfactory Academic Progress of students enrolled in associate's, bachelor's, master's, and doctorate degree programs will be assessed at the end of every two (2) semesters. The academic progress of students enrolled in technical, post-baccalaureate and postgraduate certificates programs will be assessed at the end of each semester. The registrar's office will notify students in writing, through e-mail, of their academic status.

Students are prohibited from receiving federal student financial aid after attempting 150% of the number of credit hours required for their academic program, unless an appeal is successfully approved. The maximum timeframe calculation includes the attempted credits, including transfer credits, related to the student's academic program.

To maintain good standing, students must comply with the following:

Qualitative Component

The Institution establishes specific minimum CGPA requirements by program level (i.e., certificate, associate's, bachelor's, master's, and doctorate degree programs). The student must meet the minimum retention rate according to their academic program. This index increases when considering the credits attempted and approved. Refer to Appendix A, Satisfactory Academic Progress Tables, for the qualitative components per program level.

Quantitative Component

1. The Institution uses a graduated completion percentage by program level. The student must earn the minimum percentage of attempted credits depending on the program level and academic year in which the student is enrolled.
2. All credits attempted and earned, including transfer credits that count towards the student's program of study, are considered in the calculation.
3. The student must complete the program within 150% of the published length of the program of study to be eligible for Title IV funds. For example, students in a bachelor's degree program must complete 120 credits and may attempt up to 180 credits (120 credits x 150% = 180 credits).

Refer to Satisfactory Academic Progress Tables, for the quantitative components per program level.

Changes in status

If a student wants to enroll in a different academic program, the student must request approval from the director of the academic division. All attempted and earned credits of the program in which the student is enrolled are included in the quantitative measure and only grades from the program in which the student is enrolled are included in the qualitative measure. Students are encouraged to carefully consider program changes because federal regulations limit total lifetime financial aid eligibility.

Students who discontinue their studies and subsequently apply for readmission will be readmitted under the current SAP policy and will have the same SAP status that resulted as of the end of the last term attended. Students applying for readmission will be referred by the Office of Admissions to the Registrar for evaluation. If the student does not meet SAP, the Institution will determine if he/she may be readmitted, provided an appeal has been approved.

Students requesting admission into a new academic program after having completed his/her prior program of study will begin the new program with a new SAP history. If a student transfers in credits from the completed program of study, only those transfer credits that apply to the student's current program of enrollment will be considered when measuring SAP.

Satisfactory Academic Progress Tables

Technical Certificate Programs		
Credits Attempted	% Of Credits Earned	GPA
1 – 15	55%	1.65

Technical Certificate Programs		
16 – 30	60%	1.75
31 – 45	64%	1.90
46 +	67%	2.00

Technical Certificate Programs – Accounting Technician– Cybersecurity – Design of Mobile Applications – Small Business Entrepreneurship – 3D Animation – Programmer and Web Developer		
Credits Attempted	% Of Credits Earned	GPA
1 – 15	55%	1.65
16 – 30	67%	2.00
31 +	67%	2.00

Technical Certificate Programs – Culinary Arts – Events Marketing and Coordination		
Credits Attempted	% Of Credits Earned	GPA
1 – 15	67%	2.00
16 +	67%	2.00

Technical Certificate Programs – Health Assistant and Geriatric Care – Mixology and Barista		
Credits Attempted	% Of Credits Earned	GPA
1 – 15	55%	1.65
16 – 30	60%	1.75
31 – 45	67%	2.00
46 +	67%	2.00

Technical Certificate Programs – Clinical Therapeutic Massage GPA		
Credits Attempted	% Of Credits Earned	GPA
1 – 15	55%	1.65
16 – 30	60%	1.75
31 – 49	67%	2.00
50 +	67%	2.00

Associate Degree Programs		
Credits Attempted	% Of Credits Earned	GPA
1 – 28	57%	1.70
29 – 56	62%	1.85
57 +	67%	2.00

Associate Degree Programs in: Respiratory Therapy and Pharmacy Technician		
Credits Attempted	% Of Credits Earned	GPA

Associate Degree Programs in: Respiratory Therapy and Pharmacy Technician		
1 – 28	57%	1.70
29 – 56	62%	1.85
57 +	67%	2.30

Associate Degree Programs in: Sports Training, Personal Training, Infants and Toddlers, Sign Language Interpretation and Teacher Assistant in Preschool Education		
Credits Attempted	% Of Credits Earned	GPA
1 – 28	57%	1.70
29 – 56	62%	1.85
57 +	67%	2.50

Bachelor's Degree Programs		
Credits Attempted	% Of Credits Earned	GPA
1 – 30	55%	1.70
31 – 60	60%	1.85
61 – 90	64%	2.00
91 +	67%	2.00

Bachelor of Natural Sciences with concentration in Respiratory Therapy		
Credits Attempted	% Of Credits Earned	GPA
1 – 30	55%	1.70
31 – 60	60%	2.00
61 – 90	64%	2.30
91 +	67%	2.30

Bachelor's Degree Programs in: Social Work, Business Administration in Finance and Economics, Communication in Public Relations, and Advertising, Arts in Personal and Sport Training, Sciences in Food Technology and Safety, Sciences in Medical Technology, Sciences in Speech- Language Therapy and Sciences in Nutrition and Dietetics		
Credits Attempted	% Of Credits Earned	GPA
1 – 30	55%	1.70
31 – 60	60%	2.00
61 – 90	64%	2.50
91 +	67%	2.50

Bachelor's Degree Programs in:		
Arts in Education major in Physical Education K-12, Arts in Education major in Special Education K-12, Arts in Education major in Teaching English as a Second Language K-12, Secondary of Education in Spanish, Secondary of Education in History, Arts in Education major in Early Childhood Education: Preschool and K-3, Arts in Education major in Elementary Education 4th to 6 th , Science in Sign Language Interpretation, Secondary of Education in General Science, Secondary of Education in Chemistry, Secondary of Education in Biology, Secondary of Education in Mathematics and Secondary of Education in Vocational Industry Education		
Credits Attempted	% Of Credits Earned	GPA
1 – 30	55%	2.70
31 – 60	60%	2.85
61 – 90	64%	3.00
91 +	67%	3.00

Post-bachelor Certificate in Medical Technology		
Credits Attempted	% Of Credits Earned	GPA
1 – 15	55%	2.15
16 - 30	60%	2.25
31 - 45	64%	2.40
46 +	67%	2.50

Master's Degree Programs		
Credits Attempted	% Of Credits Earned	GPA
1 – 18	55%	3.00
19 – 36	60%	3.00
37 +	67%	3.00

Post Graduate Certificate		
Credits Attempted	% Of Credits Earned	GPA
1 – 15	60%	3.00
16 +	67%	3.00

Post Bachelor's Certificate in Horticultural Therapy		
Credits Attempted	% Of Credits Earned	GPA
1 – 15	67%	3.00
16 +	67%	3.00

Graduated Certificate in Accounting		
Credits Attempted	% Of Credits Earned	GPA
1 - 18	55%	3.00
19 - 36	60%	3.00
37 +	67%	3.00

Doctorate's Degree Programs		
Credits Attempted	% Of Credits Earned	GPA

Doctorate's Degree Programs		
1 - 18	55%	3.00
19 - 36	60%	3.00
37 +	67%	3.00

Doctor of Naturopathic Medicine		
Credits Attempted	% Of Credits Earned	GPA
1 - 72	55%	2.00
73 - 145	60%	2.00
146 +	67%	2.00

IMPACT OF COURSE REPETITIONS, WITHDRAWALS, INCOMPLETES AND TRANSFERS ON SATISFACTORY

ACADEMIC PROGRESS

- **Course Repetitions** - Federal regulations limit repetition of courses that can be paid with Title IV financial aid funds. Please check with the Financial Aid Office if you are not sure whether a course can be repeated with financial aid. If a student repeats a course, only the highest grade earned will be included in the student's cumulative GPA. However, each attempt at the course will count as credits attempted.
- **Withdrawals** - If a student withdraws from a course, the credits for the course count toward the determination of credit hours attempted but will not be considered in the cumulative GPA.
- **Incomplete Courses** - If a student has an incomplete in a course, the credits for the course count towards the determination of credit hours attempted. The course will not be considered in the cumulative GPA until a grade is assigned.
- **Transfer Credits** - If a student transfers in credits from another institution, the accepted credits for the courses count toward the determination of credit hours attempted and earned but will not be considered in the cumulative GPA. Only those transfer credits that apply to the student's program of enrollment at the Institution will count as credits attempted and earned. Refer to the Institution's catalog for requirements on accepted transfer credits from another institution.

FINANCIAL AID WARNING AND FAILURE TO MEET SATISFACTORY ACADEMIC PROGRESS

Students enrolled in technical and postgraduate certificate programs, for which SAP is evaluated at the end of each semester, will be placed on financial aid warning status for the next semester attended because of not making satisfactory progress. The Institution uses this status without appeal or any other action by the student. The Registrar's Office will notify the student in writing, through e-mail, of the financial aid warning status and that financial aid eligibility is retained during this period. The student must meet SAP as of the next evaluation point (by the end of the next semester attended) in order to receive financial aid in future terms. Students who did not meet SAP as of the next evaluation point become ineligible for federal financial aid funds and may continue their studies at the Institution at their own cost. If the student believes there are extenuating circumstances associated with the student's inability to meet SAP, he/she may appeal his/her termination status to the Appeals Committee. See section titled Financial Aid Ineligibility and Appeal Procedures below.

SCHOLARSHIP AND GRANT RECIPIENTS

Other scholarship and grant programs may not allow for a financial aid warning semester. In these cases, failure to meet SAP in any given term may result in the termination of scholarship or grant funds. Please refer to your scholarship or grant information materials or contact the Financial Aid Office.

FINANCIAL AID INELIGIBILITY AND APPEAL PROCEDURES

A student will be advised in writing, through e-mail, when he/she has lost financial aid eligibility due to the failure to meet SAP and will be advised of the process for re-establishing financial aid eligibility. Students who have lost eligibility for financial aid based on a failure to meet SAP standards may appeal their loss of eligibility if they have suffered extenuating circumstances, such as the following:

- Student's injury or illness,
- Death of a relative, or
- Other special circumstances
- Students who wish to make an appeal must be current on all financial obligations.
- Students may not use financial aid to make retroactive tuition and fee(s) payments.

As part of the request for an appeal, the student must present how the critical situation prevented him/her from meeting the academic progress. The student must also describe how his/her situation has changed in order to allow the student to meet the SAP standards at the next evaluation. As part of the appeal, the student must submit the following:

- SAP Appeal Form (please refer to the form for further instructions)
- Signed dated letter
- Supporting documentation (third-party documentation may be required as appropriate)

For the appeal to be considered, the student must submit the SAP appeal documentation to the Institution's Professional Counselor, who will submit the documentation to the Appeals Committee. The Appeals Committee will evaluate the merits of the appeal by reviewing the documentation submitted as well as the student's previous academic performance at the Institution. The Appeals Committee may request additional information or documentation, as needed. The Dean for Student Affairs will notify the student in writing, through e-mail, the determination made by the Appeals Committee. The student must submit an appeal to the institution in writing after the receipt of the failure to meet SAP notification. The Institution will have ten (10) calendar days for the evaluation process after receiving the student's appeal documentation.

FINANCIAL AID REINSTATEMENT

If the Institution approves an SAP appeal, the student will be placed on financial aid probation for the next semester attended. The student may also be placed on an academic plan. The Institution will advise the student in writing of the progress the student must achieve to ensure he/she meets the SAP policy or the requirements of the academic plan by the end of the next semester attended. Students will be eligible for financial aid while on financial aid probation. After the end of the financial aid probation semester, the Institution will measure the student's academic progress. The student will retain financial aid eligibility only if the student meets published minimum SAP standards or meets the requirements of the academic plan at the end of the semester of financial aid probation. If the student does not comply with SAP or meets the requirements of the academic plan, he/she is not eligible for financial aid funds, unless the student successfully appeals or the student reaches satisfactory academic progress. Any student who loses financial aid eligibility due to failure to meet SAP and attends school at his/her own cost will regain financial aid eligibility in the academic semester following the semester in which the student meets the minimum SAP standards.

GRADUATION REQUIREMENTS

The student usually graduates from the UAGM campuses under the program requirements prevailing at the time of his admission to the Institution; however, the Institution reserves the right to make revisions in the different programs and in the requirements for the degree. Students who do not complete their studies during the time required by their respective programs (program sequence), as well as those who apply for readmission after a period of absence from the Institution, are governed by the rules that apply or are in effect when the student completes his evaluation for graduation. Nevertheless, the student should visit his academic advisor, academic guidance counselor, the School or Off-campus site for a progress evaluation of his academic program yearly. To receive a

degree from the UAGM campuses, candidates must meet the following requirements:

- They must have taken the courses required in one of the programs offered by the Institution. Candidates for a certificate must pass the required number of courses in a diversified program of general and professional studies.
- They must have satisfactorily completed the prescribed number of credits with a grade point average of 2.0 (C) or higher or as required in their program of studies. Students receiving associate or bachelor's degrees with a grade point average ranging from 3.50 to 3.69 will graduate with honors Cum Laude, and those within the 3.70 to 3.89 range will graduate with honors Magna Cum Laude, and those with a grade point average ranging from 3.90 to 4.00 will graduate with honors Summa Cum Laude.
- They must fill out an application for graduation at the Registrar's Office at the time they enroll for the last semester or summer session.
- They must have satisfied all financial obligations to the Institution. All candidates for graduation will be required to attend Commencement Exercises. Commencement Exercises will be celebrated once during the academic year, at the end of the second semester. Those students who meet the requirements for a degree or certificate should apply to the Registrar's Office for a certified statement showing that they have completed the requirements of their respective programs of study.

Important Note:

Students should familiarize themselves with all rules, norms and regulations of the Institution through the Student Handbook, Student Regulations, and the Catalog. These publications are available upon request at the Office of the

Dean of Student Affairs and at the web site: <http://uagm.edu> documents provide the information and updates as to program requirements, academic policy changes, as well as other academic and administrative changes that may take place during your years of study at the Institution.

VETERANS AND THEIR BENEFICIARIES

Military & Veterans

Veterans, Military students, spouses, and dependents can initiate the process to use their educational benefits through the Office of the Registrar.

Our university has certificates, associates, bachelor, master, and doctoral degrees in convenient day and night schedule, allowing successfully plan their studies. We recommend our website as a reference to see the programs according to the venue <https://uagm.edu/es>. We have qualified faculty and academic programs tempered to the needs of the workplace. We know that the world is changing, and new and modern tools are in need.

Students who are planning to use their VA Educational benefits are required to provide previous college work by submitting official transcripts from all attended schools. This process is required before any benefits can be applied to the student's account. For more information, please schedule an appointment with your School Certifying Official.

Contacts:

María V. Pabón Vázquez

VA School Certifying Official, Carolina Campus

- E-mail: m_pabon@uagm.edu
- Phone: **(787) 257-7373 ext. 3608**

Irma G. Rodríguez Santana

VA School Certifying Official, Gurabo Campus

- E-mail: ut_ironrodriguez@uagm.edu
- Phone: **(787) 743-7979 ext. 3566**

Arlene Morales Figueroa

VA School Certifying Official, Cupey Campus

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- Phone: (787) 766-1717 ext. 3574

**** GI Bill® is a registered trademark of the United States Department of Veterans Affairs (VA)****

The Institution is approved by the State Approving Agency for Veterans Education to provide academic training to students under the various GI Bill® programs.

Programs approved for VA Benefits (WEAMS)

<https://inquiry.vba.va.gov/weamspub/buildSearchInstitutionCriteria.do>

REQUIRED CREDITS AND RETENTION INDEX PER PROGRAM

Veterans and their beneficiaries must complete their program of studies within the time established by their curriculum (100%). Students who extend their studies beyond the time (150%) established by the program cannot continue to receive Veteran's benefits. They need to maintain a minimum GPA of 2.00 when the 100% of the program is completed. Students should follow the degree plan, which is distributed by academic year. If the student is a recipient of the Pell Grant, he may resort to the 150% additional time, established by the Standard for Satisfactory Academic Progress of the Institution. Monitoring of academic progress will be based on both; VA educational benefits and Pell grants if the student is eligible for this program. Earned or passed courses with a minimum grade requirement can be retaken however, the costs of these will not be covered by VA benefits.

COMPLIANCE WITH DEPARTMENT OF VETERANS AFFAIRS (VA) SECTION 103-PL 115-407

The Ana G. Méndez System follows the current policies in place for chapters 31 and 33 in which students are to receive full university services such: Access to classrooms, libraries, and facilities regardless of any outstanding balances. This also includes that the student will not be required to apply for loans to cover outstanding balances while the school waits for VA payments. No late fees or financial penalties will be added to the student's account.

FAMILY RIGHTS AND PRIVACY ACT INFORMATION STATEMENT

In accordance with Public Law 93-380, FAMILY EDUCATIONAL RIGHTS AND PRIVACY ACT, students have the right at UAGM to inspect educational records and correct such records if warranted. The students' records are protected from release of information, open for inspection or review by the student unless he or she waives this right. The parent(s) of s. 1152 Internal Revenue Code also has the right to inspect records, which are maintained by the Institution on behalf of the student. There are two distinct categories of records: (1) Directory Information Records, (2). Limited Access Records.

1. Directory Information, which may be made public, includes the following: the student's name, last known address, telephone number, date and place of birth, major field of study, as well as participation in officially recognized activities and sports, weight and height of members of athletic teams, dates of attendance, degrees and awards received, and the most recent previous educational agency or institution attended by the student. The Office of the Dean of Student Affairs will only release this information or a representative after the petitioner has demonstrated a legitimate need to have such information. Students who do not wish release of "directory information" must complete a statement in the Office of the Registrar no later than the last day of each term; otherwise, directory information can be disclosed by the College for legitimate purposes.
2. Limited Access Records pertain to the permanent academic records of the student, disciplinary records, financial information, and testing data. This category also includes all records maintained officially by the Institution, which do not come under the categories of Directory Information, or Sole Possession Records. The Institution will not release information in Limited Access Records except after written permission of the

student or parent.

- Section 103 covers disclosures about the graduation or completion rate and other postsecondary outcomes of all students.
- Section 104 covers disclosures about the comparative academic “success” of students who receive financial assistance contingent upon participation in intercollegiate sports and Section 105 concerns institutional revenues and expenditures for intercollegiate athletic activities.
- Sections 203 and 204 concern disclosures, reports, and publications about campus security policies and crime statistics

STUDENT RIGHT-TO-KNOW AND CAMPUS SECURITY ACT

The common intention of the three major parts of this 1990 Act is to enhance the choice of the potential consumer, the post-secondary student, by reporting statistics about the “performance” of higher education institutions.

Compliance with all the Act’s disclosure provisions becomes an additional criterion for institutional eligibility to participate in federal student aid programs.

STUDENT FINANCIAL AID

The mission of the Student Financial Aid Program is to provide the student with scarce economic resources equal educational opportunities to obtain an academic preparation that will facilitate his integration to society. Our Student Financial Aid Program operates under the basic principle that the primary responsibility of financing higher education is of the family. Therefore, most of the funds are offered under the economic criterion of need. The objectives of providing a fair distribution of the financial resources agree with the state, federal and institutional dispositions. The Program is made up of three components, such as scholarships that are given and thus do not have to be repaid. Student money loans made available at a low interest with reasonable conditions of repayment. The work and study program permit the student to acquire experience of a job related to his program of studies and at the same time receives compensation for the work being done, thus helping with his costs of education. The student can be eligible to receive aid of all three components, as long as these available funds will permit.

GRANT-SCHOLARSHIP PROGRAMS FEDERAL PELL GRANT

The Federal Pell Grant, unlike the Student Loan does not have to be repaid unless, for example, funds are granted improperly. Generally, the Federal Pell Grant is awarded only to undergraduate students who have not earned a college degree or four years (high school) or other professional degree and who have not exceeded the maximum allowed time (150%) to complete a first Sub graduate. In the Universidad Ana G. Méndez institutions, the maximum time allowed is measured according to the duration of the curriculum credits.

Federal Supplemental Educational Opportunity Grant (SEOG)

This grant helps undergraduate students with exceptional financial need. The amount of the awards is contingent to availability of funds.

This grant helps undergraduate Students with exceptional financial need. The amount of the awards is contingent to availability of funds.

A Federal Supplemental Educational Opportunity Grant (FSEOG) is intended for students at the undergraduate level that demonstrate exceptional financial need. That is, students who have the Expected Family Contribution (EFC - 0) are given priority to students who receive Federal Pell Grant. You can get between \$ 100 and \$ 4,000 a year, depending on the date of application, financial need, and the funding level of the institution and the rules of the financial aid office.

State Funds

The Board of Postsecondary Institutions (JIP) manages this program. The institution participating in this program must submit the candidates to the JIP and after the qualifications are met, the institution receives the fund for those

Students.

Scholarship for Academic Talents

The JIP provides scholarships to student that have academic achievement. These programs were approved yearly basis, consider financial need and academic performance of the student.

LOAN PROGRAMS

Federal Direct Loan

Federal Direct-Ford Loans are offered at a fixed interest rate, with a cap of 8.25%. For “Subsidized-Direct” for undergraduate students and the government pays the interest while you are in school. The “Unsubsidized Direct” are offered at a fixed interest rate with a cap of 8.25% for undergraduate students and 9.50% cap for graduate students. The borrower is responsible for paying the interest while you are in school. If you choose not to pay the interest, it will accrue and be capitalized (added on the principle).

Federal Direct Parent Loan for Undergraduate Students (FDPLUS) and Plus Loans for Graduate Students

Direct Parent PLUS loans are borrowed by parents for dependent students and the Graduate Plus Loans are borrowed by graduate students. The interest rate is fixed, with a cap of 10.50%.

Repayment for Direct Parent Plus begins immediately after occurs the last disbursement of the loan. However, you may be able to defer making payments while your child is enrolled at least half-time, and for an additional six months after your child graduates or drops below half-time enrollment status. In Graduate Plus Loans the borrower may qualify for a six-month post-enrollment deferment after you graduate, leave school, or drop below half-time enrollment. You're not required to make payments during the grace period or the six-month post-enrollment deferment period.

Work and Study Program

This is a program that requires the student to work a maximum of 100 hours per semester. The student is paid a competitive wage and is able to gain experience in his area of study

INSTITUTIONAL SCHOLARSHIPS PROGRAMS

Athletic Scholarship

This program is available to students who have athletic performance. The Athletic Scholarship Committee studies the candidates recommended by the coaches and determine the student benefit.

Honor's Program

This institutional scholarship program is designed to provide to talented high school students the opportunity of pursuing their college education at UAGM campuses. Its objectives are:

- Identify those academically talented students motivated into pursuing an Associate or bachelor's degree, and who show economic need.
- Facilitate academically talented youngsters who show economic need, access to a high-quality university education.
- Propitiate the necessary conditions to help these students develop their talents and capabilities to their full potential.
- Provide students with a high-quality academic program that meets their expectations and attend to their goals.

HOW TO APPLY FOR FINANCIAL AID

Financial Aid is awarded annually. The student must apply each year. The Financial Aid Application will be available after January. The student must submit the Free Application for Federal Student Financial Aid (FAFSA) or Renewal FAFSA to the U.S. Department of Education. The application must be completed online at the following web site: www.fafsa.ed.gov. The amount of financial aid may vary each year according to your need, the type of aid you are eligible, your academic performance and available funding.

ELIGIBILITY REQUIREMENTS

To meet the eligibility requirements, students must:

- have financial need
- have a high school diploma or a General Education Development (GED) certificate.
- be working toward a degree or certificate.
- be a U.S. citizen or eligible no citizen.
- have a valid Social Security Number.
- not owe a refund on a Federal Grant or be in default on a Federal Educational loan.
- be making Satisfactory Academic Progress.
- be registered with Selective Service (if required).
- be enrolled at least half-time except for the Federal Pell Grant, which allows less-than halftime enrollment.
- not receive a bachelor's degree for Pell and FSEOG.
- provide documentation of any information requested by the Office of Admission and Financial Aid.

Important Note:

The Institution complies fully with the privacy Rights of Parents and Students Act of 1974 (Title IV of the U.S. Public law 90-247), as amended. This Act specifically governs access to records maintained by institutions to which funds are available under any Federal program for which the U.S. Commission of Education has administrative responsibility, and the release of such records, f such institutions must furnish parents of students' access to official records directly related to the students. The institution must provide opportunity for a hearing to challenge such records on the ground that they are inaccurate, misleading or otherwise inappropriate. The institutions must obtain the written consent of parents before releasing personally identified data from student records to other than a specified list of exceptions; that parents and students must be notified of these rights; that these rights transfer to students at certain points; and that an office adjudicate complaints and violations of this law.

TUITION, FEES AND RELATED INFORMATION

TUITION AND FEES

Once a year the Vice-presidency for Financial Affairs publishes at the University Website information about tuition for all academic programs and other fees for all institutional services www.uagm.edu.

Average Annual Tuition and Fees \$6,840.00

Costs are estimated and are subject to change.

Tuition fees are made by credit or contact hour as follow:

In addition, the institution has a general fee per semester. Costs are subject to change from one academic year to the next.

Activities	\$125.00	Safety	\$25.00
Library	\$25.00	Insurance	\$50.00
Good and service	\$50.00	Student Services	\$100.00
General	\$250.00	Technology	\$75.00
Maintenance and infrastructure	\$300.00		

Please note that in attending any university, students will have to allow for other expenses, such as books and supplies, transportation, meals and other personal needs. A variety of financial aid packages are available.

Tuition, fees and service charges must be paid in full during registration or at the time that the services are requested by the student. Payments can be made in cash, or by certified or manager's checks, money orders, or credit cards such as American Express, Visa or Master Card. Receipts for all transactions must be retained and presented with any claim or adjustment requested. The Bursar's Office will not accept claims without receipts.

Tuition Option Payment Plan (TOPP)

The University has a convenient method for paying educational expenses through scheduled payments over the period of enrollment.

The TOPP will only allow a due balance of \$2,000.00 that may be paid through a SUAGM's payment plan.

Clear Statement

Students with a balance of an outstanding debt will not be allowed to enroll the following semester and will not be able to get access their grades.

Invoices

The Bursar's Office will email one invoices during the regular semester. The approximate dates for the mailing of such invoices are, December 15, May 15, and July 15. If the invoice is not received in the email, it is the student's responsibility to request it personally from the Bursar's Office.

Adjustments and Refunds for Active and New Students

Refund Policy

A. Total Withdrawal

The costs of any student who complete an official withdraw process will be adjusted according to the days attended classes until the date of the official withdraw and the total of semester or part of term days, as applicable.

B. Mid-Point

All students that have WF at the end of the semester, in all courses, will be charged 50% of the total cost of their tuition.

C. Partial Withdrawal

Students who partially withdraw, starting the first day of classes of each semester, the System will charge 100% of the tuition costs.

D. Non- Attendance

Students who do not attend their registered courses will be marked N/A by the professors, given an administrative withdrawal, and refunded 75% the cost of the course. The student will be held responsible for 25% of the cost, as financial aid programs do not cover it.

Important Note:

The Sistema Universitario Ana G. Méndez reserves the right to review the tuitions and fees. It is the student's responsibility to stay informed about charges, fees, schedules, courses, requirements for degrees, tuition and policies of the Bursar's Office by visiting the webpages www.uagm.edu.

Credit Charge

To obtain the total sum of the cost of each class, you must multiply the cost per credit by the number of credits of each class.

Academic Programs of the Liberal Arts Division

Program	Tuition Fee
Technical Certificate	\$181.00
Post Bachelor Certificate	\$190.00
Associate degree	\$190.00
Associate degree in Education	\$205.00
Bachelor's degree	\$190.00
Bachelor's degree in Education, Social Work and Psychology	\$205.00
Post Graduate Certificate	\$221.00
Master's degree	\$221.00
Doctoral degree	\$271.00

Academic Programs of the Business, Tourism and Entrepreneurship Division

Program	Tuition Fee
Technical Certificate	\$181.00
Post Bachelor Certificate	\$190.00
Associate degree	\$190.00
Bachelor's degree	\$190.00
Post Graduate Certificate	\$221.00
Master's degree	\$221.00
Doctoral degree	\$371.00

Academic Programs of the Natural Sciences and Technology Division

Program	Tuition Fee
Technical Certificate	\$181.00
Associate degree	\$190.00
Bachelor's degree in sciences	\$190.00
Bachelor's degree in Medical Technology	
First 107 credits	\$190.00
Last year	\$6,000.00
Master's degree	\$221.00
Doctoral degree	\$371.00
Post Bachelor Certificate in Medical Technology	\$6,000.00
Doctoral degree in Toxicology and Drug Design	\$405.00

Academic Programs of the Health Science Division

Program	Tuition Fee
Technical Certificate	\$181.00
Post Bachelor Certificate	\$190.00
Associate degree	\$190.00
Associate degree in Nursing	\$210.00
Bachelor's degree	\$190.00
Bachelor's degree in Nursing	\$210.00
Post Graduate Certificate	\$221.00
Master's degree	\$221.00
Doctor in Nursing Practice	\$350.00
Speech-Language Pathology Doctorate	\$335.00

Academic Programs of the Engineering, Design and Architecture Division

Program	Tuition Fee
Technical Certificate	\$181.00
Post Bachelor Certificate	\$190.00
Associate degree in Engineering	\$215.00
Associate degree in Design and Architecture	\$190.00
Bachelor's degree in Engineering	\$215.00
Bachelor's degree in Design and Architecture	\$190.00
Post Graduate Certificate	\$221.00
Master's degree	\$221.00

Academic Programs of the Professional Studies Division

Program	Tuition Fee
Bachelor's degree	\$190.00
Bachelor's degree in Education, Social Work and Psychology	\$205.00
Master's degree	\$221.00

Academic Programs of the Technical Studies Division

Program	Tuition Fee
Technical Certificate	\$181.00
Associate degree	\$190.00

Academic Programs of the School of Dental Medicine

Program	Tuition Fee
Technical Certificate	\$181.00
Associate degree	\$210.00

Academic Programs of the School of Veterinary Medicine

Program	Tuition Fee
Associate degree	\$210.00
Bachelor's degree	\$210.00

Academic Programs of the School of Naturopathic Medicine

Program	Tuition Fee
Doctoral degree	\$400.00

Distance Education Programs

Program	Tuition Fee
MBA in Business Administration: Human Resources, Management, Marketing, Control Administration and Material Management and Project Management	\$260.00

For information about laboratories additional fees visit the link <https://documento.uagm.edu/uagm/costos-estudios/Boletin-de-costos-2023-24.pdf>.

PAYMENTS AND REFUND POLICY

For information about Payment and Refund Policy visit the link <https://documento.uagm.edu/politicas/politica-pago-reembolso.pdf>.

CAMPUS SECURITY

In harmony with institutional policy, the Assistant Vice President of Security and Occupational Health of the UAGM, attached to the Vice Presidency of Affairs Administrative, in coordination with the Security Office of each Campus, have the responsibility of protect life and safety in our Campuses, locations, university community and its visitors. The right is recognized what does the university community have to be informed about criminal acts occurred in each of the Precincts and data is collected on the incidence criminal in the different units that make it up. It is published annually the Report of Criminal Incidents by Categories, required by the “Student Right to Know and Campus Security Act” on our UAGM web page and by email to all the university community during the enrollment period. In addition, if it occurs unforeseen situations that threaten against community safety college, these will be diligently investigated by the Security Office and according to the case, it will be alerted, through of a statement, and other means of communication. The Assistant Vice President of Security and Occupational Health of the UAGM is located in the Operations building and Physical Facilities, in Cupey. The phone is (787) 751-0178, extension 6504.

LIBRARY

Libraries and Technological Integration meets the needs of bibliographic resources in physical and electronic format for the entire university community. The libraries have a diverse and varied availability of resources and collections in printed and electronic format that can be accessed remotely or from computers for on-site use. Services are offered to students, teachers, and the community:

- Bibliographic resources (Books, Journals, Magazines, EBooks, Audiovisual Multimedia, etc.) and bibliographic databases that respond to academic programs and current topics.
- Programmed that respond to academic offerings.
- Services for the development of information and technological competencies.
- Workshops for students and faculty on the information resources available in our libraries, as well as the use and management of programmed and electronic platforms required in the courses.
- Maintains and guarantees the operation and service in person and remotely.
- Maintains the availability of electronic resources through our portals 24/7.

These services are essential to meet the information needs of students and faculty, as well as meet the requirements of their academic majors. All resources are aligned with the accrediting agencies and existing academic programs.

Service Hours:

- Virtual Library 24/ <https://biblioteca.uagm.edu/>

Main Campus:

- Monday to Thursday 7:00 a.m. - 9:00 p.m. (Also, remote service via *LibAnswers*)
- Friday and Saturday 8:00 a.m.-5:00 p.m. (Also, remote service via *LibAnswers*)

Additional Locations:

- Monday to Saturday 8:00 a.m.- 5:00 p.m.

UAGM Library Staff

UAGM			
NAME	INSTITUTION	CLASIFICATION	OFFICE
Ramos Santiago, Bethzaida	Gurabo	Assistant Librarian	Library
Reyes Rodríguez, Jaznerie	Gurabo	Assistant Librarian	Library
Acevedo Rivera, Reinaldo	Gurabo	Librarian	Library
Claudio Colon, Maria D	Gurabo	Assistant Librarian	Library
Carrasquillo Delgado, Luz E	Gurabo	Assistant Librarian	Library
Rivera Caraballo, Melva L	Gurabo	Library Director	Library
Torres Flores, Marjorie	Gurabo	Librarian	Library
Agosto Benitez, Lymarie	Gurabo	Librarian	Library
Ruiz Rodríguez, Jorge	Gurabo	Librarian	Library
Martínez Castro, Myriam	Gurabo	Librarian	Library
Gómez Gómez, Rebeca	Cayey	Librarian	Library
Aponte Suárez, Carmen	Gurabo	Librarian	Library
Vázquez Correa, Jackeline	Yabucoa	Librarian	Library
Soto Medina, Nilda	Ponce	Librarian	Library
Pérez González, Carmen T.	Carolina	Library Director	Library
Velázquez Ramos, Loyda	Carolina	Librarian	Library
González González, Héctor	Carolina	Librarian	Library
Vera Collazo, Iris	Carolina	Librarian	Library
Martínez Rodríguez, Johana	Carolina	Librarian	Library
Hernández Correa, Diana	Santa Isabel	Librarian	Library
Figuroa Pagán, Miguel	Cabo Rojo	Librarian	Library
Fontán Fontán, Rosa	Barceloneta	Librarian	Library
Norayma Gómez, Celpa	Carolina	Assistant Librarian	Library
Vargas, Charlie	Carolina	Assistant Librarian	Library
Mercado Binett, Gladys	Carolina	Assistant Librarian	Library
Rosario Pérez, Ruthneiry	Carolina	Assistant Librarian	Library
Rojas Sánchez, Balbina J.	Cupey	Library Director	Library
López Arbelo, Juan A.	Cupey	Librarian	Library
Delgado Betancourt, Verónica	Cupey	Librarian	Library
Rodríguez Benítez, Víctor M.	Cupey	Librarian	Library
Lebrón Narvaez, Carmen I.	Bayamon	Librarian	Library
Nieves Gómez, Maribella	Bayamon	Librarian	Library
Irizarry Pérez, Stanley	Aguadilla	Librarian	Library
Saavedra Tosado, Yanitza	Aguadilla	Librarian	Library
Gutiérrez Rojas, Freddie A.	Cupey	Assistant Librarian	Library
Linares López, Jesús O.	Cupey	Assistant Librarian	Library
Morales Morales, José E.	Cupey	Assistant Librarian	Library
González Rojas, Andrés J.	Cupey	Assistant Librarian	Library

ASSESSMENT MODEL

The assessment model intends the integration of two complementary components in the institution: the academic component and the administrative component. The assessment of the academic component allows monitoring student learning process and knowing the development of academic programs competencies. It also, allows generating, assessment and action plans for the academic programs, which promote changes for the continuous improvement. This type of assessment is carried out at three different levels: institutional, programmatic and the course.

The administrative assessment component or the teaching support system reexamines its practices or services through a structured process. The administrative component validates its effectiveness through

the collection of valid and reliable information over various means, allowing the identification of strengths and limitations in attaining the goals. Thus, the academics coordinate institutional efforts with the administrative area to improve management processes to support the academy. The purpose of this approach is to evaluate administrative services offer to students and educators, encouraging changes in services to support teaching and assessing the physical facilities. This permits the institution to guarantee that procedures and institutional services support the student learning process.

ACADEMIC COMPONENTS OF THE PROGRAM

General Education Component- provides students with courses that contribute to the development of universal competencies that are not limited to the development of skills in a particular discipline, concentration or specialty, but for academic, professional and personal success.

Core Component- provides students with courses that will help develop the skills they need to perform in their professional area.

Major Component- provides students with specialized courses that will help develop the competencies they need to become a comprehensive and qualified professional in a discipline.

SYSTEM CODE OF THE COURSES

SYSTEM CODE OF COURSE	COURSE NAME	SYSTEM CODE OF COURSE	COURSE NAME
ACCO	ACCOUNTING	HUGS	DEVELOPMENT OF WESTERN THOUGHT
ACMN	CASE MANAGEMENT	HURM	HUMAN RESOURCES
ADID	ARCHITECTURAL DRAF INTERNSHIP	IFOR	FORENSIC INVESTIGATION
ADPE	FUNDAMENTS ADAPTED PHYSICAL ED	IMEN	INDUSTRIAL & MANA ENGINEERING
AETP	AVIONICS ENGI TECHNOL PROGRAM	INBU	INTERNATIONAL BUSINESS
AGRO	AGROECOLOGY	INDI	INDUSTRIAL DESIGN
ANIC	ANIMATION	INGS	INFO LITERACY AND RESEARCH
ARCH	ARCHITECTURE	INNO	INNOVATION
ART	ART	INSU	INSURANCE
ASCT	AVIATION WEATHER	INTE	INTERIOR DESIGN
ATPP	AVIATION TECNOLOGY PROF PILOT	INTG	CLINICAL SW GRADUATE-SC&HUM
AVET	VETERINARY TECHNOLOGY	ITAD	INFANTS & TODDLERS
BCHM	SURVEY OF BIOCHEMISTRY	ITAL	ITALIAN
BIOE	BIOESTHICS	ITCS	INFORMATION TECHNOLOGY CYBERSECURITY
BIOL	BIOLOGY	ITMA	INFORMATION TECHNOLOGY MANA

SYSTEM CODE OF COURSE	COURSE NAME	SYSTEM CODE OF COURSE	COURSE NAME
BIOT	BIOLOGY TECHNICAL	JJUS	JUVENILE JUSTICE
BUSI	BUSINESS	LAND	LANDSCAPE ARCHITECTURE
BUSS	BUSSINESS	LITE	LITERATURE
BVET	VETERINARY TECHNOLOGY	LOGI	INTERNATIONAL LOGISTIC
CAPC	CAPSTONE CULINARY MANAGEMENT	MACS	MASTER CULTURAL STUDIES
CAPE	CAPSTONE EVENT MANAGEMENT	MAED	MATHEMATIC EDUCATION
CAPH	CAPSTONE HOTEL MANAGEMENT	MAGS	BASIC MATH
CCNA	ADVANCE NURSING	MAIS	COMPUTERIZED INF SYSTEMS
CDEV	COMMUNITY DEVELOPMENT	MANA	MANAGEMENT
CEEB	COLLEGE BOARD REVIEW	MANC	SMALL BUSINESS
CHEF	CULINARY ARTS PROF & CONCT	MARK	MARKETING
CHEM	CHEMISTRY	MATH	MATHEMATICS
CHEP	CULINARY ARTS PRACTICUM	MATT	BASIC MATHEMATICS
CIEN	CIVIL ENGINEERING	MEBI	MEDICAL BILLING-CTP
CJGR	CRIM JUSTICE GRADUATE-SC&HUM	MEEN	MECHANICAL ENGINEERING
CMED	MEDIATION OF CONFLICTS	MEPE	QUALITATIVE EVALUATION
COAT	COMPUTERS APPLICATIONS	METE	MECHANICAL ENGI TECNOLOGY
COCH	COACHING	METR	MEDICAL TOURISM
COIS	COMPUTER INFORMATION SYSTEMS	MGMT	INTEGRATION SEMINAR
COMC	INTRODUCTION TO COMPUTER-CTP	MHSA	HUMAN RESOURCES SERVICES
COMM	COMMUNICATIONS	MIBA	MIXOLOGY AND BARISTA
COMP	COMPUTER SCIENCES	MIBC	MEDICAL INSURANCE & BILL CERT
COMT	COMPUTER LITERACY	MIXO	MIXOLOGY
COSC	COMPUTER SCIENCES	MSAA	MANAG. SC. ART ADMINISTRATION
CPEN	COMPUTER ENGINEERING	MSED	MANAGERIAL SPORT EDUCATION
CPSY	COUNSELING PSYCHOLOGY	MSLP	MSLP SPEECH-LANG PATHOLOGY
CRED	RECREATION DEVELOPMENT	MSNT	MASTER IN NUTRITION

SYSTEM CODE OF COURSE	COURSE NAME	SYSTEM CODE OF COURSE	COURSE NAME
CRIM	CRIMINOLOGY	MSPA	MANAGEMENT SC. PUBLIC AFFAIRS
CRJU	CRIMINAL JUSTICE	MSPH	PUBLIC HEALTH MS PROGRAM
CRNI	COMPUTER REPAIR & NETWORK INST	MTEC	MEDICAL TECHNOLOGY
CSGD	COMPUTER SYST GRAPHIC DESIGN	MUSI	MUSIC
CSST	COMPUTER SYST SUPPORT TECHN	NADM	NURSING ADMINISTRATION
CTEC	CRIMINAL AND DEVIANT BEHAVIOR	NETP	NETWORKING ENGI TECHNO PROGRAM
CTMA	CLINICAL THERAPEUTIC MASSAGE	NMDP	NATUROPATHIC MED DOCTORAL PROG
CUAR	CULINARY ARTS	NUAG	ADV NURS ASSES ADULT GERO
CUNP	CULINARY NUTRITION INTERNSHIP	NUED	PRACTICUM IN NURSING EDUCATION
CUNU	CULINARY NUTRITION	NURC	NURSING TECHNICAL-CTP
CUST	CULTURAL STUDIES	NURS	NURSING
CYBR	CYBER-SECURITY	NUTR	NUTRITION
CYBS	CIBER SECURITY - CTP	ODHR	ORG DEVELOP HUMAN RESOURCES
DEMA	MOBILE APPLICATIONS DESIGN	OFAD	OFFICE ADMINISTRATION
DENT	DENTAL ASSISTANT	OPSC	PHOTONICS & LASER TECH SPECIAL
DESI	DESIGN	PCIS	PUERTO RICAN & THE CARIBBEAN INTERDISCIPLINARY STUDIES
DETA	DENTAL ASSISTANT SPEC FUNCTION	PERT	PERSONAL TRAINING
DITE	DIGITAL INFORMATION TECHNOLOGY	PETR	PERSONAL TRAINER
DRAF	ARQUITECTURAL DRAFTING	PHAR	PHARMACOLOGY
DSGN	DESIGN	PHAT	PHARMACEUTICAL CALCULUS
ECEC	EARLY CHILDHOOD EDUCATION-CTP	PHED	PHYSICAL EDUCATION
ECED	EARLY CHILDHOOD EDUCATION	PHIL	PHILOSOPHY
ECEG	EARLY CHILDHOOD EDUC GRADUATE	PHOP	PHARMACEUTICAL CHEM OPERATION
ECEN	ELECTRIC COMPUTER ENGINEERING	PHSC	PHYSICAL SCIENCES

SYSTEM CODE OF COURSE	COURSE NAME	SYSTEM CODE OF COURSE	COURSE NAME
ECON	ECONOMICS	PJPS	SECURITY AND PROTECTION
ECTE	ELECTRONIC COMP TECH ENGI	PORF	PORTFOLIO
EDCO	EDUCATIONAL TEACHING	POSC	POLITICAL SCIENCE
EDFO	EDUCATIONAL FOUNDATION	PRCS	PUERTO RICAN CULTURAL STUDIES
EDLE	EDUCATION LEARNING	PREA	PRESCHOOL ASSISTANT
EDRE	EDUCATIONAL INVESTIGATION	PRMG	PROGRAM MANAGEMENT
EDTE	EDUCATION TEACHING	PROD	PRODUCTION
EDUC	EDUCATION	PRPE	PRACTICUM IN PHYS EDUCATION
EDUG	GRADUATE EDUCATION	PSAF	PUBLIC SAFETY
EDVI	EDUC VOCACIONAL INDUSTRIAL	PSCL	CLINICAL PSYCHOLOGY
EERT	ELECTRICITY & RENEWABLE ENERGY	PSYC	PSYCHOLOGY
EETE	ELECTRONIC ENGI TECHNOLOGY	PTTE	INTERNSHIP
EETP	ELECTRONIC ENGINEERING	PUAD	PUBLIC ADMINISTRATION
ELEN	ELECTRICAL ENGINEERING	PUAG	PUBLIC ADMINIST GRAD-EEP
EMDR	EMERGENCY MANAGEMENT & DISASTERS RECOVERY	PUHE	PUBLIC HEALTH
EMTE	ENERGY MANAGEMENT TECHNOLOGY	QETE	QUALITY CONTROL ENGI TECH
EMTP	FUNDS OF MEDICAL EMERGENCIES	QUMA	QUALITY MANAGEMENT
ENAF	ENVIRONMENTAL PORTFOLIO	QUME	QUANTITATIVE METHODS
ENED	ENGLISH EDUCATION	RACT	REFRIGERATION AIR COND TECH
ENG C	ENGLISH TECHNICAL-CTP	RADI	RADIOLOGY
ENGI	ENGINEERING	RAEM	REFR&AIR CONDI WITH ENERGY MAN
ENGL	ENGLISH	RECR	RECREATION
ENG S	BASIC ENGLISH	REED	SPORTS AND RECREATION
ENG T	BASIC ENGLISH	REHU	HUMAN RESOURCES
ENGY	ELECTRIC ENERGY	REPR	RESEARCH PROJECT
ENMA	ENTREPRENEUR MANAGEMENT	RESM	RESEARCH SEMINAR
ENMG	ENVIROMENTAL MANAGEMENT	RESP	RESPIRATORY THERAPY

SYSTEM CODE OF COURSE	COURSE NAME	SYSTEM CODE OF COURSE	COURSE NAME
ENMT	INTRO ENTREPRENEURSHIP DEVELOP	REST	RESPIRATORY THERAPY
ENPL	ENVIRONMENTAL PLANNING	RSLC	RECREATION&SPORT LEADER-CTP
ENSC	ENVIRONMENTAL	SCGS	SCIENCE, TECHNOLOGY & SOCIETY
ENST	ENVIRONMENTAL EDUCATION	SEDE	SCIENCE DESIGN
ENTR	ENTREPRENEURSHIP	SEED	SPORTS ENTREPRENEURSHIP
ENVM	ENVIRONMENTAL MANAGEMENT	SEMNI	SEMINARIO
EOSH	ENVIRONMENT OCCU SAFETY HEALTH	SIGN	SIGN LANGUAGE
ESHP	PHYSICAL SCIENCES	SIGS	SEMINAR INDUCTION STUDENT LEADERSHIP
ETAP	ENGINEERING APPLI TECH PROJECT	SOCI	SOCIOLOGY
ETEC	EDUCATION TECHNICAL-CTP	SOCS	SOCIAL SCIENCES
ETRA	ELECTRICAL TECH REFR&AIR CONDI	SOGS	HUMAN BEING SOCIAL CONSCIENC
ETRE	ELEC TECH & RENEWABLE ENERGY	SONO	SONOGRAPHY
EVEC	EVENT COORDINATION	SOSC	SOCIAL SCIENCE
EXAM	COMPREHENSIVE EXAM	SOVA	VASCULAR SONOGRAPHY
EXPL	EXPERIENTIAL LEARNING	SOWO	SOCIAL WORK
FADE	FASHION DESIGN	SPAN	SPANISH
FASW	FAMILY SOCIAL WORK	SPED	SPECIAL EDUCATION
FINA	FINANCE	SPEG	SPECIAL EDUCATION GRADUATE
FOOD	FOOD	SPGS	SPANISH READING AND WRITING
FOPE	FOUNDATION IN PHYS EDUCATION	SPLA	SPEECH THERAPY
FORS	FORENCES SCIENCES	SPRT	SPORT TRAINING
FPSY	FORENSIC PSYCHOLOGY	SPSC	SPORT ADMINISTRATION & MANAGE
FREN	FRENCH	SPSY	SCHOOL PSYCHOLOGY
FSWO	FORENSIC SOCIAL WORK	SPTH	THERAPY OF THE SPEECH-LANGUAGE
GEOG	GEOGRAPHY	STAG	STADISTICS GRADUATE
GERO	GERONTOLOGY	STAT	STATISTICS
GRAD	GRAPHIC DESIGN	STMG	STRATEGIC MANAGEMENT

SYSTEM CODE OF COURSE	COURSE NAME	SYSTEM CODE OF COURSE	COURSE NAME
GSTR	GASTRONOMIC TOURISM	STTR	STRATEGIC TOURISM
HAGC	HEALTH ASSISTANT AND GERIATRIC CARE	SUMA	SUPPLY MANAGEMENT
HEMG	HEALTH SERVICE ADMINISTRATION	SURT	SURGICAL TECHNOLOGIST
HESC	HEALTH SCIENCES	SWGR	SOCIAL WORK GRADUATE-SC&HUM
HESM	HEALTH SERVICE MANAGEMENT	TCOM	TELECOMM & NETWORK ADMINISTRAT
HEST	HEALTH SCIENCE TECHNICAL-CTP	TDGD	3D ANIMATIONS
HIAB	HOSP INTERNSHIP/ STUDY ABROAD	TECH	TECHNOLOGY
HIDE	HISTORY DESIGN	TEPE	TEACHING IN PHYSICAL EDUCATION
HIGS	PUERTO RICO HISTORY AND CULTUR	TESL	TECH ENGL SECOND LANGUAGE
HIST	HISTORY	TEST	COMPREHENSIVE TEST
HMEV	HOSPITALITY MNGT EVENT MNGT	THMA	CLINICAL THERAPEUTIC MASSAGE
HMHC	ROOMS DIVISION	TOPA	TOXICOLOGY & PHARMACOLOGY
HMHM	HOSPITALITY MNGT HOTEL MNGT	TOUR	TOURISM
HMNG	HOSPITALITY MANAGEMENT PROF	UNRE	UNDERGRADUATE RESEARCH
HOPC	HOSPITALITY TECHNICAL - CTP	WEBD	WEB DESIGN
HORT	HORTICULTURE	WEDE	WEB DESIGN
HSUS	HOSPITALITY INTERNSHIP COURSE		

BOARD OF DIRECTORS

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Dr. Migdalia Torres Rivera, Board Member / Vice Chair
Mr. José F. Méndez Méndez, Permanent Board Member / UAGM President
Dr. Herminio Martínez Escudero, Permanent Board Member
Rafael A. Nadal Arcelay, Esq., Permanent Board Member
Mr. Wilfredo Cosme Ortiz, Board Member
Ms. Rita DiMartino, Board Member
Delia Castillo de Colorado, Esq., Board Member
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Margarita T. Millán, Esq., Board Member
Eng. Oscar Jiménez Martir, Board Member

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Mr. José F. Méndez Méndez, President of Ana G. Méndez University System
Mr. Ricardo Rodríguez Domenech, Executive Vice President / Chief of Staff
Mr. Alberto Camacho, Acting Vice President of Planning and Institutional Effectiveness
Dr. Victoria De Jesús, Vice President of Human Resources
Mr. John Navarro, Director of Internal Audit
Dr. Rafael Nadal Bosh, Vice President of International Affairs
Dr. Edgardo Rosay Manfredy, Acting Vice President of Academic Affairs
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Mr. Walid El Hage, Vice President of Administrative Affairs
Mr. Paul Colberg Birriel, Vice President of Telecommunications and Academic Technology

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METRO ORLANDO

Ms. Suheily Martinez, Interim Campus Director
Ms. Rosa Musi, Academic Director
Ms. Jacqueline Castro, Director of Student Affairs
Mr. Yeriel Rodríguez, Associate Director of Enrollment
Ms. Jeniffer Molina, Director of Financial Aid
Ms. Rosana Ramirez, Associate Registrar
Ms. Dimary Dorsal, Bursar
Mr. Leonides Pérez, Director of Learning Resources Center
Mr. Rafael Del Río, Learning Assistant Specialist
Ms. Mónica Botóns, Director of Career Placement

SOUTH FLORIDA

Ms. Marcela Munera, Campus Director
Ms. Kerelyne Escobar, Academic Director
Mr. Vidal López, Director of Student Affairs
Ms. Kalinka Sotolongo, Associate Director of Enrollment
Ms. Jeniffer Molina, Director of Financial Aid
Ms. Cinthia Tineo Vásquez, Associate Registrar
Mr. Jorge Báez, Bursar
Mr. Leonides Pérez, Director of Learning Resources Center
Ms. Dianelys Breijo, Assistant Director of Learning Resources Center
Ms. Mónica Botóns, Director of Career Placement

TAMPA BAY

Dr. Viviana Barrabia, Campus Director
Ms. María C. Rodríguez, Academic Director
Vacant, Director of Student Affairs
Carlos Ayala, Associate Director of Enrollment
Ms. Jeniffer Molina, Director of Financial Aid
Ms. Marisabel Quiroga, Associate Registrar
Ms. Miriam Avilés, Bursar
Mr. Leonides Pérez, Director of Learning Resources Center
Mr. Manuel Robayna, Learning Assistant Specialist
Ms. Mónica Botóns, Director of Career Placement

ACADEMIC DIVISIONS AND SPECIALIZED SCHOOLS

SCIENCE AND TECHNOLOGY ACADEMIC DIVISION

Description: Our Academic Division provides support, supervision, and assistance to assist our students, faculty, research groups, and individuals to prosper and promote excellence in teaching, learning, and research. In our three (3) Divisions of Science and Technology, the areas that distinguish us are exalted, amalgamating the potential of all our resources that comprise more than 60 professors and a robust and talented number of associates. Our Academic Division is characterized by the quality and commitment we have towards the education of our students. Our purpose is to broaden and deepen the knowledge of reality by providing the means, competencies, and procedures to satisfy that need to know, to be able to do and to be in our students. Our Academic Division makes sure to use the power of science and innovation in conjunction with the talent of our students to develop the generations that will positively impact our community and Country. For this we offer our students, first-rate courses, complemented with extracurricular research experiences at our university and at collaborating Universities, this at all academic levels: Certificates, associate degrees, Baccalaureate, Master's and Doctorates.

Dean: Dr. Jorge Torres Colón, Assistant Professor

BUSINESS, TOURSIM, AND ENTREPERNEURSHIP ACADEMIC DIVISION

Description: The Business, Tourism and Entrepreneurship Division brings together three important disciplines for the economic development of Puerto Rico. On the one hand, its business disciplines are aimed at developing professionals with the skills to create, manage and grow business organizations. On the other hand, the disciplines in Tourism, Hospitality and Culinary Arts have an offer that prepares professionals to work in one of the economic sectors with the greatest growth potential in Puerto Rico.

The academic offer of the Business, Tourism and Entrepreneurship Division is offered in the three campuses, all the locations and modalities of the Universidad Ana G. Méndez. The professors in this division are specialists in diverse and complex issues of business, entrepreneurship, tourism, hospitality, and value creation, among other subjects, and participate in teaching and research that explore these issues in local and global contexts.

Dean: Dr. Juan C. Sosa Varela, Professor

HEALTH SCIENCES ACADEMIC DIVISION

Description: The Academic Division of Health Sciences of the Universidad Ana G. Méndez aspires to be recognized as the academic and community leader in the area of health promotion and disease prevention, for the Puerto Rican community, as well as abroad. Our division provides students with alternatives that allow them to build knowledge through varied experiences, which will enrich their academic, personal, and professional life.

We excel at combining the theoretical content of our courses with clinical experiences in various health settings, which provide the opportunity to develop the skills required of each profession. Through our academic, undergraduate, and graduate programs, we are committed to the development of highly qualified health professionals who contribute to the improvement of health services and the quality of life of our society.

Dean: Dr. Vanessa Ortiz López, Assistant Professor

LIBERAL ARTS ACADEMIC DIVISION

Description: In the Academic Division of Liberal Arts, we train professionals and educators who attend to social needs from a global vision, dynamic and with respect for equity and diversity. We promote critical analysis, social and historical research, service learning, and community social work.

Dean: Dr. Evelyza Crespo, Professor

ENGINEERING, DESIGN, AND ARCHITECTURE ACADEMIC DIVISION

Description: With academic programs in cutting-edge disciplines in technology development, engineering, design and urban planning, the Academic Division of Engineering, Design and Architecture of the Universidad Ana G. Méndez has an attractive and in-demand academic offer for the demands of the modern world. In the Engineering Department we have undergraduate and graduate programs in engineering and engineering technology areas, with the most recognized accreditations in these. We promote the development of critical thinking and deep learning through different teaching strategies, such as learning through projects, simulations, and research courses. These strategies provide the student with the skills and competencies to solve real problems and the ability to be leaders, contributing to the development of society as members of an organization as well as with their own company. Some programs offered are associate degree in Aviation Science in Professional Pilot Technology, Bachelor of Mechanical Engineering and Master of Engineering Management, among others.

Similarly, the Department of Design and Architecture offers undergraduate and graduate programs in the areas of fashion design, industrial design, and architecture. These programs promote the creativity of their students with an international, critical, and multidisciplinary academic approach. With multiple laboratory experiences and first-hand project development, the student will develop high-quality final products for his client, seeking a competent and functional design. Some programs offered are associate degree in Fashion Design, Bachelor of Industrial Design and Master of Engineering Management, among others. Thanks to an offer of over 25 programs in the campuses of Gurabo, Carolina and its localities, the Academic Division of Engineering, Design and Architecture has options with careers in high demand in today's globalized world.

Dean: Dr. Rolando García, Professor

SPECIALIZED SCHOOL OF DENTAL MEDICINE

Description: The mission of the UAGM-School of Dental Medicine is to improve the oral health of the population by preparing skillful, culturally competent, and compassionate students with ethical values and critical thinking through education. This is accomplished through a curriculum designed to deliver patient-centered care for a diverse population, through the development of research; geared to improve patient care and service with the use of new technology.

We offer the associate degree program in Dental Assistant with Expanded Functions and the associate degree in Dental Laboratory Technician through our three campuses.

Dean: Dr. José Vivaldi, Professor

SPECIALIZED SCHOOL OF NATUROPATHIC MEDICINE

Description: The Naturopathic Medicine School is a specialized school with the only Doctoral Program in Naturopathic Medicine in Puerto Rico and Latin America. The practice of naturopathic medicine emerges from the six principles of healing. These principles stand as the distinguishing care that emphasizes prevention and the self-healing process through the use of natural therapies. Our school offers a four-year, full-time naturopathic medicine program with a teaching clinic that provides treatment by student interns working under direct supervision of licensed naturopathic doctors. The naturopathic doctor (ND) degree program integrates both scientific and holistic viewpoints in a rigorous, science-based natural medicine curriculum. Students get prepared in a wide range of naturopathic modalities: botanical medicine, homeopathy, hydrotherapy, physical medicine, life-style counseling, mind and body techniques, traditional Chinese medicine, and acupuncture, Ayurvedic medicine, clinic nutrition, and others.

Dean: Dr. Bruyanelis Ramos Aponte, Assistant Professor

SPECIALIZED SCHOOL OF VETERINARY MEDICINE

Description: The School of Veterinary Medicine emphasizes the development of professional and ethical attitudes, as well as interpersonal skills that should have all health professionals. We have two programs: associate degree and bachelor's degree. Associate degree graduates will be able to work as veterinary technicians to serve small and large animal hospitals, clinics, research facilities, educational institutions, animal shelters, and commercial, police and military facilities. Bachelor's degree graduates will be able to work as veterinary technologists with animals in veterinary hospitals, clinics, research facilities at the industry or the academy, at educational institutions, animal shelters, sanctuaries and commercial, police, and military facilities among other settings.

Dean: Dr. Shaiana Negrón, Professor

PROFESSIONAL STUDIES DIVISION

Description: The Professional Studies Division provides a university environment for non-traditional students where the teaching methods and the academic and administrative services are tailored to meet the genuine needs of this population. The AHORA Program offers a unique accelerated program to meet the needs of the professional adult. The division is centered on the guiding principles of adult education within a learning environment where adults actively participate in planning and evaluating their learning. The educational activities are developed based on the student's prior knowledge and experience, helping to create "real world" based activities that are pertinent to the content of each course. The Professional Studies Division encourages their students to value continuous learning and increase their contribution to the world of employment. Its multi-disciplinary academic offerings include bachelor's degrees, and master's degrees at the three main campuses and in all additional locations.

Dean: Ms. Mildred Y. Rivera Cordero, Instructor

TECHNICAL STUDIES DIVISION

Description: The Technical Studies Division provides a university environment for non-traditional students where the teaching methods and the academic and administrative services are tailored to meet the genuine needs of this population. The Technical Programs are designed to meet the academic and personal needs of a growing number of students whose main goal is a short-term, professional education to enter the job market. By doing this, the Technical Programs addresses the immediate employment needs of the community which the university serves. The Technical Studies Division encourages their students to value continuous learning and increase their contribution to the world of employment. Its multi-disciplinary academic offerings include technical certificates and associate degrees at the three main campuses and in all additional locations.

Dean: Dr. Awilda Fontáñez Dávila

ACADEMIC OFFERINGS BY LOCATION

PROGRAM	LOCATION										
	GURABO	BARCELONETA	CAYEY	PONCE	YABUCOA	CUPEY	AGUADILLA	BAYAMÓN	CAROLINA	CABO ROJO	SANTA ISABEL
Science and Technology Division											
Associate Degree											
Natural Sciences Department											
AD Biopharmaceutical Technology	X										
AD Food Technology and Safety	X										
Technology Department											
AD Engineering for Lasers and Telecommunication Technologies						X					
AS Computer Sciences						X	X				
Bachelor's Degree											
BS Biology	X	X				X			X		
BS Chemistry	X					X					
BS Medical Technology	X	X**									
BS General Science	X										
BS Biotechnology	X	X							X		
BS Environmental Sciences						X					
BS Molecular and Cellular Biology						X					
BS Biomedicine						X	X				
BS Microbiology									X		
Technology Department											
BS Computer Sciences						X					
Master's Degree											
MES Environmental Analysis	X										
MES Environmental Management	X										
BS/MS Food Technology and Safety	X										
MSEM Conservation and Managing of Natural Resources						X					
MSEM Environmental Assessment and Risk Management						X					
MP Environmental Planning						X					
MAES Environmental Education						X					
PMS Biomedical Sciences									X		
Doctoral Degree											
PhD Environmental Sciences	X										
PhD Toxicology and Drug Design						X					

PROGRAM	LOCATION										
	GURABO	BARCELONETA	CAYEY	PONCE	YABUCOA	CUPEY	AGUADILLA	BAYAMÓN	CAROLINA	CABO ROJO	SANTA ISABEL
Professional Certificates											
PBC Medical Technology	X								X		
PBC Horticultural Therapy									X		
Business, Tourism and Entrepreneurship Division											
Associate Degree											
Business Department											
ABA Accounting	X		X		X						
ABA Management	X		X	X	X						
ABA Computerized Information Systems			X		X						
ABA Marketing	X					X					
ABA Office Administration and Information Processing in Executive Secretary						X	X				
ABA Entrepreneurship						X					
ABA Computerized Information Systems in Programming									X	X	X
ABA Computerized Information Systems in Graphic Design									X		
AD Computer Repair and Network Installation								X			
Tourism Department											
AS Tourism and Hospitality Management in Hotel Management									X		
AS Culinary Arts									X	X	
AD Commercial Baking and Pastry									X		
Bachelor's Degree											
BBA Management	X	X	X	X	X	X	X	X	X	X	X
BBA Marketing	X	X				X	X	X	X		
BBA Accounting	X	X	X		X	X	X	X	X		X
BBA Computerized Information Systems	X	X	X	X	X	X	X	X	X	X	
BBA Human Resources Management	X										
BBA Office Technologies Management	X										
BBA Finance and Economics						X					
BBA Administrative Secretary						X	X	X	X	X	X
BBA Entrepreneurship						X			X		
BBA Network Administration									X		

PROGRAM	LOCATION										
	GURABO	BARCELONETA	CAYEY	PONCE	YABUCOA	CUPEY	AGUADILLA	BAYAMÓN	CAROLINA	CABO ROJO	SANTA ISABEL
BBA Graphic Design									X	X	
Tourism Department											
BS in International Tourism and Hospitality major in Hotel Management									X		
BS Tourism and Hospitality Management major in Event and Convention Planning									X		
BS Culinary Management									X	X	
BS Culinary Nutrition									X		
Master's Degree											
MBA Human Resources	X	X	X	X		X	X	X	X		
MBA Management	X			X		X		X	X		
MSA Accountancy	X										
MBA Accounting	X					X	X	X	X		
MAcc Accounting (BBA/Macc)						X					
MBA Management of Information Security	X					X			X		
MBA Global Business	X					X			X		
MBA Marketing	X					X		X			
MBA Finances	X					X		X			
MBA Supply Chain and Material Management	X										
MBA Quality Management	X										
MBA Project Management	X										
MS Brand Management and Digital Marketing	X										
MBA Human Resources (Online)	X										
MBA Management (Online)	X										
MBA Marketing (Online)	X										
MBA Material Control Management (Online)	X										
MBA Human Resources Administration (Online)						X					
Doctoral Degree											
DBA Management	X										
DBA Information Systems Management	X										

PROGRAM	LOCATION										
	GURABO	BARCELONETA	CAYEY	PONCE	YABUCOA	CUPEY	AGUADILLA	BAYAMÓN	CAROLINA	CABO ROJO	SANTA ISABEL
Professional Certificates											
GC Accounting	X										
GC Management	X										
GC Quality Management	X										
GC Supply Chain and Material Management	X										
GC Project Management	X										
GC Human Resources	X										
GC Digital Marketing	X										
GC Security of Information Systems	X										
PC Mixology									X		
Health Science Division											
Associate Degree											
Nursing Department											
AS Nursing	X	X	X	X	X		X		X	X	
Health Allied Sciences Department											
AD Pharmacy Technician	X	X	X	X	X	X	X		X	X	
AD Respiratory Therapy	X			X	X	X		X			
AS Radiologic Technology		X							X		
AS Medical Sonography		X							X		
AD Public Health Sciences									X		
Bachelor's Degree											
Nursing Department											
BS Nursing	X	X	X	X	X	X	X	X	X	X	
Health Allied Sciences Department											
BS Nutrition and Dietetics	X										
BS Food and Nutrition Management	X										
BS Speech-Language Therapy	X	X	X	X	X		X	X			
BS Nutrition Sciences	X										
BS Radiological Sciences major in Computerized Tomography and Magnetic Resonance Imaging									X		
BS General Medical Sonography major in Adult Vascular and Echocardiography Technology		X						X	X		
BS Respiratory Therapy						X					

PROGRAM	LOCATION										
	GURABO	BARCELONETA	CAYEY	PONCE	YABUCOA	CUPEY	AGUADILLA	BAYAMÓN	CAROLINA	CABO ROJO	SANTA ISABEL
Master's Degree											
<i>Nursing Department</i>											
MSN Family Nurse Practitioner	X										
MSN Case Management and Secondary Role in Administration or Education								X			
MSN Adult Critical Care and a Secondary Role in Administration or Education	X						X	X			
<i>Health Allied Sciences Department</i>											
MS Speech-Language Pathology	X										
MS Nutrition Sciences	X										
MPH Public Health	X										
Doctoral Degree											
<i>Nursing Department</i>											
DNP Nursing Practice	X										
<i>Health Allied Sciences Department</i>											
DSLP Speech-Language Pathology	X										
Professional Certificates											
<i>Health Allied Sciences Department</i>											
GD Supervision of Speech-Language Professionals	X										
Liberal Arts Division											
Associate Degree											
<i>General Education Department</i>											
AD Social Sciences General	X										
<i>Education Department</i>											
AD Infants and Toddlers	X										
AD Sports Training	X										
AD Personal Training	X										
AD Sign Language Interpretation	X										
AD Education Emphasis as an Exercise Instructor						X					
<i>Criminal Justice Criminal Justice and Public Safety Department</i>											
AD Forensic Investigation	X	X									
AD Public Safety	X	X	X	X		X	X	X	X	X	
AD Emergency Management and Disaster	X										

PROGRAM	LOCATION										
	GURABO	BARCELONETA	CAYEY	PONCE	YABUCOA	CUPEY	AGUADILLA	BAYAMÓN	CAROLINA	CABO ROJO	SANTA ISABEL
Communication Department											
AD Cinematography and Photographic Direction	X										
Bachelor's Degree											
General Education Department											
BA General Social Sciences	X										
BAH Socio-Humanistic Studies	X										
Education Department											
BAED Teaching English as a Second Language K-12	X					X			X		
BAED Special Education K-12	X					X			X		
BAED Physical Education K-12	X					X			X		
BA Sports and Recreation	X					X			X		
BAED Early Childhood: Preschool and K-3	X					X	X	X	X		
BAED Elementary Education 4th to 6th Grade	X					X		X			
BA Personal and Sport Training									X		
BSEd History	X					X					
BSEd Spanish						X					
BSEd Biology	X										
BSEd General Science	X										
BSEd Mathematics	X										
BSEd Chemistry	X										
BSEd Vocational Industry Education	X						X				
BEd Exercise Science and Health Promotion						X					
BS Sign Language Interpretation	X										
Criminal Justice Criminal Justice and Public Safety Department											
BSS Criminal Justice and Criminology	X	X	X	X	X	X	X	X	X	X	X
BSS Public Safety	X	X	X	X		X	X	X	X	X	
Communication Department											
BA Communications	X										
BC Film Production, Video and Multimedia	X										
BC Public Relations and Advertising	X					X					
BAC Digital Production						X					
BC Social Communications in Web									X		

PROGRAM	LOCATION										
	GURABO	BARCELONETA	CAYEY	PONCE	YABUCOA	CUPEY	AGUADILLA	BAYAMÓN	CAROLINA	CABO ROJO	SANTA ISABEL
Psychology Department											
BSS Psychology	X	X	X	X		X	X	X	X		X
Social Work Department											
BSW Social Work	X	X	X	X	X	X	X	X	X	X	X
Master's Degree											
General Education Department											
MACS General Cultural Studies	X										
Education Department											
MSEd Autism or Special Education K-12	X										
MEd Educational Administration	X										
MPed Coaching, or Health Promotion or Athletic Training	X										
MEd Curriculum and Teaching with Specialty in Primary Teaching K-3 or Elementary Teaching 4th-6th or Teaching Science or Reading and Writing or Educational Technology and Distance Education or Special Education	X										
MEd Teaching Fine Arts	X										
MA Curriculum and Teaching in Special Education									X		
MEd Library Services and Information Technology	X										
MEd Teaching English as a Second Language	X										
MEd Management of Leisure Services						X					
MEd Special Education						X					
MEd Counseling	X										
MAEd School and Child Psychology									X		
MEd Educational and Administration Supervision						X	X				
MEd Sports Entrepreneurship						X					
MEd Teaching Physical Education						X					
MEd Teaching Adapted Physical Education						X					
MEd Curriculum and Teaching						X	X				

PROGRAM	LOCATION										
	GURABO	BARCELONETA	CAYEY	PONCE	YABUCOA	CUPEY	AGUADILLA	BAYAMÓN	CAROLINA	CABO ROJO	SANTA ISABEL
Criminal Justice Criminal Justice and Public Safety Department											
MA Criminal Justice and Criminology	X	X				X			X	X	X
MPA Forensic Sciences	X	X		X							
MPA Conflict Mediation	X										
MPA Human Services	X										
Communication Department											
MC Public Relations	X										
Psychology Department											
MPsy Counseling Psychology	X	X									
MA Counseling Psychology						X	X				
Social Work Department											
MSW Forensic Social Work	X										
MSW Families	X										
MSW Clinical Social Work		X							X	X	X
Doctoral Degree											
General Education Department											
PhD Cultural Studies	X										
Education Department											
EdD Educational Leadership	X										
EdD Curriculum, Teaching and Learning Environments	X										
EdD Teaching						X					
PhD Teaching						X					
EdD Physical Education						X					
PhD Physical Education						X					
Psychology Department											
PsyD Counseling Psychology	X										
PsyD Clinical Psychology						X					
Professional Certificates											
Education Department											
GC Autism	X										
PC Sign Language	X										
Criminal Justice Criminal Justice and Public Safety Department											
GC Public Affairs in Human Services	X										
GC Community Development	X										

PROGRAM	LOCATION										
	GURABO	BARCELONETA	CAYEY	PONCE	YABUCOA	CUPEY	AGUADILLA	BAYAMÓN	CAROLINA	CABO ROJO	SANTA ISABEL
PGC Forensic Psychology	X										
GC Assisted Interventions with Animals	X										
GC Psychology Counseling	X										
Engineering, Design and Architecture Division											
Associate Degree											
Engineering Department											
AD Networking and Computer Technology	X				X						
AD Mechanical Engineering Technology	X	X									
AD Quality Control Engineering Technology	X										
AD Electronic Engineering Technology	X	X									
AD Electrical Technology and Renewable Energy	X	X									
AS Engineering Technology in Avionics									X		
AD Aviation Science in Professional Pilot Technology									X		
AS Electronic in Engineering Technology									X		
AS Engineering Technology in Network Communication Computerized Devices or Networking									X		
AD Refrigeration and Air Conditioning Technology with Energy Management	X										
Design and Architecture Department											
AD Fashion Design	X	X									
AD Web Design	X										
AD Architectural Drafting Technology	X										
Bachelor's Degree											
Engineering Department											
BS Civil Engineering											
BS Electrical Engineering	X										
BS Computer Engineering	X										
BS Industrial and Management Engineering	X										

PROGRAM	LOCATION										
	GURABO	BARCELONETA	CAYEY	PONCE	YABUCOA	CUPEY	AGUADILLA	BAYAMÓN	CAROLINA	CABO ROJO	SANTA ISABEL
BS Mechanical Engineering	X										
BS Electronic Engineering Technology major in Avionics									X		
Articulated Transfer Program in Engineering to Gurabo Campus						X		X	X		
Design and Architecture Department											
BD Industrial Design	X										
BD Graphic Design	X	X									
BD Interior Design	X										
BD Fashion Design	X	X									
BS Landscape Architecture	X										
Master's Degree											
Engineering Department											
MS Mechanical Engineering in Alternative Energy	X										
MEng Mechanical Engineering in Alternative Energy	X										
MS Engineering Management	X										
MS Telecommunications and Networks Systems Administration	X										
Design and Architecture Department											
MArq Architecture	X										
Professional Certificates											
Engineering Department											
GC Networks Security	X										
Professional Studies Division											
Bachelor's Degree											
Professional Studies Department											
BBA Organizational Development	X	X				X	X	X	X	X	X
BBA Human Resources Management	X		X	X	X	X	X	X	X	X	
BBA International Logistics Management				X				X	X		
BPH Health Services Management	X	X	X	X		X	X	X	X	X	X
BBA Management	X	X	X	X		X	X	X	X	X	X
BBA Accounting	X	X				X	X	X	X		X
BBA Marketing	X					X		X	X		
BBA Graphic Design									X		

PROGRAM	LOCATION										
	GURABO	BARCELONETA	CAYEY	PONCE	YABUCOA	CUPEY	AGUADILLA	BAYAMÓN	CAROLINA	CABO ROJO	SANTA ISABEL
BBA Computerized Information Systems	X	X				X	X	X	X		
BBA Network Administration									X		
BBA Finances and Insurance								X	X		
BBA Finances and Economics						X	X	X			
BBA Administrative Secretary						X		X			X
BBA Entrepreneurship						X			X		
BSS Psychology	X	X	X	X		X	X	X	X		X
BSS Criminal Justice and Criminology	X					X		X	X	X	X
BAEd Early Childhood: Preschool and K-3	X					X	X	X	X		
BAEd Elementary Education 4th to 6th Grade	X										
BAEd Teaching English as a Second Language K- 12	X					X			X		
BAED Special Education K-12						X			X		
BSW Social Work	X	X		X		X	X	X	X	X	X
BAC Media Management						X					
Master's Degree											
Professional Studies Department											
MBA Strategic Management and Leadership	X	X	X	X	X	X	X	X	X	X	X
MBA Leadership in Project Management		X				X	X	X	X	X	X
MBA Taxation	X					X	X	X			
MHSA Health Services Management	X	X	X	X			X	X	X	X	
MBA Human Resources	X	X	X	X		X		X	X	X	
MBA Accounting	X					X	X	X	X		
MBA Marketing	X					X					
MBA Finances	X					X	X	X			
MBA Information Security Management	X						X		X		
MBA Global Business						X			X		
MPA Forensic Sciences	X	X		X			X	X			
MA Strategic Tourism				X							
MEd Educational and Administration Supervision						X					

PROGRAM	LOCATION										
	GURABO	BARCELONETA	CAYEY	PONCE	YABUCOA	CUPEY	AGUADILLA	BAYAMÓN	CAROLINA	CABO ROJO	SANTA ISABEL
MEd Montessori Curriculum Development and Teaching						X					
MSIT Cyber Security						X		X			
MST Strategic Tourism									X		
MST Gastronomic Tourism									X	X	
MAEd Instructional Design and Technology Integration with eLearning									X		
MPA Public Policy									X		
MA Criminal Justice and Criminology						X					
MBA Leadership in Project Management (Online)									X		
Professional Certificates											
Professional Studies Department											
PC Forensic Sciences	X										
GC Marketing	X										
Technical Studies Division											
Technical Programs Department											
CT Medical Insurance Billing		X			X	X		X	X	X	X
CT Practical Nursing		X	X	X	X	X		X	X	X	
CT Clinical Therapeutic Massage				X	X	X	X	X			
CT Operating Room Technician	X					X					
CT Health Assistant and Geriatric Care	X	X	X	X	X	X	X	X	X	X	
CT Event Marketing and Coordination	X	X	X	X	X	X	X	X	X	X	X
CT Cybersecurity	X	X	X	X	X	X		X	X	X	X
CT Accounting Technician		X	X	X	X	X	X	X	X	X	X
CT 3D Animation	X	X	X	X	X	X	X	X	X	X	X
CT Programmer and WEB Developer	X	X	X	X	X	X	X	X	X	X	X
CT Small Business Operation	X	X	X	X	X	X	X	X	X	X	X
CT Small Business Entrepreneurship	X	X	X	X	X	X	X	X	X	X	X
CT Design of Mobile Applications	X	X	X	X	X	X	X	X	X	X	X
CT Computer Repair and Network Installation								X			
CT Culinary Arts									X	X	
CT Mixology and Barista									X	X	
CT Electricity and Renewable Energy						X					

PROGRAM	LOCATION										
	GURABO	BARCELONETA	CAYEY	PONCE	YABUCOA	CUPEY	AGUADILLA	BAYAMÓN	CAROLINA	CABO ROJO	SANTA ISABEL
CT Refrigeration and Air Conditioning Technician						X					
CT Dental Assistant with Expanded Functions						X					
CT Computer Programming						X					
CT Graphic Design & Digital Production		X							X	X	X
CT Computer Repair and Network Installation									X		X
CT Leader in Recreation and Sports Programs									X		
CT Teacher Assistant in Early Childhood		X							X	X	X
CT Teacher Assistant in Preschool Education						X	X	X			
CT Hotel Operation									X		
Associate Degree											
AD Management and Billing of Health Services	X		X	X		X	X	X			
AD Clinical Therapeutic Massage						X	X	X			
AD Teacher Assistant in Preschool Education	X			X	X						
AD Operating Room Technician						X					
AD Medical Emergencies								X	X		
AS Technical Studies	X	X	X	X	X	X	X	X	X	X	X
School of Dental Medicine											
Associate Degree											
AD Dental Assistant with Expanded Functions	X					X			X		
AD Dental Technology	X										
School of Naturopathic Medicine											
Doctoral Degree											
NMD Naturopathic Medicine	X										
School of Veterinary Medicine											
Associate Degree											
AD Veterinary Technology	X	X		X							
Bachelor's Degree											
BS Veterinary Technology	X	X		X							

****First 3 years**



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Gurabo Campus

UAGM- GURABO CAMPUS

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Ms. Mayra M. Ferrán,	Acting Associate Director of External Resources

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Dr. Hermes Calderón Arteaga,	Program Director – Civil and Industrial and Management Engineering
Dr. Juan L. Soler Martínez,	Program Director - Engineering Technology
Prof. Lorena González Robles,	Department Director - Design and Architecture
Prof. Orisnela Solano,	Program Director – Design
Prof. Lydael Vega Otero,	Acting Department Director – Liberal Arts
Dr. Silma Quiñones,	Program Director - Psychology
Dr. Judie M. Collazo Vázquez,	Program Director - General Education
Dr. Ivette Soto Vélez,	Program Director - Communications
Dr. Luis Mondríguez Torres,	Program Director - Education
Esq. María Elena Ortiz Collazo,	Program Director - Criminal Justice and Public Safety
Prof. Lydael Vega Otero,	Program Director - Social Work
Dr. Teresa Lipsett Ruiz,	Department Director - Science and Technology
Dr. Christian Agosto Burgos,	Program Director – Biology
Dr. Claribel Báez Félix,	Program Director - Chemistry and Physics
Lcda. Mayra Cummings Méndez,	Program Director - Medical Technology
Dr. Carlos Padín Bibiloni,	Program Director - Environmental Sciences
Prof. Stefani M. Cruz Rosa,	Department Director - Health Sciences
Dr. Minerva Mulero López,	Department Director – Nursing
Prof. María Martínez Roura,	Program Director - Nutrition
Prof. Edwin Marrero Rodríguez,	Department Director – Business, Entrepreneurship and Tourism
Prof. Raúl Reyes Bonilla,	Program Director - Business and Entrepreneurship
Dr. Bruyanelis Ramos Aponte,	Dean – School of Naturopathic Medicine
Dr. José Vivaldi Oliver,	Dean – School of Dental Medicine
Dr. Shaiana Negrón Pagán,	Dean – School of Veterinary Medicine

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Ms. Anabelle Solá Candelario,	Director of Admissions and Recruitment
Mr. Julio Vega Ortiz,	Director of Treasury
Ms. Dorisabel Ramírez Bultrón,	Associate Director of Financial Aid
Ms. Maribel Rojas Cruz,	Associate Registrar

OFFICE OF THE DEAN OF INSTITUTIONAL EFFECTIVENESS

Ms. Sandra Maldonado,	Dean of Institutional Effectiveness
Ms. Joannie Ortiz Reyes,	Director of Institutional Effectiveness

ADDITIONAL LOCATIONS DIRECTORS

Dr. Glenda Bermúdez,	Director of Yabucoa Additional Location
Ms. Carmen M. Ayende Santana,	Acting Director of Barceloneta Additional Location
Dr. José E. García Ramírez,	Director of Ponce Additional Location
Ms. Maricely Zaragoza Castro,	Director of Cayey Additional Location

FACULTY BY ACADEMIC DIVISION

SCIENCE AND TECHNOLOGY ACADEMIC DIVISION

Name	Degree	Specialty	Rank
Arroyo Burgos, Christian	MS	Biology	Assistant Professor
Báez Félix, Claribel	PhD	Organic Chemistry	Assistant Professor
Boria López, Nilda I.	MD	Medicine	Assistant Professor
Cantrell Rodríguez, Sharon A.	PhD	Microbiology	Professor
Cotto Maldonado, María del C.	PhD	Environmental Science	Associate Professor
Cummings Méndez, Mayra	MS	Microbiology	Assistant Professor
Cunci Pérez, Lisandro	PhD	Chemistry	Adjunct Professor
Dávila Aguer, Catalina	PhD	Biology	Assistant Professor
Díaz Castro, Francisco J.	PhD	Chemistry and Physics Teaching	Assistant Professor
Ducongé Hernández, José	PhD	Physics	Professor
Esquilín Rosado, Carlos R.	MS	Medical Technology	Assistant Professor
Flores Pérez, Magda I.	DBA	Management	Assistant Professor
Hernández Merchán, Luz M.	EdD	Curriculum and Teaching Mathematics	Instructor
Lipsett Ruiz, Teresa	PhD	Curriculum and Teaching	Professor
Lozano Paulino, César	PhD	Chemistry	Professor
Márquez Linares, Francisco M.	PhD	Physics	Professor
Mercado Molina, Alex	PhD	Biology	Assistant Professor
Nieto Ramos, Santander	PhD	Physics	Associate Professor

Name	Degree	Specialty	Rank
Oliveras Díaz, María	MASH	Hospital Administration	Instructor
Padín Bibiloni, Carlos M.	PhD	Geography	Professor
Quintero Fonseca, Olga L.	EdD	Curriculum and Teaching	Associate Professor
Reyes Morales, Joshua	PhD	Chemistry	Assistant Professor
Rivera Irizarry, Fabiola	MS	Biology	Instructor
Rosario Díaz, José J.	PhD	Geochemistry	Assistant Professor
Sánchez Villafañe, José E.	MS	Mathematics	Associate Professor
Vázquez Montes, Adrinel	PhD	Biology	Associate Professor

BUSINESS, TOURSIM, AND ENTREPERNEURSHIP ACADEMIC DIVISION

Name	Degree	Specialty	Rank
Aponte Torres, Brunilda	PhD	Human Resources	Associate Professor
Cardona Colón, Sylvia I.	PhD	Management	Assistant Professor
Dones González, Virgin A.	PhD	Entrepreneurial Management Development of Entrepreneurial Business	Associate Professor
Flecha Ortiz, José A.	DBA	Marketing	Assistant Professor
González González, José	MEng	Computer Engineering	Instructor
López González, Evelyn	DBA	Management	Associate Professor
Martínez Colón, Juan L.	PhD	Teaching Commercial Education in Higher Education	Professor
Martínez Ramos, Edda L.	PhD	Finance	Associate Professor
Meléndez León, María	DBA	Global Management	Assistant Professor
Meléndez Ramos, Litza G.	PhD	Business Administration and International Commerce	Assistant Professor
Nieves Molina, Dareliz	MBA	Digital Marketing	Assistant Professor
Ojeda Castro, Ángel	DBA	Management Information Systems	Professor
Ortiz Muñoz, Zoraida	MBA	Human Resources	Assistant Professor
Padilla Vega, Rafael	DBA	Management Information Systems	Assistant Professor
Rodríguez Gómez, Edgar	DBA	Management	Assistant Professor
Rosa Vázquez, Carlos F.	DBA	Management	Professor
Sénquiz Díaz, Cynthia I.	DBA	Human Resources	Assistant Professor
Sobрино Rodríguez, César	PhD	Economics	Assistant Professor
Sosa Varela, Juan C.	PhD	International Business	Professor
Vargas Segarra, Carmen	EdD	Education	Professor

HEALTH SCIENCES ACADEMIC DIVISION

Name	Degree	Specialty	Rank
Cedeño Aponte, Sonia	MSN	Obstetrical Nursing	Assistant Professor
Cirilo Matos, Alfredo	MSN	Mental Health and Psychiatry	Instructor
Cotto Pérez, Shirley	MSN	Nurse Practitioner	Instructor
Crisson Cancel, Gianna E.	MS-CCC-SLP	Speech and Language Pathology	Instructor

Name	Degree	Specialty	Rank
Figueroa Ferreira, Lacybeth	MEd	Physical Education Health Promotion	Instructor
García Rosanda, Alexandra	DNP	Nursing	Assistant Professor
García Rosario, Luz P.	EdD	Special Education and Transition Services	Assistant Professor
Hernández Aponte, Cynthia I.	MSN	Neonatal Pediatrician	Instructor
Killingsworth, Kelli	MPH	Mother and Child Health	Instructor
Mulero López, Minerva	EdD	Curriculum and Teaching	Associate Professor
Negrón Díaz, Mildred	DNP	Nursing Practice	Assistant Professor
Pacheco Castillo, Josué	EdD	Educational Administration	Assistant Professor
Pérez Rosado, Iris D.	EdD	Instructional Technology and Distance Education	Assistant Professor
Pintado Sosa, Lillian R.	AuD	Audiology	Associate Professor
Pogozelski, Isabel	DNP	Nursing Practice	Assistant Professor
Ramírez Flores, Luisa M.	MS	Speech and Language Pathology	Instructor
Ríos Matos, Lilliana R.	SLPD	Speech and Language Pathology	Assistant Professor
Rodríguez Pagán, Milagros	MSN	Medical Surgical Nursing	Instructor
Rosa Morales, Awilda	EdD	Curriculum, Teaching and Learning Environments	Assistant Professor
Siaca Ceballos, Aleyda	PhD	Education	Assistant Professor
Vega Estrella, Rosalyn	EdD	Educational Leadership	Assistant Professor

LIBERAL ARTS ACADEMIC DIVISION

Name	Degree	Specialty	Rank
Acevedo Alvelo, Carlos	PhD	History of America	Assistant Professor
Albino Basco, Yessica	EdD	Curriculum and Teaching English	Assistant Professor
Aldarondo Maldonado, Lorelei	EdD	Curriculum and Instruction English	Assistant Professor
Aragunde Kohl, Úrsula A.	PsyD	Clinical Psychology	Associate Professor
Berríos Lugo, Jorge E.	PsyD	Clinical Psychology	Professor
Betancourt Gómez, Gladys	EdD	Administration and Supervision	Professor
Busó Torres, María de L.	MSW	Social Work with Families	Instructor
Calderón Rivera, José	PhD	History of PR and the Caribbean	Assistant Professor
Calderón Santana, Edwin	EdD	Instructional Technology and Distance Education	Assistant Professor
Canto Ruiz, Delza	MSW	Social Work	Instructor
Camacho Hernández, Migdalia	PhD	Social Work	Associate Professor
Candelario Piñeiro, Lymari	EdD	Guidance and Counseling	Assistant Professor
Cartagena Rodríguez, Rafael	EdD	Higher Education	Professor
Casillas Olivieri, Sylvia M.	PhD	History of PR and the Caribbean	Assistant Professor
Collazo Vazquez, Judie M.	PhD	Spanish	Assistant Professor
Colón Santana, Esther	EdD	Organizational Leadership and Policy Development	Assistant Professor
Cruz Sotomayor, Beatriz	PhD	Hispanic Studies	Associate Professor
De Jesús De Jesús, Victoria	EdD	Administration and Supervision	Assistant Professor
Del Toro Ruíz, Alice M.	PhD	History of PR and the Caribbean	Professor
Dieppa Roque, Luis	MS	Physical Education in the	Assistant Professor

Name	Degree	Specialty	Rank
Espinosa Dávila, Olga E.	EdD	Secondary Level Special Education and Transition Services	Associate Professor
Esteves Amador, Irene M.	PhD	Artwork Conservator	Assistant Professor
Flores Muñoz, Héctor R.	PhD	Philosophy in Educational Sciences	Assistant Professor
Gil De Lamadrid Pesant, Katia	PhD	Hispanic Studies	Professor
Ginorio Martínez, Ángel M.	EdD	International Education	Assistant Professor
Guadalupe Ahedo, Elaine	EdD	Curriculum and Teaching	Assistant Professor
Guzmán Colón, Carlos A.	MA	Recreation and Sports Administration Program	Instructor
Hernández Gómez, Verence	PsyD	Clinical Psychology	Assistant Professor
Huertas González, Félix R.	PhD	History of PR and the Caribbean	Professor
Izurieta Ortega, Ricardo	JD	Criminology	Associate Professor
Jiménez Ramírez, Mayra	MS	Audiology	Assistant Professor
Lebrón Delgado, Luz N.	PhD	Literature	Assistant Professor
Millán Torres, Francisco	PsyD	Counseling Psychology	Assistant Professor
Miranda Cruz, Carmen I.	EdD	Curriculum and Instruction	Assistant Professor
Mondríguez Torres, Luis A.	DBA	Sport Management and Leadership	Associate Professor
Murray Finley, Philip R.	EdD	Curriculum and Teaching	Professor
Orlando Sued, José A.	PhD	History of PR and the Caribbean	Assistant Professor
Ortiz Collazo, María E.	JD	Law	Assistant Professor
Oyola Nuñez, Edna M.	EdD	Guidance and Counseling	Professor
Pérez Sánchez, Liza M.	PhD	Literature	Assistant Professor
Polo Alvarado, Lorna I.	PhD	Hispanic Studies	Associate Professor
Quiñones Roldán, Silma	PhD	Counseling Psychology	Associate Professor
Rivera Figueroa, Hilda M.	PsyD	Counseling Psychology	Assistant Professor
Rivera Rodríguez, Diannie I.	PhD	Public Relations	Assistant Professor
Rivera Santiago, Alejandra	MPSy	Counseling Psychology	Instructor
Rodríguez Amaro, Pedro E.	MA	Social Work with Families	Instructor
Rodríguez López, Miguel	MA	Puertorrican Studies	Associate Professor
Rodríguez Ramírez, René	PhD	Spanish	Associate Professor
Rodríguez Rivera, Israel	MEd	Administration and Supervision	Instructor
Roque Rivera, Juan E.	PhD	History	Associate Professor
Rosado Sánchez, Carmen Y.	MA	Journalism	Instructor
Rosaly Manfredy, Edgardo	PhD	Curriculum & Teaching	Professor
Rosario Gómez, Scheileen	PsyD	Clinical Psychology	Assistant Professor
Santiago Berríos, Cristóbal E.	JD	Law	Assistant Professor
Solá Candelario, Adlín M.	EdD	Curriculum and Teaching	Assistant Professor
Soto Ledesma, Judith	MA	Literature	Professor
Soto Vélez, Ivette	PhD	Communications	Assistant Professor
Tapia Santiago, Daniel A.	PhD	Music	Assistant Professor
Vázquez Santiago, Joaquín	MSW	Social Work with Families	Instructor
Vega Otero, Lydael M.	MSW	Social Work	Instructor
Velázquez Rodríguez, Jessica	PsyD	Counseling Psychology	Assistant Professor
Vera Hernández, María V.	MA	Communications and Journalism	Instructor
Zayas Velázquez, Vidamaris	PsyD	Clinical Psychology	Assistant Professor

ENGINEERING, DESIGN, AND ARCHITECTURE ACADEMIC DIVISION

Name	Degree	Specialty	Rank
Alvear Suárez, Alcides	MS	Computer Engineering	Associate Professor
Aponte Roa, Diego A.	PhD	Electrical Engineering	Assistant Professor
Calderón Arteaga, Hermes	PhD	Civil Engineering	Assistant Professor
Carvajal Jiménez, Carmen L.	PhD	Computer Science	Assistant Professor
Casillas Vicente, Rudy J.	BD	Graphic Design	Instructor
Castillo Charris, Eduardo E.	PhD	Mechanical Engineering	Assistant Professor
Cruz Cantillo, Yesenia Y.	PhD	Civil Engineering	Assistant Professor
Duffany, Jeffrey L.	PhD	Computer Engineering	Professor
Espinoza, Albert A.	ME	Mechanical Engineering	Assistant Professor
García González, Rolando	PhD	Civil Engineering	Professor
Goenaga Jiménez, Miguel A.	PhD	Computer Engineering	Associate Professor
González Robles, Lorena	BD	Fashion Design	Instructor
Jové González, Eyda	BD	Graphic Design	Instructor
Lau Kwan, Mark A.	PhD	Electrical Engineering	Professor
Lorán Butrón, Andrés R.	DEng	Engineering Management	Assistant Professor
Malavé Sanabria, Amaury	PhD	Mechanical Engineering	Associate Professor
Masalmah, Yahya M.	PhD	Computer Engineering	Professor
Mera Romo, Daniel E.	PhD	Electrical Engineering	Assistant Professor
Montejo Valencia, Brian D.	PhD	Mechanical Engineering	Assistant Professor
Morales Brignac, Juan C.	PhD	Mechanical Engineering	Professor
Ortiz Rodríguez, Samira E.	PhD	Electrical Engineering	Assistant Professor
Pabón Ramírez, Wilma N.	ME	Electrical Engineering	Assistant Professor
Pérez Barbosa, Jannette	MS	Industrial and Management Engineering	Assistant Professor
Pérez Díaz, Jorge	BArch	Architecture	Instructor
Pérez Rivera, Luis A.	MLA	Landscape Architecture	Instructor
Torres Molina, Luz E.	PhD	Civil Engineering	Associate Professor
Traverso Avilés, Luis M.	PhD	Mechanical Engineering	Associate Professor
Vergara Laurens, Idalides J.	PhD	Computer Engineering	Professor

SPECIALIZED SCHOOL OF DENTAL MEDICINE

Name	Degree	Specialty	Rank
Vivaldi Oliver, José	DMD	Dental Medicine	Professor

SPECIALIZED SCHOOL OF NATUROPATHIC MEDICINE

Name	Degree	Specialty	Rank
García Crescioni, Keyla B.	PhD	Anatomy and Physiology	Assistant Professor
Janer Sánchez, Fernando	ND	Naturopathic Medicine	Assistant Professor
Nadal Bosch, Jaime	MD	Medicine	Associate Professor
Ramos Aponte, Bruyanelis	ND	Naturopathic Medicine	Assistant Professor
Rivera Ortiz, Ángel L.	MD	Medicine	Assistant Professor

SPECIALIZED SCHOOL OF VETERINARY MEDICINE

Name	Degree	Specialty	Rank
Cabán Babilonia, Julio A.	DVM	Veterinary Medicine	Assistant Professor
Crespo Llado, Keila N.	LVTg, MED	Teaching Elementary Level	Instructor
Domínguez Maldonado, Krystal	MEd	Effectiveness and Assessment	Assistant Professor
Figuerola Oliver, Luis E.	DVM	Veterinary Medicine	Assistant Professor
Figuerola Soto, Anamary	DVM	Veterinary Medicine	Assistant Professor
López Laboy, Lucila	BS	Animal Health Technology	Instructor
Marrero Ortiz, Wanda	LVTg	Animal Health Technology	Instructor
Miranda Flores, Marymir	DVM	Veterinary Medicine	Assistant Professor
Negrón Pagán, Shaiana	DVM	Veterinary Medicine	Professor
Ocasio Negrón, Andrés G.	BS	Biology	Instructor
Osuna León, Héctor L.	EdD	Educational Leadership	Assistant Professor
Vélez Mateo, Stephanie	LVTg	Veterinary Technology	Instructor
Vélez Ramos, Yaritza	LVTg	Veterinary Technology	Instructor

PROFESSIONAL STUDIES DIVISION

Name	Degree	Specialty	Rank
Orta Anés, Edna	MBA	Business Administration	Instructor
Sánchez Ríos, José A.	DBA	Management	Associate Professor
Veguilla Flores, Eva I.	EdD	Guidance and Counseling	Assistant Professor

TECHNICAL STUDIES DIVISION

Name	Degree	Specialty	Rank
Marrero Merced, Luis	BA	English as a Second Language	Instructor
Roche Santiago, Jennie	AS	Physical Therapy	Instructor



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Cupey Campus

UAGM – CUPEY CAMPUS

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Ms. Aixa Aldarondo Rivera,	Director of Analysis and Budget
Ms. Ana E. Pérez Abreu,	Associate Director of External Resources

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Vacant,	Director of Licensing and Accreditations
Ms. Mirelys Rodríguez García,	Director of Faculty Evaluation and Training
Dr. Saraí Torres Ruíz,	Director of Assessment
Ms. Laura E. Rivera Figueroa,	Associate Registrar
Ms. Melissa Guilliani Jiménez,	Director of Professional Studies
Dr. Balbina J. Rojas Sánchez,	Director of Information Technology
Dr. Tayra J. Pérez Rivera,	Department Director - Nursing
Prof. Celinette Rodríguez Gómez,	Program Director - Nursing
Prof. Lycara Nichol Hernández	Program Director - Nursing
Dr. Diamilet Santiago Suazo,	Department Director - Allied Health Sciences
Agro. Fabiola Trigo Rodríguez,	Department Director - Sciences and Technology
Mr. Heriberto Hernández Romero,	Program Director – Sciences and Technology
Dr. Teresita Ibarra Pérez,	Department Director - Business, Entrepreneurship and Tourism
Dr. José Cabrera Rivera,	Program Director - Business Undergraduate Programs
Vacant,	Program Director - Business Graduate Programs
Prof. Sugelenia Cotto Cotto,	Department Director - Liberal Arts
Prof. Mayra Nieves Agosto,	Program Director - Social Work
Prof. Neysa Valle Jiménez,	Program Director - Criminal Justice and Public Safety
Dr. Jorge Torres Hernández,	Program Director - General Education
Dr. Vilmania G. Mambrú Tavárez,	Program Director - Psychology
Dr. Luis A. Marrero Alvarado,	Program Director - Education
Neysa Valle Jiménez, Esq.,	Program Director - Criminal Justice

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Dr. René Ronda Ramirez,	Associate Dean of Student Life
Ms. Margie Cruz Aponte,	Associate Director Retention
Ms. Glendaliz Márquez Sánchez,	Director for Integral Student Development
Mr. Erick A. Bonilla Rosa,	Director of Admission and Recruitment
Ms. Iris R. Cruz Fred,	Director of Admission and Recruitment
Ms. Navia I. Ortiz Burgos,	Director of Educational Financing

OFFICE OF THE DEAN OF INSTITUTIONAL EFFECTIVENESS

Ms. Brenda Ortiz Santos,	Dean of Institutional Effectiveness
Ms. Miriam S. Rivera Rosa,	Director of Institutional Effectiveness

ADDITIONAL LOCATIONS DIRECTORS

Mr. Ramón E. Díaz Arroyo,	Director of Bayamón Additional Location
Mr. Luis A. Ruíz Vargas,	Director of Aguadilla Additional Location

FACULTY BY ACADEMIC DIVISION

SCIENCE AND TECHNOLOGY ACADEMIC DIVISION

Name	Degree	Specialty	Rank
Crastz Peters, Fernando	MS	Biology	Assistant Professor
Friedman Siegel, Jonathan	PhD	Physics	Associate Professor
Fuentes Claudio, Lymari	PhD	Chemistry	Associate Professor
Fumero Cabán, José	PhD	Biology	Assistant Professor
Gómez Garzón, Diana	PhD	Biochemistry and Nutrition	Associate Professor
González Charneco, Karen	PhD	Biology	Associate Professor
González Velázquez, Waleska	PhD	Microbiology	Assistant Professor
Grajales San Miguel, Maricarmen	MD	Medicine	Assistant Professor
Guzmán Martínez, Rosa	EdD	Instructional Technology and Distance Education	Assistant Professor
Hernández Roper, Priscilla M.	MA	Education	Instructor
López Colón, Jonathan	MSCEM	Conservation and Managing of Natural Resources	Instructor
Machín de Jesús, Abniel	PhD	Environmental Science	Associate Professor
Mahmound Hassan, Amal	PhD	Chemistry	Assistant Professor
Molina Serrano, Kevin	MS	Mathematical Statistics	Instructor
Morales Penningston, Nelson	MS	Chemistry & Chemical Biology	Instructor
Rodríguez López, Víctor	PhD	Physics	Assistant Professor
Vega Rivera, José Ramón	EdD	Instructional Technology and Distance Education	Assistant Professor
Yañez Navarrete, María	MEd	Curriculum & Teaching Mathematic	Instructor
Zayas Rivera, Beatriz	PhD	Environmental & Occupational Health	Professor

BUSINESS, TOURSIM, AND ENTREPERNEURSHIP ACADEMIC DIVISION

Name	Degree	Specialty	Rank
Ayuso Rosa, Freddie	PhD	Human Resource Management	Assistant Professor
Canario Rodríguez, Camille J.	MBA	Marketing	Instructor
Donis Rosario, Juan	PhD	Human Resource Management	Assistant Professor
Ibarra Pérez, Teresita	PhD	Entrepreneurial Management	Assistant Professor
		Development Int. Business	
Laguna Nieves, Moisés	DBA	Business Administration	Assistant Professor
Lebrón Kuri, Alfredo	PhD	Entrepreneurial and Managerial	Assistant Professor
		Development in Human	
		Resources	
Ocasio Velázquez, Mónica	DBA	Management Information	Assistant Professor
		Systems	
Ramírez Rodríguez, Gadiel	DBA	Finance	Assistant Professor
Rivera Rivera, Mary Lynne	DBA	Management	Assistant Professor
Ruiz Vargas, Luis	MBA	Human Resources	Instructor
Velázquez Ruiz, Celimar	PhD	Entrepreneurial and Managerial	Assistant Professor
		Development in Human	
		Resources	

HEALTH SCIENCES ACADEMIC DIVISION

Name	Degree	Specialty	Rank
Acevedo Martínez, Virgen	MSN	Neonatal Pediatrician	Instructor
Alejandro Narváez, Yashila Marie	DNP	Practice Executive Leadership	Assistant Professor
Capó, Carmen	PhD	Neuroscience	Associate Professor
Carrasquillo Meléndez, Erika	PhD	Nursing	Assistant Professor
Centeno Alcalá, María Y.	MSN	Adults & Elderly Education on	Instructor
		Nursing Sciences	
Cerejido Ruiz, Mónica	EdD	Instructional Technology and	Assistant Professor
		Distance Education	
Claudio Campos, Linette	EdD	Teaching	Assistant Professor
Collazo Martínez, Karol	MSN	CNS - Critical Care of Adults	Instructor
Colón Otero, Ana M.	MSN	Gerontology	Instructor
Cordero Pérez, Dimarys	MSN	Community Nursing	Instructor
Dávila Gavino, Rosemary	MSN	CNS – Case Management	Instructor
De Jesús Maldonado, Yailyn	MSN	Nursing	Instructor
Díaz Rivera, Amalia	MSN	Nursing	Instructor
Elias Narváez, Olga	MSN	Nursing	Instructor
Fonseca Fonseca, Madeline	DHSC	Health Science	Assistant Professor
García Cádiz, Sor M.	EdD	Education	Assistant Professor
Girón, José Daniel	PhD	Nursing Healthcare	Assistant Professor
		Administration	
Goicochea de Rivera, Elsie	PhD	Public Health	Assistant Professor
Hernández Santana Damaris	MED	Educational Administration &	Instructor
		Supervision	
Medina Maldonado, Keishla	MSN	Mental Health & Psychiatry	Instructor
Medina Rodríguez, Omaira	MS	Biotechnology	Instructor

Name	Degree	Specialty	Rank
Meléndez Carrasquillo, Gloribel	MSN	CNS - Critical Care of Adults	Instructor
Meléndez Flores, Jannette	MSN	Adult & Elderly Education & Nursing Sciences	Instructor
Méndez Salas, Luz E.	DPHE	Epidemiology	Assistant Professor
Méndez Santiago, Nelson	MSN	Medical Surgical Nursing	Instructor
Merced Lebrón, Carmen	MSN	Critical Care for Adult	Instructor
Morales Camacho, Belia	MSN	Intervention of Nursing Adult & Child - Adolescents	Instructor
Morales Santiago, Jesenia	MSN	Adults & Elderly Education Nursing Sciences	Instructor
Negrón Rivera, Yaritza	MHSA	Public Health	Instructor
Nieves González, Mildred	MSN	Medical Surgical Nursing	Instructor
Ortiz Ortiz, Cruz Noelia	MSN	Gerontology	Instructor
Ramos Vázquez, Elena	MSN	Nursing	Instructor
Recio Rosado, José	MS	Medical Surgical Nursing	Instructor
Rivera García, Sandra	MSN	CNS - Case Management	Instructor
Rivera Hernández, Carmen	MS	Mental Health & Psychological Nursing	Instructor
Rodríguez Dávila, Liannelys	MHSA	Health Service Management	Instructor
Rodríguez Vega, Mildred	MSN	Nursing	Instructor
Rodríguez Serrano, Yanilda	PhD	Nursing Education	Assistant Professor
Rosado Solivan, Heriberto	MSN	CNS - Critical Care of Adults	Instructor
Santiago Ríos, Amarilys	DNS	Nursing	Assistant Professor
Seda Díaz, Alexie	DPT	Physical Therapy	Associate Professor
Soto Hernández, Zulma	PhD	Clinical Psychology	Assistant Professor
Vallejo Carmona, Leticia	PhD	CNS - Case Management	Instructor
Villanueva Rivera, María del C.	MSN	Medical Surgical Nursing	Instructor

LIBERAL ARTS ACADEMIC DIVISION

Name	Degree	Specialty	Rank
Aponte Correa, María	PhD	Education	Professor
Badillo Grajales, Leilani	MEd	Higher Education	Instructor
Borges Alverio, Alejandra	EdD	Education	Assistant Professor
Cabán Montalvo, Mariveliz	PhD	Psychology	Assistant Professor
Canales Encarnación, Ángel	EdD	Curriculum & Instruction	Associate Professor
Carrasquillo Casado, Bangie	PhD	Social Work	Assistant Professor
Concepción Rosa, Juan	EdD	Education	Assistant Professor
Cotto Cotto, Sugelenia	MBA	Management & Strategic Leader	Instructor
Cruz Montijo, Irma del Pilar	PhD	History of PR and the Caribbean	Assistant Professor
Del Valle Rodríguez, Maritza	PhD	Education	Assistant Professor
Domenech Cruz, Roxanna	PhD	History of PR and the Caribbean	Associate Professor
Fernández Díaz, Ricardo	JD	Law	Associate Professor
Gamunev, Anthony	MAC	Screenwriting	Instructor
García Acosta, Amarilys	PhD	Psychological Counseling	Assistant Professor
García Arriaga, Nancy	MA	Hispanic Studies	Instructor
García Rodríguez, Carlos	PhD	Clinical Psychology	Assistant Professor
González Rodríguez, Judith	EdD	Educative Administration	Professor

Name	Degree	Specialty	Rank
Hernández Rivera, Nydia	DIPSY	Clinical Psychology	Assistant Professor
Lugo Sosa, Mayra	EDD	Teaching Curriculum and Learning Environments	Assistant Professor
Mambru Tavaréz, Vilmania	DIPSY	Clinical Psychology	Assistant Professor
Martínez Justiniano, Consuelo	PhD	Literature of PR and the Caribbean	Assistant Professor
Martínez Toledo, Lorna	EdD	Educational Leadership	Professor
Montijo Román, José	JD	Law	Instructor
Morales Moll, Rafael	MAED	Instructional System and Technology Education	Assistant Professor
Nieves Agosto, Mayra	MSW	Social Work	Assistant Professor
Orengo Puig, Janette	EDD	Educative Administration	Associate Professor
Pagán Maldonado, Nellie	PhD	Psychology	Associate Professor
Pérez López, Zorailee	MSW	Clinical Area	Instructor
Pineda Martínez, Melinda	MA	Curriculum & Instruction English	Instructor
Ponce Rivera, Omar	PhD	Recreation Services and Resources Management	Professor
Quiñones Santiago, Juan	MA	Hispanic Studies	Instructor
Rivera Echevarría, Widaliz	MSW	Social Work	Instructor
Rodríguez Berdiel, Elsie	EdD	Education	Assistant Professor
Rodríguez López, Nitza	MSW	Social Work	Assistant Professor
Rodríguez Sáez, Daisy	EdD	Educative Administration	Professor
Rosa Montañez, Julio	EdD	Teaching	Associate Professor
Tapia Fernández, Gisselle	EdD	Curriculum & Teaching	Assistant Professor
Torres Rivera, Daniel	DIPsy	Clinical Psychology	Assistant Professor
Torres Rivera, Vilma	MA	Pre-school Education	Assistant Professor
Torres Sánchez, Denise Ch.	EdD	Instructional Technology and Distance Education	Assistant Professor
Vega Lugo, Zaida	EdD	Human Development Counseling	Professor
Villegas Cobián, Gregorio	PhD	Educational Sciences	Assistant Professor

PROFESSIONAL STUDIES DIVISION

Name	Degree	Specialty	Rank
Dávila Aponte, Edwin	PhD	Entrepreneurial Management Development Int. Business	Assistant Professor
Navedo Galindez, Christella	PhD	Psychology	Assistant Professor
Padilla Díaz, Mariwilda	EdD	Guidance and Counseling	Associate Professor
Rivera Rosario, Carolim	MSW	Social Work	Instructor

TECHNICAL STUDIES DIVISION

Name	Degree	Specialty	Rank
Arroyo Chaparro, Gladys	AD	Management and Marketing	Instructor
Chiclana Rivera, José J.	CT	Professional Massage Therapy	Instructor
Portela Padilla, Manuel	MBA	Accounting / Certified Therapeutic Massage	Instructor
Rivera Quiñones, Nilda	EdD	Educative Administration	Assistant Professor
Torres Figueroa, María I.	EdD	Educational Management	Instructor



UNIVERSIDAD
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UAGM

Catalog 2023-2024

Carolina Campus

UAGM – CAROLINA CAMPUS

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Dr. Frances M. Pérez Rodríguez,	Program Director - Business
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Prof. Nannette Méndez López,	Program Director – Tourism and Culinary Arts
Dr. Karin J. Millán Díaz,	Department Director- Science and Technology
Prof. Rosario Meléndez Centeno,	Department Director- Liberal Arts
Dr. Marie Igartúa Soto,	Department Director - Criminal Justice and Public Safety
Prof. Carmen Urbina Fuentes,	Department Director - Education
Dr. Camille Echevarría Peraza,	Department Director – General Education
Prof. Jorge Diazgranados Jiménez,	Department Director- Engineering
Dr. Héctor M. Ortiz Rivera,	Department Director- Nursing
Dr. Vionette Rodríguez Avilés,	Department Director- Allied Health Sciences
Dr. Natalie Pérez Luna,	Department Director- Social Work

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Ms. Magalie Alvarado Hernández,	Director of Institutional Effectiveness

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Dr. Kevin D. Negrón Vázquez,	Director of Santa Isabel Additional Location
Ms. Carmen M. Ayende Santana,	Interim Director of Barceloneta Additional Location

FACULTY BY ACADEMIC DIVISION

SCIENCE AND TECHNOLOGY ACADEMIC DIVISION

Name	Degree	Specialty	Rank
González Rodríguez, Sandra	MS	Chemistry	Professor
Rodríguez Bonano, Nydia M.	PhD	Microbiology and Medical Zoology	Professor
Torres Colón, Jorge M.	EdD	Education	Assistant Professor
López Goglad, Jorge V.	MA	Applied Mathematics	Instructor
Méndez Torres, Loyda B.	PhD	Environmental Toxicology	Professor
Rivera Rivera, Linda E.	PhD	Biochemistry	Assistant Professor
Malavé Llamas, Karlo	PhD	Environmental Sciences- Biology	Assistant Professor
Collazo Rivera, Glenda L.	EdD	Curriculum and Teaching in Mathematics	Assistant Professor
Ortiz Fernández, Jorge Eliécer	EdD	Curriculum and Teaching in Mathematics	Assistant Professor
Barroso Lorenzo, Sandra	MS	Genetic Engineering and Biotechnology	Instructor
Masso Ferret, Roberto	PHD	Physics/Chemistry	Assistant Professor
Hopgood Berdecia, Britney	MS	Chemistry	Instructor
Camacho Avilés, Christian	PhD	Naturopathy/Medical Technology	Assistant Professor

BUSINESS, TOURSIM, AND ENTREPERNEURSHIP ACADEMIC DIVISION

Name	Degree	Specialty	Rank
Berrios Lugo, José E.	DBA	Business Administration	Associate Professor
Díaz Colón, Mildred	PhD	International Business	Associate Professor
Lebrón González, Edwin	MBA	Accounting	Assistant Professor
Santiago Ortega, Rosaliz	DBA	Management	Associate Professor
Cortina Mercado, Melissa	DBA	Marketing	Assistant Professor
Olmo Terrasa, Carmen M.	MFA	Graphic Design	Instructor
Nieves Piñero, Roberto	MIS	Information Systems	Instructor
Santiago Font, Zoe M.	PhD	Hotel and Restaurant Administration	Associate Professor
Escobar Contreras, Patricio	MBA	Culinary Arts	Instructor
López Rivera, Francisco	MBA	Culinary Arts	Assistant Professor
Rivera Medina, Christian	PhD	Nutrition	Associate Professor
Méndez López, Nannette G.	MS	Baking & Pastry Instructor	Assistant Professor
Gómez Betancourt, Raúl N.	MS	Culinary Arts	Assistant Professor
Ñeco Valle, René L.	MS	Science in Sustainable Food Systems	Assistant Professor
Vargas Sein, Noel F.	MBA	Gastronomic Tourism	Instructor
Menéndez Fuentes, Rafael	MBA	Finance	Instructor
Tapia Rivera, Stanley	MBA	Business Administration	Instructor
Ortiz Vientos, Eduardo	AS	Culinary Arts	Instructor
Iban Cordero, Rosa T.	MBA	Food and Beverage	Instructor
Corrada Rivera, Ramón A.	MTA	Events and Sports Management	Assistant Professor
Meléndez Morales, Lourdes	PhD	Business in an International Economy	Assistant Professor

Name	Degree	Specialty	Rank
Medina Rivera, Zulma I.	PhD	Industrial & Organizational Psychology	Professor
Suárez Rivera, Yaritza	MA	Instructional Systems and Educational Technology	Instructor
Peña Correa, Ernesto	DBA	Business Administration	Assistant Professor
Rodríguez Negrón, Marcos	MBA	Food and Beverage	Instructor

HEALTH SCIENCES ACADEMIC DIVISION

Name	Degree	Specialty	Rank
Fernández Mora, Rosa M.	MPH	Medical Sonography	Professor
Nazario Pagán, Denise	EdD	Instructional Technology and Distance Education	Assistant Professor
Rivera Ortiz, Migna	MSN	Science of Nursing/Juris Doctor	Assistant Professor
Zayas Hernández, Ana O.	EdD	Instructional Technology and Distance Education	Assistant Professor
Astacio Méndez, Ana I.	EdD	Instructional Technology and Distance Education	Assistant Professor
Moctezuma Rodríguez, Norma I.	EdD	Curriculum and Teaching/Nursing	Assistant Professor
Pérez Rivera, Tayra J.	EdD	Instructional Technology and Distance Education	Assistant Professor
Mojica Pagán, Limarys	MA	Radiology	Instructor
Ortiz López, Vanessa M.	EdD	Instructional Technology and Distance Education	Assistant Professor
Rodríguez Aviles, Vionette V.	PhD	Industrial Organizational Psychology	Assistant Professor
Martínez Rivera, Willmarie	MSN	Science of Nursing	Instructor
Arroyo Colón, Sherleen	MSN	Science of Nursing	Instructor
Torres Rosario, Arilda	MSN	Science of Nursing	Instructor
Zapata Gómez, Rosa E.	MSN	Surgical of Nursing	Instructor
De Jesús Bonilla, Verónica	MSN	Science of Nursing	Instructor
Lebrón Salas, Adalberto	MBA	Hospital Administration	Instructor
Torres Pabón, Fransúas	BS	Sonography	Instructor
Vega Martínez, Geraline N.	MSN	Science of Nursing	Instructor
Rodríguez Mercado, Isamar	MSN	Science of Nursing	Instructor
Guzmán Flores, Norma I.	BS	Sonography	Instructor
Boria Almodóvar, Zenny	MSN	Nursing in Education	Instructor
González Vázquez, Lourdes	MSN	Nursing Medical Surgical	Instructor
Ocasio López, Keren	MED	Educational Leadership	Instructor
Vélez Medina, Keyla	MSN	Nursing in Education	Instructor
González Rivera, Iris Y.	MSN	Nursing in Education	Instructor
Feliciano Encarnación, Michelle	MSN	Nursing in Education	Instructor
Abrams, Stephanie	MSN	Nursing Mental and Physical Health	Instructor

LIBERAL ARTS ACADEMIC DIVISION

Name	Degree	Specialty	Rank
Camuñas Madera, Ricardo R.	PhD	American History	Professor
Crespo Rivera, Evelyza	PhD	Philosophy, Social Work	Professor
López Figueroa, Yolanda	PhD	Latin American Studies (History)	Associate Professor
Betancourt Díaz, Elba A.	PhD	Social work	Assistant Professor
Nieves Rolón, Irvyn E.	PhD	Social Work	Associate Professor
Rodríguez Cancel, Jaime L.	PhD	History of Puerto Rico and the Caribbean	Associate Professor
Santiago Orria, Astrid E.	PhD	Social Work	Associate Professor
Villamil Rodríguez, Myria S.	PsyD	Psychology	Associate Professor
Medina Santiago, Nilda G.	PhD	Academic and Research Psychology	Associate Professor
González Guardarrama, José A.	PhD	Social Work	Associate Professor
Delgado Pereira, Iris N.	PsyD	Clinical Psychology	Assistant Professor
Igartúa Soto, Marie B.	EdD	Education with a Specialty in Curriculum and Instruction	Associate Professor
Morales Sousa, José I.	EdD	Curriculum and Teaching	Assistant Professor
Mayo Santana, Luis M.	PhD	Literature of Puerto Rico and the Caribbean	Professor
Rebollo Gil, Guillermo F.	PhD	Sociology	Assistant Professor
Sanabria Rodriguez, Jhon	PhD	Community Psychology	Assistant Professor
Vázquez Tirado, Sigrid E.	PhD	Forensic Psychology	Assistant Professor
Rivera Suarez, Waleska	EdD	Instructional Technology and Distance Education	Assistant Professor
De Jesús Rosa, Iván	PhD	Social Work	Assistant Professor
Meléndez Centeno, Rosario	MA	Public Communication	Instructor
Vélez Rivera, Marcos A.	PhD	Philosophy and Letters in History	Assistant Professor
Rivera Ortiz, Rafael J.	PhD	Social-Community Psychology	Assistant Professor
Echevarría Peraza, Camille	PhD	Philosophy of education with a specialty in teaching	Assistant Professor
Bayuelo Flórez, Ezequiel	EdD	Curriculum and Teaching	Professor
Martínez Plana, Mayra R.	PhD	Academic and Research Psychology	Associate Professor
Fernández García, Holvin	MEd	Physical Education	Instructor
Ortiz Vega, Carlos U.	MEd	Adult Education (Andragogy)	Instructor
Torres Caraballo, Luis A.	MEd	Instructional Design	Instructor
Rosario Albert, Luis J.	PhD	Communication	Associate Professor
Rodríguez Domenech, Eileen	EdD	Education	Assistant Professor
León Cartagena, Héctor L.	MA	Teaching of English as a Second Language	Instructor
Suárez Campos, Verónica Del	MSW	Social Work	Instructor
Hernández Sepulveda, Betzaida	EdD	Education	Assistant Professor
Rivera González, Anthony	EdD	Education	Professor
Rodríguez Colón, Edna R.	PhD	Literature of Puerto Rico and the Caribbean	Assistant Professor
Muñoz Zabala, Marisol	BA	Education	Instructor

ENGINEERING, DESIGN, AND ARCHITECTURE ACADEMIC DIVISION

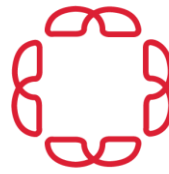
Name	Degree	Specialty	Rank
Santiago Carrasquillo, Edgardo	MS	Business and Organizational Security Management	Assistant Professor
Salazar Meléndez, Gerardo J.	BS	Engineering	Instructor
González Sánchez, Juan A.	PhD	Chemical Physics	Assistant Professor

PROFESSIONAL STUDIES DIVISION

Name	Degree	Specialty	Rank
Rivera Cordero, Mildred Y.	MBA	Management	Instructor
Vázquez Guzmán, Ericks	PhD	International Relations	Associate Professor
Rubio Negrón, Esther A.	EdD	Instructional Technology and Distance Education	Assistant Professor
Esquilín Rivera, Sylvia	EdD	Instructional Technology and Distance Education	Assistant Professor
Correa Escobar, Griselda	DBA	Project Management	Assistant Professor

TECHNICAL STUDIES DIVISION

Name	Degree	Specialty	Rank
Ayala Robles, Juan E.	DMD	Dental Health	Assistant Professor



UNIVERSIDAD
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UAGM

ACADEMIC OFFERINGS
CAREER AND TECHNICAL
PROGRAMS

ACADEMIC OFFERINGS

TECHNICAL PROGRAMS

SCHOOL OF TECHNICAL STUDIES

Department of Technical Programs

Certificate in Computer Repair and Network Installation

Program's description

This program has been designed to facilitate the effective application of the theoretical and practical knowledge acquired in network technology and in everything related to detection and repair with "Hardware." Communication skills are studied effective, critical thinking, decision making and creativity, as well as skills related to the use of instruments, tools, and equipment for high quality job performance.

Graduation GPA: 2.00

Curricular Content

First Term				
Course	Credits	Hours	Title	Prerequisites
COAT 107	3	45	Keyboarding and Basic Skills in the Computer	
CRNI 101	3	45	Basic of Electronics Circuits	
MAGS 120 (I)	3	45	Introductory Algebra	
CRNI 102	3	45	Introduction to Networks	
CRNI 107	3	45	Fundamentals of Operating Systems	
	15	225		
Second Term				
Course	Credits	Hours	Title	Prerequisites
SPGS 152(I)	3	45	Fundamentals of Reading and Writing	
CRNI 109	3	45	Network Design and Maintenance	CRNI 102
CRNI 103	3	45	Design And Maintenance of Mobile Devices	
CRNI 105	3	45	Diagnostic and Maintenance of Computer Systems I	
	12	180		
Third Term				
Course	Credits	Hours	Title	Prerequisites
ENGS 152(I)	3	45	Fundamentals of Speaking, Reading and Writing English I	
CRNI 111	3	45	Security and Recovery System Plan	
ENMA 101	3	45	Introduction to Entrepreneurial Development	
CRNI 113	3	45	Diagnostic and Maintenance of Computer Systems II	CRNI 105
	12	180		
Total	39	585		

Important Notes:

1. Classification of Instructional Programs (CIP Code): 47.0104 Computer Installation and Repair Technology/Technician.
2. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
3. Subject to changes.

Certificate in Medical Insurance Billing

Program's description

This program is designed to introduce students to the diversity of health care. Students in this program will learn about privacy, confidentiality, electronic medical records, quality management, medical coding, and billing. Students will work in a variety of health care settings and be able to perform coding, billing, and medical record maintenance.

Graduation GPA: 2.00

Curricular Content

First Term				
Course	Credits	Hours	Title	Prerequisites
COAT 107	3	45	Keyboarding and Basic Skills in the Computer	
MAGS 120(I)	3	45	Introductory Algebra	
ENMA 101	3	45	Introduction to Entrepreneurial Development	
MIBC 100	3	45	Medical Terminology and Abbreviations	
MIBC 104	3	45	Clinical and Professional Coding	
	15	225		
Second Term				
Course	Credits	Hours	Title	Prerequisites
MIBC 108	3	45	Health, Safety and Medical and Legal Aspects	
MIBC 109	3	45	Electronic Medical Record	
MIBC 111	3	45	Basic Billing	
MIBC 113	3	45	Electronic Billing	
ACCO 111	4	60	Principle of Managerial Accounting	
	16	240		
Third Term				
Course	Credits	Hours	Title	Prerequisites
MIBC 115	3	45	Audit Health Care Billing	
MIBC 117*	3	180	Medical Billing Practice	
	6	225		
Total	37	690		

Important Notes:

1. *Course requires 180 hours at practicum
2. Classification of Instructional Programs (CIP Code): 51.0716 Medical Administrative/Executive Assistant and Medical Secretary.
3. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
4. Subject to changes.

Certificate in Graphic Design & Digital Production

Program's description

The program Graphic Design and Digital Production is a program that prepares individuals to apply artistic and computer techniques to the interpretation of technical and commercial concepts. Includes instruction in computer-assisted art and design, printmaking, concepts sketching, technical drawing, color theory, imaging, studio technique, still and life modeling, multimedia applications, communication skills and commercial art business operations.

Graduation GPA: 2.00

Curricular Content

First Term				
Courses	Credits	Hours	Title	Prerequisites
SPGS 152(I)	3	45	Fundamentals of Reading and Writing	
COMC 102	3	45	Introduction to Media	
COMC 103	3	45	Digital Photography	
COAT 107	3	45	Keyboarding and Basic Skills in the Computer	
	12	180		
Second Term				
Courses	Credits	Hours	Title	Prerequisites
ENGS 152(I)	3	45	Fundamentals of Speaking, Reading and Writing English I	
COMC 104	3	45	Digital Graphic Design	
COMC 105	3	45	Web Page Design and Publication	COMC 103
COMC 106	3	45	Digital Sound Production	COMC 102
	12	180		
Third Term				
Courses	Credits	Hours	Title	Prerequisites
COMC 107	3	45	Management and Administration of a Media Company	
COMC 108	3	45	Video Digital Production and Direction	COMC 103, COMC, 104, COMC 106
COMC 109	3	45	Multimedia Production	
COMC 110	3	45	Legal and Ethical Aspects in Communications	
	12	180		
Total	36	540		

Important Notes:

1. Classification of Instructional Programs (CIP Code): 11.0803 Computer Graphics.
2. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
3. Subject to changes.

Certificate in Operating Room Technician

Program's description

The Certificate in Operating Room Technician prepares the student to assist and support the surgeon during and after the surgical process. It also prepares the student to perform the preparation, disinfection and sterilization of equipment and supplies before and after the surgical procedures.

Graduation GPA: 2.00

Curricular Content

First Term				
Courses	Credits	Hours	Title	Prerequisites
BIOL 1104	4	45	Anatomy and Physiology Compendium	
BIOL 1104L	0	45	Anatomy and Physiology Compendium Lab	
SURT 101	3	45	Introduction to the World of Surgery	
SURT 100	4	45	Disinfection and Sterilization	
SURT 100L	0	45	Disinfection and Sterilization Lab	
SURT 103	3	45	Human Relations and the Surgical Patient	
	14	270		
Second Term				
Courses	Credits	Hours	Title	Prerequisites
BIOL 1103	4	45	Introduction to Microbiology	
BIOL 1103L	0	45	Introduction to Microbiology Lab	
SURT 104	3	45	Foundations of Anesthesia	
SURT 108	6	45	Operating Room Fundamentals	SURT 100, SURT 101
SURT 108L	0	135	Operating Room Fundamentals Lab	
	13	315		
Third Term				
Courses	Credits	Hours	Title	Prerequisites
SURT 110*	6	360	Clinical Practice II	SURT 108
	6	360		
Total	33	945		

Important Notes:

1. *Course requires 360 hours at practicum
2. Classification of Instructional Programs (CIP Code): 51.0909 Surgical Technology/Technologist.
3. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
4. Subject to changes.

Certificate in Clinical Therapeutic Massage

Program's description

The Certificate of Therapeutic Clinical Massage prepares the student to improve general wellness through touch and professional handling of patients, applying manipulation techniques, such as: compression, energy touch, friction, and other. The student will manage different types of massage techniques such as aesthetic-spa, medical-spa, energy-holistic, sports, clinical chair massage, among others.

Graduation GPA: 2.00

Curricular Content

First Term				
Courses	Credits	Hours	Title	Prerequisites
THMA 101	3	45	Introduction to Massage and Chair Massage	
THMA 101L	0	30	Introduction to Massage and Chair Massage Lab	
THMA 121	4	60	Anatomy and Physiology for Massage	
THMA 102	3	45	Therapeutic Massage I	
THMA 102L	0	45	Therapeutic Massage I Lab	
THMA 118	4	60	Reflexology and Spa Techniques	
THMA 118L	0	30	Reflexology and Spa Techniques Lab	
14	315			
Second Term				
Courses	Credits	Hours	Title	Prerequisites
THMA 123	4	60	Musculoskeletal Anatomy	
THMA 108	3	45	Therapeutic Massage II	THMA 101, THMA 102
THMA 108L	0	45	Therapeutic Massage II Lab	
THMA 111	3	45	Therapeutic Massage III	THMA 101, THMA 102
THMA 111L	0	30	Therapeutic Massage III Lab	
THMA 125	4	60	Clinical Pathology, Evaluation and Documentation	THMA 101
THMA 127	3	45	Oriental Techniques	THMA 101, THMA 102
THMA 127L	0	25	Oriental Techniques Lab	
17	360			
Third Term				
Courses	Credits	Hours	Title	Prerequisites
THMA 129	4	60	Sport Massage and Structural Kinesiology	THMA 101, THMA 102
THMA 129L	0	30	Sport Massage and Structural Kinesiology Lab	
THMA 131	3	45	Massage for Special Populations & Lymphatic Drainage	THMA 101, THMA 102
THMA 131L	0	30	Massage for Special Populations & Lymphatic Drainage Lab	
THMA 120	3	45	Therapeutical Massage Seminar	THMA 101, THMA 102, THMA 108, THMA 111, THMA 118, THMA 121, THMA 123M, THMA 125, THMA 127
THMA 117*	2	120	Supervised Practicum	THMA 101, THMA 102, THMA 108, THMA 111
12	330			
Total	43	1,005		

Important Notes:

- *Course requires 120 hours at practicum.
- The minimum passing grade for THMA 117 Supervised Practicum is C.
- Classification of Instructional Programs (CIP Code): 51.3501 Massage Therapy/Therapeutic Massage.
- To practice the profession, it is required that the graduate take and pass the exam offered by the Board of Examiners of Massage Therapists of Puerto Rico.
- New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
- Subject to changes.

Certificate in Practical Nursing

Program's description

This professional can perform simple tasks in medical procedures such as: observations of the patient's condition, physical, mental, social, and spiritual well-being, development of patient care plans, document their intervention in the clinical file and basic tasks related to hygiene, comfort, food, elimination, ambulation and rest of the patient.

Admission GPA: 1.90

Graduation GPA: 2.00

Curricular Content

First Term				
Courses	Credits	Hours	Title	Prerequisites
BIOL 1104	4	45	Anatomy and Physiology Compendium	
BIOL 1104L	0	45	Anatomy and Physiology Compendium Lab	
MAGS 120 (I)	3	45	Introductory Algebra	
NURC 150	5	45	Fundamentals of Nursing	
NURC 150L	0	90	Fundamentals of Nursing Lab	
	12	270		
Second Term				
Courses	Credits	Hours	Title	Prerequisites
NURC 154	5	45	Pediatric Nursing	NURC 150
NURC 154L	0	90	Pediatric Nursing Lab	
NURC 153	5	45	Maternal-Child Nursing	NURC 150
NURC 153L	0	90	Maternal-Child Nursing Lab	
BIOL 1103	4	45	Introduction to Microbiology	
BIOL 1103L	0	45	Introduction to Microbiology Lab	
	14	360		
Third Term				
Courses	Credits	Hours	Title	Prerequisites
NURC 151	5	45	Surgical Medical Nursing I	NURC 150
NURC 151L	0	90	Surgical Medical Nursing I Lab	
NURC 152	5	45	Psychiatric Nursing	NURC 150
NURC 152L	0	90	Psychiatric Nursing Lab	
	10	270		
Total	36	900		

Important Notes:

1. Classification of Instructional Programs (CIP Code): 51.3901 Licensed Practical/Vocational Nurse Training (LPN, LVN, Cert., Dipl, AAS)
2. To practice the profession, it is required that the graduate take and pass the exam offered by the Puerto Rico Board of Examiners of Nurses.
3. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
4. Subject to changes.

Certificate in Teacher Assistant in Early Childhood

Program's description

This program provides students with the skills required to work effectively with preschool-age children, contributing to their physical and motor, affective, social, and cognitive development. With this Certificate, Teacher Assistants are prepared to understand their students and to be better prepared to meet those needs.

Graduation GPA: 2.00

Curricular Content

First Term				
Courses	Credits	Hours	Title	Prerequisites
SPGS 152 (I)	3	45	Fundamentals of Reading and Writing	
ENGS 152 (I)	3	45	Fundamentals of Speaking, Reading and Writing English I	
ECEC 171	3	45	Human Growth and Development I	
ETEC 200	3	45	Play and Arts as Educational Strategies	
ETEC 173	3	45	Introduction to the Early Childhood Education	
	15	225		
Second Term				
Courses	Credits	Hours	Title	Prerequisites
ECEC 305	3	45	Sociological Foundation of Education	
ECEC 202	3	45	Integration of Technology in Education	
ETEC 201	3	45	The Family as Principal Axis of a Community of Learning (0-8 years)	
ECEC 204	3	45	Nature and Needs of Exceptional Children and Inclusion	
ETEC 308*	3	145	Management of the Early Childhood Education Environment	
	15	325		
Third Term				
Courses	Credits	Hours	Title	Prerequisites
MAGS 120 (I)	3	45	Introductory Algebra	
SCGS 200	3	45	Science, Technology and Society	
SOGS 201	3	45	The Human Being and Social Consciousness	
	9	135		
Total	39	685		

Important Notes:

1. Classification of Instructional Programs (CIP Code): 13.1501 Teacher Assistant/Aide.
2. *Course requires 100 hours at practicum
3. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
4. Subject to changes.

Certificate in 3D Animation

Program's description

The program prepares students in the conceptualization, planning, creation and design for the creation of 3D graphic animations in the formats standard in the entertainment industry. Instruction includes 3D modeling, rigging (skeletal animation), virtual physics, texture techniques, digital design, character creation, editing, digital sculpture, storyboarding, communication skills, and final rendering.

Graduation GPA: 2.00

Curricular Content

First Term				
Courses	Credits	Hours	Title	Prerequisites
ANIC 101	3	45	Principles of 3D Animation	
ANIC 102	3	45	3D Animation I	
ANIC 103	3	45	Modeling, Texture, and Lighting I	
ANIC 105	3	45	Image Design Photoshop	
ANIC 106	3	45	3D Animation II	ANIC 102
Total	15	225		

Second Term				
Courses	Credits	Hours	Title	Prerequisites
ANIC 108	3	45	Production of Storyboard	
ANIC 110	3	45	Modeling, Texture, And Lighting II	ANIC 103
ANIC 112	3	45	3D Animation III	ANIC 102
ANIC 115	3	45	3D Animation Seminar	ANIC 112, ANIC 110
	12	180		
Total	27	405		

Important Notes:

1. Classification of Instructional Programs (CIP Code): 50.0102 Digital Arts
2. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
3. Subject to changes.

Certificate in Culinary Arts

Program's description

This program presents an introduction to the fundamentals, theory, and practice of food preparation. There is also an emphasis on the production of vegetables and the manufacture of cuts of beef, chicken, and fish. Students will develop competencies in cooking methods and making soups and starches. In addition, the preparation of traditional breakfasts, different styles of presentation in plates and buffet food trays, and the preparation of hot and cold hors d'oeuvres will be covered. Bakery basics will also be discussed including doughs, quick breads, pies, biscuits, cookies, cakes, and basic bakery items. Students will be exposed to the different gastronomic cultures of Europe, America, and Puerto Rico through seminars, conferences, demonstrations, and menus. The practice of good sanitation habits in the program, as well as the safe handling of food and equipment will be evaluated. Students will be encouraged to use scientific and quantitative reasoning while maintaining good communication and to use the Internet as a research tool.

Graduation GPA: 2.00

Curricular Content

First Term				
Courses	Credits	Hours	Title	Prerequisites
CUAR 101	3	45	Introduction to Culinary Arts	
CUAR 103	3	45	Meat Cutting, Sauces and Stocks	
CUAR 105	3	45	Food Production	
CUAR 107	3	45	Introduction To Baking and Pastries	
	12	180		
Second Term				
Courses	Credits	Hours	Title	Prerequisites
CUAR 109	3	45	The Art of Garde Manger	CUAR 101, CUAR 103, CUAR 105, CUAR 107
CUAR 111	3	45	International and Puerto Rican Gastronomy	CUAR 101, CUAR 103, CUAR 105, CUAR 107
CUAR 120	1	350	Internship	CUAR 101, CUAR 103, CUAR 105, CUAR 107, CUAR 109
	7	440		
Total	19	620		

Important Notes:

1. Classification of Instructional Programs (CIP Code): 12.0500 Cooking and Related Culinary Arts, General
2. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
3. The minimum passing grade for CUAR 120 is C.
4. Subject to changes.

Certificate in Health Assistant and Geriatric Care

Program's description

This program prepares students to provide routine care and support services for disabled, recovering, or elderly homebound individuals. Includes instruction in basic nutrition, home sanitation, infection control, first aid, vital sign taking, personal hygiene, interpersonal communication skills, supervised home management, emergency recognition and referrals, geriatric care, and legal and ethical responsibilities.

Graduation GPA: 2.00

Curricular Content

First Term				
Courses	Credits	Hours	Title	Prerequisites
HAGC 101	3	45	Fundamental Concepts of Gerontology and Geriatrics	
HAGC 103	3	45	Human Anatomy and Physiology	
HAGC 105	3	45	Technical, Legal and Administration Aspects	
HAGC 107	3	45	Nutrition And Hydration of The Geriatric Patient	
HAGC 109	3	45	Quality of Life Fundamentals	
	15	225		
Second Term				
Courses	Credits	Hours	Title	Prerequisites
HAGC 111	3	45	Fundamentals of Home Health Care	HAGC 101, HAGC 103
HAGC 111L	0	60	Laboraty of Fundamentals of Home Health Care	HAGC 101, HAGC 103
HAGC 113	3	45	Introduction to the Study of Geriatric Diseases	HAGC 101, HAGC 103
HAGC 115	3	45	Pharmacology and Alternative Medicine	HAGC 101, HAGC 103
HAGC 119	3	45	Introduction to Mental Health and Management of Asociated Conditions	HAGC 101, HAGC 103
	12	240		
Third Term				
Courses	Credits	Hours	Title	Prerequisites
HAGC 117	4	60	Fundamentals of Recreational Therapy	HAGC 101, HAGC 103
HAGC 121	2	120	Praticum in Personal Training	
	6	180		
Total	33	645		

Important Notes:

1. Classification of Instructional Programs (CIP Code): 51.2602 Home Health Aide/Home Attendant
2. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
3. Subject to changes.

Certificate in Cybersecurity

Program's description

This program focuses on the technological and operational aspects for the secure management of information, including cyber-attacks and defense in response to these attacks. Students will learn the role of an information technology security specialist and demonstrate mastery in compliance with operational security regulations and protocols and physical hardware security skills and mastery in device security and access control models. connection and use of "ethical hacking" and the acquisition or development of operating systems among other aspects for cybersecurity.

Graduation GPA: 2.00

Curricular Content

First Term				
Courses	Credits	Hours	Title	Prerequisites
MAGS 120 (I)	3	45	Introductory Algebra	
COAT 107	3	45	Keyboarding and Basic Skills in the Computer	
CYBS 101	3	45	Computer Hardware and Networks	
CYBS 102	3	45	Installing and Configuring Windows Server	
	12	180		
Second Term				
Courses	Credits	Hours	Title	Prerequisites
CYBS 103	3	45	Network Infrastructure Security	CYBS 102
CYBS 104	3	45	Introduction to Cyber Security Management and Digital Crime	CYBS 102
CYBS 105	3	45	Cybersecurity	CYBS 102
CYBS 106	3	45	Linux Networking and Security	CYBS 102
	12	180		
Third Term				
Courses	Credits	Hours	Title	Prerequisites
CYBS 107	3	45	Digital Forensic Investigations	CYBS 106
CYBS 108	3	45	Penetration Testing, Legal and Ethical Hacking	CYBS 106
	6	90		
Total	30	450		

Important Notes:

1. Classification of Instructional Programs (CIP Code): 43.0404 Cybersecurity Defense Strategy/Policy)
2. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
3. Subject to changes.

Certificate in Event Marketing and Coordination

Program's description

This program is designed for people interested in working designing and coordinating special events such as sporting, religious, corporate, fundraising, or recreational programming. The curriculum covers the essential elements of successful event design and management, including design logistics, financial feasibility, contracting and coordinating supplemental services, event marketing, fundraising strategies, and sponsorships, among others.

Graduation GPA: 2.00

Curricular Content

First Term				
Courses	Credits	Hours	Title	Prerequisites
EVEC 130	3	45	Introduction to Event Management	
EVEC 170	3	45	Events Marketing	
EVEC 145	3	45	Event Experience Design	
EVEC 191	3	45	Technological Applications for the Events Industry	
	12	180		
Second Term				
Courses	Credits	Hours	Title	Prerequisites
EVEC 175	3	45	Social Media Content Design	EVEC 170, EVEC 191, EVEC 145
EVEC 135	3	45	Event Sponsorship and Sales	EVEC 170, EVEC 191, EVEC 145
EVEC 106	3	45	Special Events Logistics	EVEC 130, EVEC 170, EVEC 191, EVEC 145
EVEC 155	3	180	Practicum in Events Coordination	EVEC 130, EVEC 170, EVEC 191, EVEC 145
	12	315		
Total	24	495		

Important Notes:

1. Classification of Instructional Programs (CIP Code): 52.0907 Meeting & Event Planning
2. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
3. Subject to changes.

Certificate in Mixology and Barista

Program's description

This program aims to train the student in the basic operation of the bar focused on new trends in barista, cocktails, and service. The history, elaboration, handling and service of coffee, wines, beers, and liqueurs will be studied in detail in compliance with their applicable laws and regulations. Also, the student will be prepared in the techniques and skills for the elaboration of alcoholic and non-alcoholic beverages focused on the customer experience.

Graduation GPA: 2.00

Curricular Content

First Term				
Courses	Credits	Hours	Title	Prerequisites
MIBA 101	3	45	Introduction to the Operation and Service of a Bar	
MIBA 103	3	45	Introduction To Distilled Spirits, Beer and Wine: History, Manufacture, Administration, Service and Tasting	
MIBA 105	3	45	Mixology Lab	
ENGS 152	3	45	Fundamentals of Speaking, Reading and Writing English I	
	12	180		
Second Term				
Courses	Credits	Hours	Title	Prerequisites
MIBA 107	3	45	Barismo (Lab)	
MAGS 120 (I)	3	45	Introductory Algebra	
MIBA 109	3	180	Mixology and Barista Practicum	
	9	270		
Total	21	450		

Important Notes:

1. Classification of Instructional Programs (CIP Code): 12.0502 Bartender
2. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
3. Subject to changes.

Certificate in Small Business Operation

Program's description

This program is designed to prepare students for independent small business development and management. It includes the areas of business planning, organization, direction, and control with an emphasis on selecting management theories and decision making. The student, also, will be trained for the management of personnel and their functions.

Graduation GPA: 2.00

Curricular Content

First Term				
Courses	Credits	Hours	Title	Prerequisites
COAT 107	3	45	Keyboarding and Basic Skills in the Computer	
ENGS 152	3	45	Fundamentals of Speaking, Reading and Writing English I	
MAGS 120 (I)	3	45	Introductory Algebra	
MANC 101	3	45	Introduction to Business	
	12	180		
Second Term				
Courses	Credits	Hours	Title	Prerequisites
ACCO 111	4	60	Introduction to Accounting I	
MGMC 101	3	45	Managerial Principles and Leadership	
MANC 120	3	45	Small Business Administration	
MANC 204	3	45	Legal Environment in Business	
	13	195		
Third Term				
Courses	Credits	Hours	Title	Prerequisites
MANC 113	3	45	Personnel Management	
MARC 133	3	45	Fundamentals of Marketing	
	6	90		
Total	31	465		

Important Notes:

1. Graduation GPA 2.00
2. Classification of Instructional Programs (CIP Code): 52.0799 Entrepreneurial and Small Business Operations, Other
3. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
4. Subject to changes.

Certificate in Small Business Entrepreneurship

Program's description

This program is designed to prepare students who can perform the functions as business owners to develop, market and manage a small business.

Graduation GPA: 2.00

Curricular Content

First Term				
Courses	Credits	Hours	Title	Prerequisites
COAT 107	3	45	Keyboarding and Basic Skills in the Computer	
MAGS 120 (I)	3	45	Introductory Algebra	
ENMA 101	3	45	Introduction to Entrepreneurial Development	
ACCO 111	4	60	Introduction to Accounting I	
	13	195		
Second Term				
Courses	Credits	Hours	Title	Prerequisites
MGMC 101	3	45	Managerial Principles and Leadership	
ENGS 152	3	45	Fundamentals of Speaking, Reading and Writing English I	
ENMA 110	3	45	Entrepreneurial Innovation	ENMA 101
MANC 204	3	45	Legal Environment in Business	
	12	180		
Third Term				
Courses	Credits	Hours	Title	Prerequisites
MANC 113	3	45	Personnel Management	
MARC 133	3	45	Fundamentals of Marketing	
MANC 120	3	45	Small Business Administration	
	9	135		
Total	34	510		

Important Notes:

1. Classification of Instructional Programs (CIP Code): 52.0799 Entrepreneurial and Small Business Operations, Other
2. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
3. Subject to changes.

Certificate in Programmer and WEB Developer

Program's description

This program prepares students to apply programming languages such as HTML, CSS, JavaScript, among others, in the design, development, editing and publication of web pages. In addition, students will develop skills to integrate Web Content Management System (CMS) tools and graphic design applications.

Graduation GPA: 2.00

Curricular Content

First Term				
Courses	Credits	Hours	Title	Prerequisites
WEBD 105	3	45	Fundamentals of Web Development	
WEBD 106	3	45	Content Management Systems (CMS) for Web Content Publishing	
WEBD 107	3	45	HTML Programming	
WEBD 110	3	45	Fundamentals of Graphics Design	
WEBD 109	3	45	Javascript Programming	WEBD 107
	15	225		
Second Term				
Courses	Credits	Hours	Title	Prerequisites
WEBD 108	3	45	Cascading Style Sheets Programming	
DEMA 113	3	45	Design and Development of Mobile Applications for Apple	
DEMA 104	3	45	Design and Development of Applications for Android	
WEBD 115	3	45	Web Design Seminar	WEBD 105, WEBD 106, WEBD 110, WEBD 108 WEBD 109
	12	180		
Total	27	405		

Important Notes:

1. Classification of Instructional Programs (CIP Code): 11.0801 Web Page, Digital/Multimedia and Information Resources Design
2. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
3. Subject to changes.

Certificate in Accounting Technician

Program's description

This program is designed to prepare students for technical and administrative support work for certified accountants and other managerial personnel in finance. The program includes developing skills in recording account transactions, keeping records, working with accounting software applications, and educating in general principles of accounting practice.

Graduation GPA: 2.00

Curricular Content

First Term				
Courses	Credits	Hours	Title	Prerequisites
COAT 107	3	45	Keyboarding and Basic Skills in the Computer	
MAGS 120(I)	3	45	Introductory Algebra	
MANC 101	3	45	Introduction to Business	
ENGS 152	3	45	Fundamentals of Speaking, Reading and Writing English I	
	12	180		
Second Term				
Courses	Credits	Hours	Title	Prerequisites
ACCO 111	4	60	Introduction to Accounting I	
MANC 125	3	45	Business Ethics	
ACCO 112	4	60	Introduction to Accounting II	ACCO 111
MANC 127	3	45	Reconciliation and Auditing	ACCO 112
	14	210		
Summer				
Courses	Credits	Hours	Title	Prerequisites
FINC 101	3	45	Principles in Finance	ACCO 112
ACCT 110	3	45	Computer System Applied to Accounting	ACCO 112
	6	90		
Total	32	480		

Important Notes:

1. Classification of Instructional Programs (CIP Code): 52.0302 Accounting Technology/Technician and Bookkeeping
2. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
3. Subject to changes.

Certificate in Design of Mobile Applications

Program's description

This program provides the theoretical and practical bases for training professionals who can develop, design and program applications for mobile platforms. Develop the competencies, skills and attitudes that allow the student to manage mobile devices in the web environment using the formal methodologies and the modern tools that are most useful for companies and consumers.

Graduation GPA: 2.00

Curricular Content

First Term				
Courses	Credits	Hours	Title	Prerequisites
DEMA 100	3	45	Fundamentals of Emergent Mobile Technologies	
COAT 107	3	45	Keyboarding and Basic Skills in the Computer	
DEMA 101	3	45	Troubleshooting and Logical Concepts	
DEMA 102	3	45	Object Oriented Programming	
	12	180		
Second Term				
Courses	Credits	Hours	Title	Prerequisites
DEMA 103	3	45	Design & Development of Mobile Apps	DEMA 100, COAT 107
DEMA 104	3	45	Design and Development of Applications for Android	DEMA 100, COAT 107
DEMA 107	3	45	Analysis & Design of Information System	DEMA 101
DEMA 109	3	45	Development of App E-Commerce	DEMA 101
	12	180		
Third Term				
Courses	Credits	Hours	Title	Prerequisites
DEMA 113	3	45	Design and Development of Mobile Applications for Apple	DEMA 104
DEMA 115	3	45	Computer Network Wireless & Mobile Devices	
DEMA 120	3	45	Mobile App Development Seminar	DEMA 103, DEMA 104, DEMA 107, DEMA 109
	9	135		
Total	33	495		

Important Notes:

1. Classification of Instructional Programs (CIP Code): 11.0202 Computer Programming, Specific Applications.
2. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
3. Subject to changes.

Certificate in Refrigeration and Air Conditioning Technician

Program's description

This academic program offers the student the theoretical knowledge and practical skills necessary to be successful in the changing world of technology. The curriculum prepares the student in residential, commercial, and industrial refrigeration and air conditioning, integrating the fundamental concepts of energy management in these areas. It also develops knowledge and skills in data analysis, problem solving, and effective communication in Spanish and English. Graduates will have the opportunity to continue studies in the baccalaureate of science in mechanical engineering. The graduate student will be able to take the revalidation exam offered by the Examining Board for technicians in refrigeration and air conditioning of the government of Puerto Rico once they have completed their 1,035-hour program and fulfilled all the requirements of the law.

Graduation GPA: 2.00

Curricular Content

First Term				
Courses	Credits	Hours	Title	Prerequisites
MAGS 120 (I)	3	45	Applied Mathematic	
OCSE 101	4	60	Ocupational Safety	
EERT 100	3	45	Fundamentals of Electricity	
EERT 100L	0	75	Fundamentals of Electricity Laboratory	
RACT 101	3	45	Fundamentals of Refrigeration and Air Conditioning	
RACT 101L	0	60	Fundamentals of Refrigeration and Air Conditioning Laboratory	
	13	330		
Second Term				
Courses	Credits	Hours	Title	Prerequisites
RACT 102	3	45	HVAC/R Motors and Electrical Controls	EERT 100, EERT 100L
RACT 102L	0	60	HVAC/R Motors and Electrical Controls Laboratory	EERT 100, EERT 100L
RACT 106	3	45	Principles of Renewable Energy and Energy Management	
RACT 103	3	45	Domestic Refrigeration and Air Conditioning	EERT 100, EERT 100L, RACT 101, RACT 101L
RACT 103L	0	60	Domestic Refrigeration and Air Conditioning Laboratory	EERT 100, EERT 100L, RACT 101, RACT 101L
RACT 104	3	45	Commercial and Industrial Refrigeration and Air Conditioning	EERT 100, EERT 100L, RACT 101, RACT 101L
RACT 104L	0	60	Commercial and Industrial Refrigeration and Air Conditioning Laboratory	EERT 100, EERT 100L, RACT 101, RACT 101L
	12	360		
Third Term				
Courses	Credits	Hours	Title	Prerequisites
RACT 105	3	45	Fundamentals of Automobile Air Conditioning	RACT 103
RACT 105L	0	60	Fundamentals of Automobile Air Conditioning Laboratory	RACT 103L
RACT 107	3	45	Fundamentals of Hva Inverters and Variable Refrigerant Volume System (Vrv/Vrf)	RACT 103, RACT 103L
RACT 108	3	45	Revalidation Seminar - Refrigeration and Air Conditioning Technician	RACT 102, RACT 102L, RACT 103, RACT 103L
	9	195		
Total	34	885		

Important Notes:

1. Classification of Instructional Programs (CIP Code): 47.0201 Heating, Air Conditioning, Ventilation and Refrigeration Maintenance Technology/Technician (HAC, HACR, HVAC, HVACR).
2. To practice the profession, it is required that the graduate take and pass the exam offered by the Examining Board for Refrigeration and Air Conditioning Technicians of the government of Puerto Rico.
3. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
4. Subject to changes.

Certificate in Electricity and Renewable Energy

Program's description

This academic program prepares the student in electricity and renewable energy areas using photovoltaic and wind energy systems. They will obtain technical and practical knowledge to carry out installations, maintenance, and repair of electrical systems at a residential, commercial and industrial level. At the end of the program, you will be prepared to request and take the revalidation exam offered by the Board of Examiners of Expert Electricians of the government of Puerto Rico.

Graduation GPA: 2.00

Curricular Content

First Term				
Courses	Credits	Hours	Title	Prerequisites
MAGS 120(I)	3	45	Introductory Algebra	
COAT 107	3	45	Keyboarding and Basic Skills in the Computer	
OCSE 101	4	60	Ocupational Safety	
EERT 100	3	45	Fundamentals of Electricity	
EERT 100L	0	75	Fundamentals of Electricity Laboratory	
ENGS 152	3	45	Fundamentals of Speaking, Reading and Writing English I	
	16	315		
Second Term				
Courses	Credits	Hours	Title	Prerequisites
EERT 103	4	60	Electrical and Nec Installations	EERT 100, EERT 100L
EERT 103L	0	75	Electrical and Nec Installations Laboratory	EERT 100, EERT 100L
EERT 104	4	60	Aerial, Underground and Transformers Electrical Installations	EERT 100, EERT 100L
EERT 104L	0	60	Aerial, Underground and Transformers Electrical Installations Lab	EERT 100, EERT 100L
EERT 101	3	45	Illumination Systems	
EERT 201	3	45	Electric Motors and Controls (PLC)	EERT 100, EERT 100L, EERT 104
EERT 201L	0	75	Electric Motors and Controls (PLC) Laboratory	EERT 100, EERT 100L, EERT 104
	14	420		
Third Term				
Courses	Credits	Hours	Title	Prerequisites
EERT 202	3	45	Fundamentals of Renewable Energy	
EERT 202L	0	60	Fundamentals of Renewable Energy Lab	
EERT 102	4	60	Fundamentals of Photovoltaic and Eolic Systems	EERT 100, EERT 100L, EERT 101
EERT 102L	0	75	Photovoltaic and Eolic Systems Laboratory	EERT 100, EERT 100L, EERT 101
EERT 203	2	30	Electricity and Renewable Energy Technician Revalidation Seminar	EERT 100, EERT 100L, EERT 101, EERT 103, EERT 103L, EERT 104, EERT 104L, EERT 201, EERT 201L
	9	270		
Total	39	1,005		

Important Notes:

1. Classification of Instructional Programs (CIP Code): 46.0302 Electrician.
2. In order to practice the profession, it is required that the graduate take and pass the exam offered by the Board of Examiners of Expert Electricians of Puerto Rico.
3. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
4. Subject to changes.

Certificate in Dental Assistant with Expanded Functions

Program's description:

The program develops students to face daily challenges in multiple tasks in a dental office, ranging from patient care, record keeping, sterilizing dental instruments, and preparation of the work area for treatment and help dentists during the procedures, among others. Dental Assistants with Expanded Functions develop skills for laboratory tasks, such as making a patient's teeth molds, teeth molding materials, creating temporary crowns or other work related, always under the supervision of dentist.

Admission GPA: 2.00

Graduation GPA: 2.00

Curricular Content

First Term				
Courses	Credits	Hours	Title	Prerequisites
DENT 100	3	45	Head and Neck Anatomy	
DENT 115	3	45	Dental Instrumental Materials	
BIOL 1104	4	45	Anatomy and Physiology Compendium	
BIOL 1104L	0	45	Anatomy and Physiology Compendium Lab	
COAT 107	3	45	Keyboarding and Basic Skills in the Computer	
DENT 102	3	45	Dental Anatomy and Oral Histology	
	16	270		
Second Term				
Courses	Credits	Hours	Title	Prerequisites
DENT 104	4	45	Microbiology	DENT 100, DENT 102, BIOL 1104
DENT 104L	0	45	Microbiology Lab	
DENT 113	3	45	Oral Pathology	DENT 100, DENT 102, BIOL 1104
DENT 120	4	45	Radiology I	DENT 100, DENT 102
DENT 120L	0	45	Radiology I Lab	
DENT 130	5	45	Pre-Clinic I	
DENT 130L	0	90	Pre-Clinic I Lab	
	16	360		
Third Term				
Courses	Credits	Hours	Title	Prerequisites
DENT 141	4	45	Radiology II	DENT 120
DENT 141L	0	45	Radiology II Lab	
DENT 146	5	45	Pre - Clinic II	DENT 115, DENT 130
DENT 146L	0	90	Pre - Clinic II Lab	
DENT 171	5	75	Internal Clinic	DENT 130
	14	300		
Fourth Term				
Courses	Credits	Hours	Title	Prerequisites
DENT 181*	4	240	External Clinic	DENT 171
MEBI 225	3	45	Dental Services Billing	
DENT 167	3	45	Dental Practice Seminar and Ethics	
SPGS 152(I)	3	45	Fundamentals of Reading and Writing	
	13	360		
Total	59	1,290		

Important Notes:

- *Course with 240 hours of practice
- Classification of Instructional Programs (CIP Code): 51.0601 Dental Assisting/Assistant.
- To practice the profession, the graduate is required to take and pass the exam offered by the Puerto Rico Dental Board of Examiners.
- New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
- Subject to changes.

Certificate in Hotel Operations

Program's description

This Hotel Operation Certificate is a program that prepares individuals to manage operations and facilities that provide lodging services to the traveling public. Includes instruction in hospitality industry principles; supplies purchasing, storage and control; hotel facilities design and planning; hospitality industry law; personnel management and labor relations; financial management; marketing and sales promotion; convention and event management; front desk operations; and applications to specific types of hotels and motel operations.

Graduation GPA: 2.00

Curricular Content

First Term				
Courses	Credits	Hours	Title	Prerequisites
ENGS 152	3	45	Fundamentals of Speaking, Reading and Writing English I	
HOPC 101	3	45	Introduction to Hospitality Industry	
HMHC 102	3	45	Introduction to Hotel Lodging Management	
MAGS 120 (I)	3	45	Introductory Algebra	
	12	180		
Second Term				
Courses	Credits	Hours	Title	Prerequisites
HOPC 107	3	45	Food & Beverage Management and Menu Development	
HOPC 180	3	45	Guest Service Experience	
SPGS 152(I)	3	45	Fundamentals of Reading and Writing	
HOPC 181	3	45	Hospitality Accounting	
	12	180		
Third Term				
Courses	Credits	Hours	Title	Prerequisites
HOPC 170	3	45	Hospitality Sales and Marketing	
HOPC 190	3	45	Technological Applications for the Tourism Industry	
HOPC 108	3	45	Hotel Operations – Front Office & Housekeeping	
ENG 146	3	45	Conversational English	
	12	180		
Total	36	540		

Important Notes:

1. Classification of Instructional Programs (CIP Code): 52.0904 Hotel/Motel Administration/Management
2. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
3. Subject to changes.

Leader in Recreation and Sports Programs

Program's description

This program is for program management of sport and recreation, municipal and community level. The leader's role is to recreation and sports activities sports, recreation for community members at all levels and ages. Keep sports equipment and physical facilities, make reports and monitor technical officers in charge. They are athletes, coaches and moderators in sports and recreational activities. Includes 100 hours of practice.

Graduation GPA: 2.00

Curricular Content

First Term				
Courses	Credits	Hours	Title	Prerequisites
ENGS 152	3	45	Fundamentals of Speaking, Reading and Writing English I	
RSLC 101	3	45	The Recreation as a Profession	
RSLC 102	3	45	Legal Aspects of Recreation and Sports	
RSLC 103	3	45	Psychological Foundation in Recreation and Sports	
	12	180		
Second Term				
Courses	Credits	Hours	Title	Prerequisites
RSLC 111	3	45	Management of Special Populations and Technological Assistance in Recreation and Sports	
RSLC 112	3	45	Recreation and Sports and their Community Impact	
RSLC 113	3	45	Outdoor Leisure Activities	
RSLC 114	3	45	Therapeutic Recreation	
	12	180		
Third Term				
Courses	Credits	Hours	Title	Prerequisites
RSLC 117	3	45	Recreational Activities for the Elderly	
RSLC 115	3	45	Organization of Activities and Recreational Games	
RSLC 116*	3	145	Coordination of Social Recreational-Sports Activities	
SPGS 152(I)	3	45	Fundamentals of Reading and Writing	
	12	280		
Total	36	640		

Important Notes:

1. *Course with 100 hours of practice
2. Classification of Instructional Programs (CIP Code): 31.0301 Parks, Recreation and Leisure Facilities Management
3. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
4. Subject to changes.

Certificate in Computer Programming

Program's description

The Computer Programming certificate facilitates modern techniques in the area of information systems to work as a computer programmer. The students will operate programs using the most commercial vocabulary in the job market.

Graduation GPA: 2.00

Curricular Content

First Term				
Courses	Credits	Hours	Title	Prerequisites
COMT 1101	3	45	Computer Literacy	
COMT 1130	3	45	Computer Applications Spreadsheets	
COMT 1131	3	45	Programing Logic	
ENMT 101	3	45	Introduction to Entrepreneurship Development	
SPGS 152 (I)	3	45	Fundamentals of Reading and Writing	
	15	225		
Second Term				
Courses	Credits	Hours	Title	Prerequisites
COMT 1110	3	45	Operating System	COMT 1101
COMT 1120	3	45	Visual Basic I	COMT 1101
COMT 1140	3	45	Programming in Cobol I	COMT 1101
ENGS 152	3	45	Fundamentals of Speaking, Reading and Writing English I	COMT 1101
MAGS 120 (I)	3	45	Introductory Algebra	
	15	225		
Third Term				
Courses	Credits	Hours	Title	Prerequisites
COMT 1150	3	45	Net Communications	COMT 1101
COMT 1160	3	45	Database	COMT 1101
COMT 1180	3	45	Web Pages and Electronic Commerce	COMT 1101
COMT 1210	3	45	Programming in Cobol II	COMT 1101, 1140
COMT 1240	3	45	System Analysis and Design	COMT 1101
	15	225		
Fourth Term				
Courses	Credits	Hours	Title	Prerequisites
COMT 1245	3	45	Object Oriented Programming	COMT 1101
COMT 1250	3	45	Visual Basic II	COMT 1101, 1120
COMT 1300	3	145	Integrative Seminar	COMT 1240
	9	225		
Total	54	900		

Important Notes:

1. Classification of Instructional Programs (CIP Code): 11.0201 Computer Programming/Programmer, General
2. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
3. Subject to changes.

Certificate in Pre-school Teacher Assistant

Program's description

The Certificate in Teacher Assistant in Preschool has been designed for every child to receive an early education before entering first grade, so adequate performance at the preschool level is essential. Ideal for people who perform tasks as teacher assistants to be trained in structured programs where they can receive the knowledge and skills necessary to share teacher's duties. The program is aimed at students interested in working as Teacher Assistants in Preschool Education in private or public centers. It also provides the tools to establish a preschool care center.

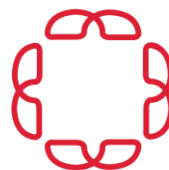
Graduation GPA: 2.00

Curricular Content

First Term				
Courses	Credits	Hours	Title	Prerequisites
SPGS 152 (I)	3	45	Fundamentals of Reading and Writing	
ENGS 152	3	45	Fundamentals of Speaking, Reading and Writing English I	
ETIC 010	3	45	Ethical Foundations	
EDUC 106	3	45	Introduction to Education	
COIS 202	3	45	Computers in Education	
	15	225		
Second Term				
Courses	Credits	Hours	Title	Prerequisites
SPGS 250	3	45	Writing Techniques	SPGS 152
ENGS 153	3	45	Fundamentals of Speaking, Reading and Writing English II	ENGS 152
EDUC 170	3	45	Introduction to Preschool Education	
MAGS 120 (I)	3	45	Introductory Algebra	
EDUC 173*	3	45	Growth and Human Development	EDUC 106
EDUC 180*	0		Clinical Experience I	EDUC 106
	15	225		
Third Term				
Courses	Credits	Hours	Title	Prerequisites
EDUC 270	3	45	Learning Environmental for Preschool Education	EDUC 170
EDUC 204	3	45	Nature and Need of Exceptional Children	EDUC 106, 173, 180
EDUC 280	3	45	Clinical Experience II	EDUC 106, 173, 180
EDUC 202	3	45	Educational Technology and Learning Materials Productions	EDUC 106, 173, 180, COIS 202
EDUC 300	3	45	Curriculum and methodology for Early Childhood Education	EDUC 170
EDUC 323	3	45	Literature for Children	SPGS 152, SPGS 250, EDUC 106, 173, 180
	15	225		
Fourth Term				
Courses	Credits	Hours	Title	Prerequisites
EDUC 116	3	45	Performing Arts	EDUC 106, 173, 180
EDUC 427	3	45	Play as a Teaching Strategy	EDUC 106, 170, 173, 180
EDUC 322	3	145	Education and Cultural Diversity	EDUC 106, 173, 180, 300, 204
EDUC 327	9	225	Foundations of Health, Hygiene and Nutrition	
EDUC 1440	3	100	Practicum**	
	15	280		
Total	60	955		

Important Notes:

- * EDUC 173 is offered concurrently with EDUC 180 and EDUC 204 is offered concurrently with EDUC 280.
- Must completed all requirements.
- Classification of Instructional Programs (CIP Code): 13.1501
- New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
- Subject to changes.



UNIVERSIDAD
ANA G. MÉNDEZ

UAGM

ACADEMIC OFFERINGS

UNDERGRADUATE PROGRAMS

(ASSOCIATE AND BACHELOR'S DEGREES)

ACADEMIC OFFERINGS

UNDERGRADUATE DEGREE PROGRAMS (ASSOCIATE AND BACHELOR'S)

SCIENCE AND TECHNOLOGY ACADEMIC DIVISION

Department of Natural Sciences

Associate Degree in Biopharmaceutical Technology

Program's description

The biopharmaceutical technology program enables our graduates to opt for jobs in both manufacturing and biotechnology companies, with an emphasis on industry trends and the latest technology available to develop advanced medicines that improve human health. The student receives extensive training in science and regulations applicable to the biotechnology and pharmaceutical process.

Admission GPA: 2.00

Graduation GPA: 2.00

Curricular Content

General Education Component - 15 credits

Courses	Credits	Title	Prerequisites
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
SPGS 152*	3	Fundamentals of Reading and Writing	
SOGS 201	3	The Human Being and Social Consciousness	
MAGS 120 (I)	3	Introductory Algebra	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 152

Core Component- 11 credits

Courses	Credits	Title	Prerequisites
BIOL 100+	4	Applied Microbiology	
CHEM 122+	4	General Chemistry	MAGS 120 (I)
MATH 121+	3	Intermediate Algebra	MAGS 120 (I) or placement test

Major Component -24 credits

Courses	Credits	Title	Prerequisites
BIOT 101	3	Introduction to the Biotechnology Industry	
BIOT 103+	4	Cell And Molecular Biology for Biotechnology	
BIOT 210	3	Regulations and Good Manufacturing Practices	BIOT 100
BIOT 240	3	Validations	BIOT 210
BIOT 231+	4	General Manufacturing Biotechnology I	BIOT 101
BIOT 250+	4	General Manufacturing Biotechnology II	BIOT 231
PHOP 255	3	Water Purification and Treatment Systems in Pharmaceutical & Chemical Processes	BIOL 100

Important Notes:

- Interested students may continue to a bachelor's degree in science with a concentration in biology, chemistry or biotechnology. To continue with the Bachelor of Science, the student must have completed the associate degree.
- To continue to a bachelor's degree in science, a number of credits equivalent to one academic year will be validated. Courses that can be validated must have been approved with A, B or C. For validation, the specific courses are found in the table of substitutions.
- New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
- Subject to change.

Associate Degree in Food Technology and Safety

Program's description

The Associate of Science program in Food Technology and Safety allows students to understand the processes, regulations and science related to the manufacturing of foods and food preservation. Alumni will be able to work in the food industry or in the government agencies and will be able to make decisions regarding the safety of food products. Students will apply their knowledge in their practicum.

Admission GPA: 2.00

Graduation GPA: 2.00

Curricular Content

General Education Component - 15 credits			
Courses	Credits	Title	Prerequisites
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
SPGS 152*	3	Fundamentals of Reading and Writing	
SOGS 201	3	The Human Being and Social Consciousness	
MAGS 120 (I)	3	Introductory Algebra	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 152
Core Component- 11 credits			
Courses	Credits	Title	Prerequisites
BIOL 100+	4	Applied Microbiology	
CHEM 101+	4	Applied Chemistry	
MATH 121+	3	Intermediate Algebra	MAGS 120 (I) or placement test
Major Component - 27 credits			
Courses	Credits	Title	Prerequisites
FOOD 101	3	Introduction to Food Biotechnology	
FOOD 103	3	Fundamentals of Food Science	
BIOT 210	3	Regulations and Good Manufacturing Practices	BIOL 100
FOOD 201	3	Microbial Food Safety Hazards and Quality Control	
FOOD 250	3	Food Safety and Protection Related to Public Health	
BIOL 321+	4	Food Microbiology	BIOL 100
FOOD 300	3	Food Laws Standard Regulatory	
MANA 260	3	Managerial Strategies	
PTTE 200	2	Internship In Technology	Program authorization

Important Notes:

1. *All students will be enrolled according to the results of the placement test or results of the College Board.
2. +Includes laboratory.
3. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
4. Interested students may continue to a Bachelor of Science with a concentration in Biology, Chemistry or Biotechnology. To continue with the Bachelor of Science, the student must have completed the associate degree.
5. To continue to a Bachelor of Science, a number of credits equivalent to one academic year will be validated. Courses that can be validated must have been approved with an A, B or C. For validations, the specific courses are found in the table of substitutions.
6. Major GPA 2.00.
7. Subject to change.

Bachelor of Science major in Biology

Program's description

This program prepares competent professionals with an integral education in which the student acquires fundamental knowledge in the natural sciences and specializes in biology. During his academic development, the student acquires skills that prepare him to integrate into the labor world, whether in industry, organizations or research; And to continue graduate studies. In addition, this curriculum prepares the student with the fundamental knowledge that a biologist must possess.

Admission GPA: 2.50

Graduation GPA: 2.00

Curricular Content

General Education Component - 36 credits

Courses	Credits	Title	Prerequisites
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
ENGS 153	3	Fundamentals of Speaking, Reading and Writing English II	ENGS 152
SPGS 152*	3	Fundamentals of Reading and Writing	
SPGS 250	3	Writing Techniques	SPGS 152
HUGS 101	3	World Culture I	
HUGS 102	3	World Culture II	HUGS 101
HIGS 201	3	Puerto Rico History and Culture	
SOGS 201	3	The Human Being and Social Consciousness	
SOGS 202	3	State-Government and the Human Being	SOGS 201
MAGS 120 (I)	3	Introductory Algebra	
SCGS 200	3	Science, Technology and Society	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 250

Core Component– 47 credits

Courses	Credits	Title	Prerequisites
BIOL 203+	4	General Biology I	
BIOL 204+	4	General Biology II	BIOL 203
CHEM 203+	4	General Chemistry I	Co req. MATH 151
CHEM 204+	4	General Chemistry II	CHEM 203
CHEM 351+	4	Organic Chemistry I	CHEM 204
CHEM 352+	4	Organic Chemistry II	CHEM 351
PHSC 203+	4	General Physics I	MATH 221
PHSC 204+	4	General Physics II	PHSC 203
MATH 121+	3	Intermediate Algebra	MAGS 120 (I) or placement test
MATH 151+	4	Precalculus I	MATH 121 or minimum of 600 points in CEEB and placement test
MATH 152+	4	Precalculus II	MATH 151
MATH 221+	4	Calculus I	MATH 152

Major Component - 33 credits

Courses	Credits	Title	Prerequisites
BIOL 315	3	Biostatistics	MATH 152
BIOL 206+	4	General Microbiology	BIOL 204
BIOL 312+	4	Zoology	BIOL 204
BIOL 325+	4	Botany	BIOL 204
BIOL 329+	4	General Ecology	BIOL 204, MATH 152
BIOL 340+	4	Genetics	BIOL 204
BIOL 345	3	Evolution	BIOL 340
BIOL 355+	4	Cellular and Molecular Biology	BIOL 340, CHEM 352
BIOL 436	3	Capstone	BIOL 340, BIOL 329

Directed Electives - 8 – 20 credits

Courses	Credits	Title	Prerequisites
BIOL 307	3	Neurobiology	BIOL 355

Courses	Credits	Title	Prerequisites
BIOL 309	3	Virology	BIOL 206
BIOL 310	3	Animal Behavior	BIOL 204
BIOL 313+	4	Human Anatomy and Physiology I	BIOL 204
BIOL 314+	4	Human Anatomy and Physiology II	BIOL 313
BIOL 317+	4	Bioinformatics	BIOL 204 o CHEM 204, MATH 152
BIOL 318+	4	Parasitology	BIOL 204
BIOL 321+	4	Food Microbiology	BIOL 206
BIOL 322	3	Immunology	BIOL 206
BIOL 323	3	Industrial Microbiology	BIOL 206
BIOL 331+	4	Developmental Biology	BIOL 340
BIOL 333+	4	Marine Biology	BIOL 204
BIOL 336	3	Tropical Ecosystem Management	BIOL 329
BIOL 351	3	Internship and Biology	BIOL 204, program authorization
BIOL 357	3	Special Topics in Biology	BIOL 204, program authorization
BIOL 365	3	Undergraduate Research I	BIOL 204, program authorization
BIOL 366	3	Undergraduate Research II	BIOL 204, program authorization
BIOT 410	3	Introduction to Biotechnology	BIOL 206, BIOL 355
BIOL 430+	4	Biology of Birds (Ornithology)	BIOL 329
BIOL 395	3	Biotechnology Techniques	BIOL 206, CHEM 352
BIOL 482	3	Biodiversity and Conservation	BIOL 329
CHEM 221+	4	Analytical Chemistry	CHEM 204
CHEM 430+	4	Instrumental Chemistry	CHEM 221, MATH 221
ENSC 499	3	Fundamentals of Environmental Sciences	Program authorization, BIOL 329
BIOL 350	3	Biochemistry	BIOL 204, CHEM 352
AGRO 300+	4	Agroecology I	BIOL 329
AGRO 301+	4	Agroecology II	AGRO 300
SPAN 240^	3	Literature and Diversity	SPGS 250
SPAN 275^	3	Advanced Writing in Spanish	SPGS 250
SPAN 255^	3	Research and Writing	SPGS 250
SPAN 230^	3	Introduction to Linguistics	SPGS 250
ENGL 250^	3	Fundamentals of Public Speaking	ENGL 152
ENGL 275^	3	Writing for the Professional World	ENGL 152
ENGL 231^	3	Research and Writing	ENGL 152
ENGL 331^	3	Oral Communication	ENGL 153

Free Electives - 3 credits

Courses	Credits	Title	Prerequisites
Elective	3		

Important Notes:

- * All students will be enrolled according to the results of the placement test or results of the College Board.
- + Includes laboratory.
- Major and core courses must be approved with a C or higher.
- Second-year students and above must obtain an academic evaluation with the program coordinator before completing the enrollment process.
- New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
- This study program provides two alternatives for students: 127 credits or 139 credits. The student will be able to select which will be the alternative of his study program.
- ^The alternative of 139 credits corresponds to students interested in continuing professional studies.
- CHEM 203 has MATH 151 as a corequisite.
- Subject to change.

Bachelor in Sciences major in Chemistry

Program's description

The chemistry program prepares students in the analysis and solution of chemical problems. Alumni receive training in the core areas of chemistry with emphasis in academic research. Courses are aligned to the requirements of the American Chemical Society (ACS). Alumni will be able to work at industry, research laboratories, governmental agencies, forensic laboratories, and other chemistry related scenarios.

Admission GPA: 2.50

Graduation GPA: 2.00

Curricular Content

General Education Component - 36 credits

Courses	Credits	Title	Prerequisites
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
ENGS 153	3	Fundamentals of Speaking, Reading and Writing English II	ENGS 152
SPGS 152*	3	Fundamentals of Reading and Writing	
SPGS 250	3	Writing Techniques	SPGS 152
HUGS 101	3	World Culture I	
HUGS 102	3	World Culture II	HUGS 101
HIGS 201	3	Puerto Rico History and Culture	
SOGS 201	3	The Human Being and Social Consciousness	
SOGS 202	3	State-Government and the Human Being	SOGS 201
MAGS 120(I)	3	Introductory Algebra	
SCGS 200	3	Science, Technology and Society	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 250

Core Component- 47 credits

Courses	Credits	Title	Prerequisites
BIOL 203+	4	General Biology I	
BIOL 204+	4	General Biology II	BIOL 203
CHEM 203+	4	General Chemistry I	Corequisite MATH 151
CHEM 204+	4	General Chemistry II	CHEM 203
CHEM 351+	4	Organic Chemistry I	CHEM 204
CHEM 352+	4	Organic Chemistry II	CHEM 351
PHSC 203+	4	General Physics I	MATH 221
PHSC 204+	4	General Physics II	PHSC 203
MATH 121+	3	Intermediate Algebra	MAGS 120 (I) or placement test
MATH 151+	4	Precalculus I	MATH 121 or minimum of 600 points in CEEB and placement test
MATH 152+	4	Precalculus II	MATH 151
MATH 221+	4	Calculus I	MATH 152

Major Component - 42 credits

Courses	Credits	Title	Prerequisites
CHEM 221+	4	Analytical Chemistry	CHEM 204
CHEM 311+	4	Inorganic Chemistry I	CHEM 204, MATH 221
CHEM 365 or CHEM 435	3	Undergraduate Research in Chemistry I or Seminar	Program authorization, Co- req. CHEM 464
CHEM 385+	4	General Biochemistry	CHEM 352, BIOL 204
CHEM 390	3	Introduction to Spectroscopy	CHEM 352
CHEM 430+	4	Instrumental Chemistry	CHEM 221, MATH 221
CHEM 463+	4	Physical Chemistry I	CHEM 221, PHSC 359
CHEM 464+	4	Physical Chemistry II	CHEM 463

Courses	Credits	Title	Prerequisites
MATH 222+	4	Calculus II	MATH 221
MATH 223	4	Calculus III	MATH 222
PHSC 359+	4	Modern Physics	PHSC 204
Directed Electives 7 – 19^ credits			
Courses	Credits	Title	Prerequisites
BIOT 210	3	Regulations and Good Manufacturing Practices	BIOL 206
BIOT 240	3	Validations	BIOT 210
PSYC 123	3	General Psychology	
ECON 123	3	Economic Principles and Problems	
BIOL 313+	4	Human Anatomy and Physiology I	BIOL 204
BIOL 314+	4	Human Anatomy and Physiology I	BIOL 313
BIOL 317+	4	Bioinformatics	BIOL 204 or CHEM 204, MATH 152
BIOL 206+	4	General Microbiology	BIOL 204
BIOL 340+	4	Genetics	BIOL 204
BIOL 355+	4	Cellular and Molecular Biology	BIOL 340, CHEM 352
CHEM 355	1	Practical Internship in Chemistry I	Department authorization
CHEM 356	1	Practical Internship in Chemistry II	Department authorization
CHEM 366	3	Undergraduate Research II	Department authorization
CHEM 386	3	General Biochemistry II	CHEM 385
CHEM 451	3	Organic Synthesis	CHEM 352
CHEM 481	3	Introduction to Computational Chemistry	CHEM 204
CHEM 485	3	Electrochemistry	CHEM 221
CHEM 499	3	Special Topics in Chemistry	Department authorization
CHEM 420	3	Environmental Chemistry	CHEM 351
MATH 305	3	Probability Statistics I	MATH 152
MATH 395	3	Differential Equations	MATH 222
FOOD 101	3	Introduction to Food Biotechnology	
FOOD 201	3	Microbial Food Safety Hazards and Quality Control	
FOOD 400	3	Food Biotechnology	
CHEM 504+	4	Food Chemistry	CHEM 352
SPAN 240^	3	Literature and Diversity	SPGS 250
SPAN 275^	3	Advanced Writing in Spanish	SPGS 250
SPAN 255^	3	Research and Writing	SPGS 250
SPAN 230^	3	Introduction to Linguistics	SPGS 250
ENGL 250^	3	Fundamentals of Public Speaking	ENGL 152
ENGL 275^	3	Writing for the Professional World	ENGL 152
ENGL 231^	3	Research and Writing	ENGL 152
ENGL 331^	3	Oral Communication	ENGL 153

Important Notes:

- *All students will be enrolled according to the results of the placement test or results of the College Board.
- +Includes laboratory.
- Major and core courses must be approved with a C or higher.
- Major GPA 2.30.
- Second-year students and above must obtain an academic evaluation with the program coordinator before completing the enrollment process.
- Students will choose between CHEM 365 or CHEM 435. To enroll in the CHEM 365 course, authorization from the Dean will be required. For the CHEM 435 course, the CHEM 464 course is a co-requisite.
- New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
- CHEM 203 has MATH 151 as a corequisite.
- This study program provides two alternatives for students: 132 credits or 144 credits. The student will be able to select which will be the alternative of their study program.

10. ^The alternative of 144 credits corresponds to students interested in continuing professional studies.
11. Program approved by the American Chemical Society (ACS) in Gurabo Campus.
12. Subject to change.

Bachelor of Science major in Medical Technology

Program's description

The Bachelor of Science with a Major in Medical Technology is targeted to attract students interested in studying a career that will prepare them to help in the solution of health problems. Physicians base about 70 percent of their diagnosis and treatment decisions on the results of laboratory testing. Graduates from this program will be prepared to work in the clinical laboratories in hospitals and medical centers; pharmaceutical industry in quality control and microbiology labs, research and biotechnology; government crime labs. (The program offered at Barceloneta requires requesting a transfer to the Main Campus in Gurabo.)

Admission GPA: 2.50

Graduation GPA: 2.50

Curricular Content

General Education Component - 37 credits

Courses	Credits	Title	Prerequisites
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
ENGS 153	3	Fundamentals of Speaking, Reading and Writing English II	ENGS 152
SPGS 152*	3	Fundamentals of Reading and Writing	
SPGS 250	3	Writing Techniques	SPGS 152
HUGS 101	3	World Culture I	
HUGS 102	3	World Culture II	HUGS 101
HIGS 201	3	Puerto Rico History and Culture	
SOGS 201	3	The Human Being and Social Consciousness	
SOGS 202	3	State-Government and the Human Being	SOGS 201
MATH 151+	4	Precalculus I	MATH 121 or minimum of 600 points in CEEB and placement test
SCGS 200	3	Science, Technology and Society	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 250

Core Component- 40 credits

Courses	Credits	Title	Prerequisites
BIOL 203+	4	General Biology I	
BIOL 204+	4	General Biology II	BIOL 203
CHEM 203+	4	General Chemistry I	Co req. MATH 151
CHEM 204+	4	General Chemistry II	CHEM 203
MATH 152+	4	Precalculus II	MATH 151
CHEM 351+	4	Organic Chemistry I	CHEM 204
CHEM 352+	4	Organic Chemistry II	CHEM 351
PHSC 203+	4	General Physics I	MATH 221
PHSC 204+	4	General Physics II	PHSC 203
MATH 221+	4	Calculus I	MATH 152

Major Component – 29 - 30 credits

Courses	Credits	Title	Prerequisites
BIOL 313+	4	Human Anatomy and Physiology I	BIOL 204
BIOL 314+	4	Human Anatomy and Physiology II	BIOL 313
BIOL 340	4	Genetics	BIOL 204
BIOL 350 or	3	Biochemistry ³ or	BIOL 204, CHEM 352
BIOL 355+	4	Cellular and Molecular Biology ³	BIOL 340, CHEM 352
BIOL 206+	4	General Microbiology	BIOL 204
BIOL 322	3	Immunology	
BIOL 315	3	Biostatistics	MATH 152+
CHEM 221+	4	Analytical Chemistry	CHEM 204

Professional Phase Component – 26 credits^{1, 2}

Courses	Credits	Title	Prerequisites
MTEC 400	2	Introduction to Clinical Laboratory Administration and Bioethics	
MTEC 401	2	Clinical Laboratory Instrumentation, Methodologies and Molecular Techniques	
MTEC 402	2	Clinical Parasitology and Clinical Virology	
MTEC 404	1	Clinical Mycology	
MTEC 406+	4	Clinical Hematology and Hemostasis	Co-req. MTEC 406L
MTEC 408+	3	Clinical Immunology and Clinical Serology	Co-req MTEC 408L
MTEC 410	4	Clinical Chemistry	
MTEC 412	1	Study and Analysis of Body Fluids and Urine Analysis	
MTEC 414+	4	Clinical Bacteriology	Co-req MTEC 414L
MTEC 417+	3	Immunohematology	Co-req MTEC 417L

Clinical Practice Courses – 19 credits / 760 hours^{1, 2}

Courses	Credits	Title	Prerequisites
MTEC 407	4	Clinical Laboratory Practice - Hematology	MTEC 406
MTEC 405	4	Clinical Laboratory Practice - Microbiology	MTEC 414
MTEC 415	3	Clinical Laboratory Practice - Blood Bank	MTEC 417
MTEC 403	1	Clinical Laboratory Practice - Parasitology	MTEC 402
MTEC 411	4	Clinical Laboratory Practice - Clinical Chemistry	MTEC 410
MTEC 413	1	Clinical Laboratory Practice - Body Fluids and Urine Analysis	MTEC 412
MTEC 409	1	Clinical Laboratory Practice - Serology	MTEC 408
MTEC 416	1	Clinical Laboratory Practice - Study Cases Clinical Laboratory	

Important Notes:

- Medical Technology Professional Phase:
 - After completing 101 - 102 credits (after three years of undergraduate education), students must apply for admission for the professional phase.
 - The student must maintain a minimum 2.75 grade point average.
 - Students must approve with a grade of C the following courses: General Biology I and II, Human Anatomy and Physiology I and II, Microbiology, Immunology, Cellular and Molecular Biology or Biochemistry, General Chemistry I and II, Analytical Chemistry, Pre-calculus, Calculus I, General Physics I and II and Organic Chemistry I y II.
 - Students must have a clean record.
 - Students must submit the required documentation.
 - Students will be responsible for dates and meetings which shall participate for admission to the professional phase.
 - Oral interview and an essay to be performed during the evaluation process.
 - Three letters of recommendation from science and/or Math professors.
 - Students will be admitted to the professional stage if they meet the pre-requirements and subject to the assessment of the Evaluation Committee of the Division of Natural Sciences and Technology.
 - Whether a student meets the requirements does not guarantee admission to the program.
 - Students not admitted to the professional phase, have the option of completing a degree in Biology. They must complete the required courses in the program.
- Students at the Additional Location of Barceloneta, must apply for admission to the professional phase at Gurabo.
- *Students will be enrolled according to their College Board results or placement test.
- + Laboratory course.
- The minimum passing grade for the specialization and clinical practice courses is C.
- Minimum Graduation GPA 2.50.
- Transfer students from other Medical Technology programs are not allowed.
- Students enrolled in this program in Barceloneta may take up to the third year of this sequential curriculum in Barceloneta. Once the third year is completed, must comply with the notes indicated here and complete the transfer process to the Gurabo Campus.
- New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
- Students who need to develop academic skills in mathematics to enter at MATH 151 Precalculus must take MAGS 120 (I) Introductory Algebra (3 credits) and MATH 121 Intermediate Algebra (3 credits).

11. Medical Technology program accredited by the National Accreditation Agency for Clinical Laboratory Sciences (NAACLS).
12. The course CHEM 203 has MATH 151 as a corequisite.
13. Subject to change.

Bachelor in General Sciences

Program's description

This program allows the student to have a broad view of the natural sciences, with a dynamic approach and with applications of technology. The graduate may choose to be certified as a science teacher at the secondary level or to pursue graduate studies in one of the scientific disciplines of his choice.

Admission GPA: 2.50

Graduation GPA: 2.00

Curricular Content

General Education Component - 36 credits

Courses	Credits	Title	Prerequisites
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
ENGS 153	3	Fundamentals of Speaking, Reading and Writing English II	ENGS 152
SPGS 152*	3	Fundamentals of Reading and Writing	
SPGS 250	3	Writing Techniques	SPGS 152
HUGS 101	3	World Culture I	
HUGS 102	3	World Culture II	HUGS 101
HIGS 201	3	Puerto Rico History and Culture	
SOGS 201	3	The Human Being and Social Consciousness	
SOGS 202	3	State-Government and the Human Being	SOGS 201
MAGS 120 (I)	3	Introductory Algebra	
SCGS 200	3	Science, Technology and Society	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 250

Core Component– 51 - 63^ credits

Courses	Credits	Title	Prerequisites
BIOL 203+	4	General Biology I	
BIOL 204+	4	General Biology II	BIOL 203
CHEM 203+	4	General Chemistry I	Co req. MATH 151
CHEM 204+	4	General Chemistry II	CHEM 203
CHEM 351+	4	Organic Chemistry I	CHEM 204
CHEM 352+	4	Organic Chemistry II	CHEM 351
PHSC 203+	4	General Physics I	MATH 221
PHSC 204+	4	General Physics II	PHSC 203
PHSC 359+	4	Modern Physics	PHSC 204
MATH 121+	3	Intermediate Algebra	MAGS 120 (I) or placement test
MATH 151+	4	Precalculus I	MATH 121 or minimum of 600 points in CEEB and placement
MATH 152+	4	Precalculus II	MATH 151
MATH 221+	4	Calculus I	MATH 152
SPAN 240^		Literature and Diversity	SPGS 250
SPAN 275^		Advanced Writing in Spanish	SPGS 250
SPAN 255^	6	Research and Writing	SPGS 250
SPAN 230^		Introduction to Linguistics	SPGS 250
ENGL 250^		Fundamentals of Public Speaking	ENGL 152
ENGL 275^		Writing for the Professional World	ENGL 152
ENGL 231^	6	Research and Writing	ENGL 152
ENGL 331^		Oral Communication	ENGL 153

Major Component - 30 credits

Courses	Credits	Title	Prerequisites
BIOL 340+	4	Genetics	BIOL 204
BIOL 315	3	Biostatistics	MATH 152
BIOL 355+	4	Cellular and Molecular Biology	BIOL 340, CHEM 352
BIOL 345	3	Evolution	BIOL 340
BIOL 206+	4	General Microbiology	BIOL 204
BIOL 312+	4	Zoology	BIOL 204
BIOL 325+	4	Botany	BIOL 204
BIOL 329+	4	General Ecology	BIOL 204, MATH 152

Directed Electives – 12 credits

Courses	Credits	Title	Prerequisites
BIOL 307	3	Neurobiology	BIOL 355
BIOL 309	3	Virology	BIOL 206
BIOL 310	3	Animal Behavior	BIOL 204
BIOL 313+	4	Human Anatomy and Physiology I	BIOL 204
BIOL 314+	4	Human Anatomy and Physiology II	BIOL 313
BIOL 317+	4	Bioinformatics	BIOL 204 or CHEM 204, MATH 152
BIOL 318+	4	Parasitology	BIOL 204
BIOL 321+	4	Food Microbiology	BIOL 206
BIOL 322	3	Immunology	BIOL 206
BIOL 323	3	Industrial Microbiology	BIOL 206
BIOL 331+	4	Developmental Biology	BIOL 340
BIOL 333+	4	Marine Biology	BIOL 204
BIOL 336	3	Tropical Ecosystem Management	BIOL 329
BIOL 351	3	Internship and Biology	BIOL 204, department authorization
BIOL 357	3	Special Topics in Biology	BIOL 204, department authorization
BIOL 365	3	Undergraduate Research I	BIOL 204, department authorization
BIOL 366	3	Undergraduate Research II	BIOL 204, department authorization
BIOT 410	3	Introduction to Biotechnology	BIOL 206, BIOL 355
BIOL 430+	4	Biology of Birds (Ornithology)	BIOL 329
BIOL 460	3	Recombinant DNA Technology	BIOL 355
BIOL 482	3	Biodiversity and Conservation	BIOL 329
CHEM 221+	4	Analytical Chemistry	CHEM 204
CHEM 430+	4	Instrumental Chemistry	CHEM 221, MATH 221
ENSC 499	3	Fundamentals of Environmental Sciences	BIOL 329, department authorization

Important Notes:

- * All students will be enrolled according to the results of the placement test or results of the College Board.
- + Includes laboratory.
- Major and core courses must be approved with a C or higher.
- Major GPA 2.30.
- Second-year students and above must obtain an academic evaluation with the program coordinator before completing the enrollment process.
- New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
- his study program provides two alternatives for students: 129 credits or 141 credits. The student will be able to select which will be the alternative of his study program.
- ^ The alternative of 141 credits corresponds to students interested in continuing professional studies.
- Subject to change.

Bachelor of Science major in Biotechnology

Program's description

This program allows our students to understand the natural world and obtain knowledge and skills in the different areas of biotechnology. It enables the student to face the challenges of the modern professional world of the country's emerging biotechnology industry. Our students will be able to work in agencies related to the environmental area, research laboratories, industries or schoolteachers.

Admission GPA: 2.50

Graduation GPA: 2.00

Curricular Content

General Education Component - 36 credits

Courses	Credits	Title	Prerequisites
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
ENGS 153	3	Fundamentals of Speaking, Reading and Writing English II	ENGS 152
SPGS 152*	3	Fundamentals of Reading and Writing	
SPGS 250	3	Writing Techniques	SPGS 152
HUGS 101	3	World Culture I	
HUGS 102	3	World Culture II	HUGS 101
HIGS 201	3	Puerto Rico History and Culture	
SOGS 201	3	The Human Being and Social Consciousness	
SOGS 202	3	State-Government and the Human Being	SOGS 201
MAGS 120 (I)	3	Introductory Algebra	
SCGS 200	3	Science, Technology and Society	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 250

Core Component- 47 credits

Courses	Credits	Title	Prerequisites
BIOL 203+	4	General Biology I	
BIOL 204+	4	General Biology II	BIOL 203
CHEM 203+	4	General Chemistry I	Co req. MATH 151
CHEM 204+	4	General Chemistry II	CHEM 203
CHEM 351+	4	Organic Chemistry I	CHEM 204
CHEM 352+	4	Organic Chemistry II	CHEM 351
PHSC 203+	4	General Physics I	MATH 221
PHSC 204+	4	General Physics II	PHSC 203
MATH 121+	3	Intermediate Algebra	MAGS 120 (I) or placement test
MATH 151+	4	Precalculus I	MATH 121 or minimum of 600 points on CEEB and placement test.
MATH 152+	4	Precalculus II	MATH 151
MATH 221+	4	Calculus I	MATH 152

Major Component - 41 credits

Courses	Credits	Title	Prerequisites
UNRE 201	3	Undergraduate Research Methods	BIOL 204, CHEM 204
BIOL 206+	4	General Microbiology	BIOL 204
BIOL 350	3	Biochemistry	BIOL 204, CHEM 352
BIOL 340+	4	Genetics	BIOL 204
BIOL 490	1	Internship in Biotechnology	BIOL 440, BIOL 450
BIOL 315	3	Biostatistics	MATH 152
BIOL 322	3	Immunology	BIOL 206
BIOL 395	3	Biotechnology Techniques	BIOL 206, CHEM 352
BIOL 355+	4	Cellular and Molecular Biology	BIOL 340, CHEM 352
BIOL 440	3	Environmental, Agricultural and Industrial Biotechnology	BIOL 206
BIOL 450	3	Pharmaceutical and Medical Biotechnology	BIOL 206
BIOL 460	3	Recombinant DNA Technology	BIOL 355

Courses	Credits	Title	Prerequisites
CHEM 221+	4	Analytical Chemistry	CHEM 204
Directed Electives – 7 credits			
Courses	Credits	Title	Prerequisites
BIOT 240	3	Validations	BIOT 210
BIOT 210	3	Regulations and Good Manufacturing Practices	BIOL 206
BIOT 450	3	Bioprocess Engineering	
BIOL 323	3	Industrial Microbiology	BIOL 206
PHOP 255	3	Water Purification and Treatment Systems in Pharmaceutical & Chemical Processes	CHEM 352
BIOL 308+	3	General Mycology	BIOL 206
BIOL 363+	4	Microbial Physiology and Genetics	BIOL 206
BIOL 321+	4	Food Microbiology	BIOL 206
BIOL 309	3	Virology	BIOL 206
BIOL 365	3	Undergraduate Research I	BIOL 204, department authorization
BIOL 366	3	Undergraduate Research II	BIOL 365

Important Notes:

1. *All students will be enrolled according to the results of the placement test or results of the College Board.
2. +Includes laboratory
3. Major and core courses must be approved with a C or higher.
4. Second-year students and above must obtain an academic evaluation with the program coordinator before completing the enrollment process.
5. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
6. Subject to change.

Bachelor of Science major in Microbiology

Program's description

The microbiologist studies the growth, structure, development, and characteristics of bacteria and other microorganisms, matches the transformation and manipulation of them and incorporates them in the manufacture of genetically engineered products. A graduate in this program can be employed in the food industry, manufacturing and pharmaceuticals, biotechnology, and environmental microbiology. This degree can also be used to continue studies in medicine or go on to graduate studies.

Admission GPA: 2.50

Graduation GPA: 2.00

Curricular Content

General Education Component - 36 credits

Courses	Credits	Title	Prerequisites
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
ENGS 153	3	Fundamentals of Speaking, Reading and Writing English II	ENGS 152
SPGS 152*	3	Fundamentals of Reading and Writing	
SPGS 250	3	Writing Techniques	SPGS 152
HUGS 101	3	World Culture I	
HUGS 102	3	World Culture II	HUGS 101
HIGS 201	3	Puerto Rico History and Culture	
SOGS 201	3	The Human Being and Social Consciousness	
SOGS 202	3	State-Government and the Human Being	SOGS 201
MAGS 120 (I)	3	Introductory Algebra	
SCGS 200	3	Science, Technology and Society	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 250

Core Component— 47 - 59^ credits

Courses	Credits	Title	Prerequisites
BIOL 203+	4	General Biology I	
BIOL 204+	4	General Biology II	BIOL 203
CHEM 203+	4	General Chemistry I	Co req. MATH 151
CHEM 204+	4	General Chemistry II	CHEM 203
CHEM 351+	4	Organic Chemistry I	CHEM 204
CHEM 352+	4	Organic Chemistry II	CHEM 351
PHSC 203+	4	General Physics I	MATH 221
PHSC 204+	4	General Physics II	PHSC 203
MATH 121+	3	Intermediate Algebra	MAGS 120 (I) or placement test
MATH 151+	4	Precalculus I	MATH 121 or minimum of 600 points in CEEB and placement test
MATH 152+	4	Precalculus II	MATH 151
MATH 221+	4	Calculus I	MATH 152

Courses	Credits	Title	Prerequisites
SPAN 240^	6	Literature and Diversity	SPGS 250
SPAN 275^		Advanced Writing in Spanish	SPGS 250
SPAN 255^		Research and Writing	SPGS 250
SPAN 230^		Introduction to Linguistics	SPGS 250
ENGL 250^		Fundamentals of Public Speaking	ENGL 152
ENGL 275^		Writing for the Professional World	ENGL 152
ENGL 231^	6	Research and Writing	ENGL 152
ENGL 331^		Oral Communication	ENGL 153

Major Component - 45 credits

Courses	Credits	Title	Prerequisites
UNRE 201	3	Undergraduate Research Methods	BIOL 204, BIOL 215, CHEM 204
BIOL 206+	4	General Microbiology	BIOL 204
BIOL 208+	3	Microbial Ecology Diversty	BIOL 206
BIOL 260+	3	Bacteriology	BIOL 206
BIOL 308+	3	General Mycology	BIOL 206
BIOL 324	1	Microbial Safety and Quality Control	BIOL 206
BIOL 322	3	Immunology	BIOL 206
BIOL 363+	4	Microbial Physiology and Genetics	BIOL 329
BIOL 383+	3	Food Microbiology	BIOL 206
BIOL 318+	3	Parasitology	BIOL 204
BIOL 309	3	Virology	BIOL 206
BIOL 400	1	Internship in Microbiology	Department authorization
CHEM 221+	4	Analytical Chemistry	CHEM 204
CHEM 385+	4	General Biochemistry	CHEM 352, BIOL 204
MATH 304	3	Biostatistics	MATH 152

Important Notes:

1. * All students will be enrolled according to the results of the placement test or results of the College Board.
2. +Includes laboratory.
3. Major and core courses must be approved with a C or higher.
4. Second-year students and above must obtain an academic evaluation with the program coordinator before completing the enrollment process.
5. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
6. This study program provides two alternatives for students: 128 credits or 140 credits. The student will be able to select which will be the alternative of his study program.
7. ^The alternative of 140 credits corresponds to students interested in continuing professional studies.
8. Subject to change.

Bachelor of Science major in Environmental Sciences

Program's description

The Environmental Sciences program will provide the student with an interdisciplinary vision. The graduate will know and be able to explain the laws, rules, regulations and jurisprudence in the field of environmental sciences. He will use his knowledge in solving environmental problems, conduct related studies, recognize the importance of science, and have skills in handling technical issues in a social, political and economic context. It is expected that the graduate uses proactive methods in defense of the environment, exercises leadership in matters in favor of the environment, will be able to write technical and scientific reports that will allow them to have formal and field laboratory experience, thus developing skills for decision-making, analysis of data and resource appraisal.

Admission GPA: 2.00

Graduation GPA: 2.00

Curricular Content

General Education Component - 36 credits

Courses	Credits	Title	Prerequisites
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
ENGS 153	3	Fundamentals of Speaking, Reading and Writing English II	ENGS 152
SPGS 152*	3	Fundamentals of Reading and Writing	
SPGS 250	3	Writing Techniques	SPGS 152
HUGS 101	3	World Culture I	
HUGS 102	3	World Culture II	HUGS 101
HIGS 201	3	Puerto Rico History and Culture	
SOGS 201	3	The Human Being and Social Consciousness	
SOGS 202	3	State-Government and the Human Being	SOGS 201
MAGS 120(I)	3	Introductory Algebra	
SCGS 200	3	Science, Technology and Society	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 250

Core Component- 46 credits

Courses	Credits	Title	Prerequisites
BIOL 203+	4	General Biology I	
BIOL 204+	4	General Biology II	BIOL 203
CHEM 203+	4	General Chemistry I	Co req. MATH 151
CHEM 204+	4	General Chemistry II	CHEM 203
CHEM 351+	4	Organic Chemistry I	CHEM 204
PHSC 203+	4	General Physics I	MATH 221
MATH 121+	3	Intermediate Algebra	MAGS 120 (I) or placement test
MATH 151+	4	Precalculus I	MATH 121 or minimum of 600 points on CEEB and placement test.
MATH 152+	4	Precalculus II	MATH 151
MATH 221+	4	Calculus I	MATH 152
CHEM 420	3	Environmental Chemistry	CHEM 351
BIOL 206+	4	General Microbiology	BIOL 204

Major Component - 34 credits

Courses	Credits	Title	Prerequisites
ENSC 101	3	Environmental Science	
BIOL 315	3	Biostatistics	MATH 152
BIOL 329+	4	General Ecology	BIOL 204, MATH 152
ENSC 201	4	Introduction to Geology	ENSC 101
ENSC 341	3	Introduction to Soil Sciences	ENSC 101
ENSC 380	3	Special Topics: Environmental Sciences	Department authorization
ENSC 390	3	Natural History of Puerto Rico and The Caribbean	ENSC 201, BIOL 329
ENSC 411	3	Environmental Laws and Policies	ENSC 201, BIOL 329, CHEM 351
ENSC 421	1	Case Study	ENSC 201, CHEM 351, BIOL 329

Courses	Credits	Title	Prerequisites
ENSC 443	4	Integrated Environmental Practicum	ENSC 390, CHEM 351, CHEM 221, BIOL 360
ENSC 415	3	Environmental Pollution	ENSC 201, CHEM 351, CHEM 221, BIOL 329

Directed Electives - 10 credits

Courses	Credits	Title	Prerequisites
ENSC 301	4	Land Resources	ENSC 201, BIOL 329, CHEM 351 Co-req. CHEM 221
ENSC 341	3	Introduction to Soil Sciences	ENSC 101
ENSC 380	3	Special Topics: Environmental Sciences	Department authorization
ENSC 413	3	Marine Affairs	Department authorization
ENSC 424	3	Global Environmental Problems	Department authorization

Important Notes:

1. *All students will be enrolled according to the results of the placement test or results of the College Board.
2. +Includes laboratory.
3. Major and core courses must be approved with a C or higher.
4. Second-year students and above must obtain an academic evaluation with the program coordinator before completing the enrollment process.
5. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
6. Subject to change.

Bachelor in Sciences major in Molecular and Cellular Biology

Program's description

The Molecular Cell Biology program will provide the student with a multidisciplinary vision in which the graduate will be able to integrate the knowledge and skills of biology and other sciences. Likewise, they will conduct research, write technical reports, recognize the importance of cellular-molecular biology, learn the concepts that are linked by unifying principles such as evolution, interaction, independence, reproduction, genetic continuity, development, differentiation, energy and organization. In addition, the student will develop skills in laboratory work. The student is expected to have a concept of science as a process of discovery, in Science as a discipline and in other subjects related to the humanistic, social and ethical issues of modern biology and life.

Admission GPA: 2.00

Graduation GPA: 2.00

Curricular Content

General Education Component - 36 credits

Courses	Credits	Title	Prerequisites
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
ENGS 153	3	Fundamentals of Speaking, Reading and Writing English II	ENGS 152
SPGS 152*	3	Fundamentals of Reading and Writing	
SPGS 250	3	Writing Techniques	SPGS 152
HUGS 101	3	World Culture I	
HUGS 102	3	World Culture II	HUGS 101
HIGS 201	3	Puerto Rico History and Culture	
SOGS 201	3	The Human Being and Social Consciousness	
SOGS 202	3	State-Government and the Human Being	SOGS 201
MAGS 120 (I)	3	Introductory Algebra	
SCGS 200	3	Science, Technology and Society	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 250

Core Component— 47 - 59^ credits

Courses	Credits	Title	Prerequisites
BIOL 203+	4	General Biology I	
BIOL 204+	4	General Biology II	BIOL 203
CHEM 203+	4	General Chemistry I	Co req. MATH 151
CHEM 204+	4	General Chemistry II	CHEM 203
CHEM 351+	4	Organic Chemistry I	CHEM 204
CHEM 352+	4	Organic Chemistry II	CHEM 351
PHSC 203+	4	General Physics I	MATH 221
PHSC 204+	4	General Physics II	PHSC 204
MATH 121+	3	Intermediate Algebra	MAGS 120 (I) or placement test
MATH 151+	4	Precalculus I	MATH 121 or minimum of 600 points on CEEB and placement test
MATH 152+	4	Precalculus II	MATH 151
MATH 221+	4	Calculus I	MATH 152
SPAN 240^		Literature and Diversity	SPGS 250
SPAN 275^		Advanced Writing in Spanish	SPGS 250
SPAN 255^	6	Research and Writing	SPGS 250
SPAN 230^		Introduction to Linguistics	SPGS 250
ENGL 250^		Fundamentals of Public Speaking	ENGL 152
ENGL 275^		Writing for the Professional World	ENGL 152
ENGL 231^	6	Research and Writing	ENGL 152
ENGL 331^		Oral Communication	ENGL 153

Major Component - 31 credits

Courses	Credits	Title	Prerequisites
BIOL 315	3	Biostatistics	MATH 152
BIOL 317+	4	Bioinformatics	BIOL 204 o CHEM 204, MATH 152
BIOL 340+	4	Genetics	BIOL 204
BIOL 352	3	Biochemistry I	BIOL 204, CHEM 352
BIOL 353	3	Biochemistry II	BIOL 352
BIOL 355+	4	Cellular and Molecular Biology	BIOL 340, CHEM 352
BIOL 360	3	Research Techniques	BIOL 340, CHEM 352
BIOL 410+	4	Methods in Molecular Biology	BIOL 355
BIOL 425	3	Seminar on Current Topics in Molecular and Cell Biology	BIOL 410

Directed Electives – 14 credits

Courses	Credits	Title	Prerequisites
BIOL 206+	4	General Microbiology	BIOL 204
BIOL 307	3	Neurobiology	BIOL 355
BIOL 309	3	Virology	BIOL 330
BIOL 310	3	Animal Behavior	BIOL 204
BIOL 313+	4	Human Anatomy and Physiology I	BIOL 204
BIOL 314+	4	Human Anatomy and Physiology II	BIOL 313
BIOL 318+	4	Parasitology	BIOL 204
BIOL 321+	4	Food Microbiology	BIOL 204
BIOL 322	3	Immunology	BIOL 206
BIOL 323	3	Industrial Microbiology	BIOL 206
BIOL 331+	4	Developmental Biology	BIOL 340
BIOL 351	3	Internship and Biology	BIOL 204, department authorization
BIOL 357	3	Special Topics in Biology	BIOL 204, department authorization
BIOL 365	3	Undergraduate Research I	BIOL 204, department authorization
BIOL 366	3	Undergraduate Research II	BIOL 204, department authorization
BIOL 395	3	Biotechnology Techniques	BIOL 206, CHEM 352
CHEM 221+	4	Analytical Chemistry	CHEM 204
CHEM 430+	4	Instrumental Chemistry	CHEM 221, MATH 221

Important Notes:

1. *All students will be enrolled according to the results of the placement test or results of the College Board.
2. +Includes laboratory.
3. Major and core courses must be approved with a C or higher.
4. Second-year students and above must obtain an academic evaluation with the program coordinator before completing the enrollment process.
5. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
6. This study program provides two alternatives for students: 128 credits or 140 credits. The student will be able to select which will be the alternative of his study program.
7. ^The alternative of 140 credits corresponds to students interested in continuing professional studies.
8. Subject to change.

Bachelor of Science with a major in Biomedicine

Program's description

The Bachelor of Science with a major in Biomedicine program was designed for people who wish to continue studies in Schools of Medicine, Dental Medicine, Pharmacy, Veterinary Medicine, Medical Technology, and other careers within Professional Colleges related to health. For this reason, this sequential curriculum includes a specific and flexible distribution of courses in order to meet the admission requirements of the School of Medicine, Dental Medicine, Pharmacy, Veterinary Medicine, Medical Technology and other careers within Professional Associations related to health.

Admission GPA: 2.00

Graduation GPA: 2.00

Curricular Content

General Education Component - 36 credits

Course	Credits	Title	Prerequisites
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
ENGS 153	3	Fundamentals of Speaking, Reading and Writing English II	ENGS 152
SPGS 152*	3	Fundamentals of Reading and Writing	
SPGS 250	3	Writing Techniques	SPGS 152
HUGS 101	3	World Culture I	
HUGS 102	3	World Culture II	HUGS 101
HIGS 201	3	Puerto Rico History and Culture	
SOGS 201	3	The Human Being and Social Consciousness	
SOGS 202	3	State-Government and the Human Being	SOGS 201
MAGS 120(I)	3	Introductory Algebra	
SCGS 200	3	Science, Technology and Society	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 250

Core Component– 50 - 62^ credits

Course	Credits	Title	Prerequisites
BIOL 203+	4	General Biology I	
BIOL 204+	4	General Biology II	BIOL 203
CHEM 203+	4	General Chemistry I	Co requisite MATH 151
CHEM 204+	4	General Chemistry II	CHEM 203
CHEM 351+	4	Organic Chemistry I	CHEM 204
CHEM 352+	4	Organic Chemistry II	CHEM 351
PHSC 203+	4	General Physics I	MATH 221
PHSC 204+	4	General Physics II	PHSC 203
MATH 121+	3	Intermediate Algebra	MAGS 120 (I) or placement test
MATH 151+	4	Precalculus I	MATH 121 or minimum of 600 points in CEEB and placement
MATH 152+	4	Precalculus II	MATH 151
MATH 221+	4	Calculus I	MATH 152
ECON 123	3	Economic Principles and Problems	
SPAN 240^		Literature and Diversity	SPGS 250
SPAN 275^		Advanced Writing in Spanish	SPGS 250
SPAN 255^	6	Research and Writing	SPGS 250
SPAN 230^		Introduction to Linguistics	SPGS 250
ENGL 250^		Fundamentals of Public Speaking	ENGL 152
ENGL 275^		Writing for the Professional World	ENGL 152
ENGL 231^	6	Research and Writing	ENGL 152
ENGL 331^		Oral Communication	ENGL 153

Major Component - 29 credits

Course	Credits	Title	Prerequisites
BIOL 313+	4	Human Anatomy and Physiology I	BIOL 204
BIOL 314+	4	Human Anatomy and Physiology II	BIOL 313
BIOL 315	3	Biostatistics	MATH 153 o MATH 151-152, BIOL 204 o CHEM 204
BIOL 206+	4	General Microbiology	BIOL 204
BIOL 340+	4	Genetics	BIOL 204
BIOL 352	3	Biochemistry I	BIOL 204, CHEM 352
BIOL 355+	4	Cellular and Molecular Biology	BIOL 340, CHEM 352
PHAR 241	3	Introduction to Pharmacology	BIOL 313 concurrent, CHEM 204

Directed Electives (Science or Psychology) - 6 credits

Course	Credits	Title	Prerequisites
BIOL 312+	4	Zoology	BIOL 204
BIOL 317+	4	Bioinformatics	BIOL 204 o CHEM 204, MATH 152
BIOL 322	3	Immunology	BIOL 206
BIOL 331+	4	Developmental Biology	BIOL 340
BIOL 345	3	Evolution	BIOL 340, BIOL 312 o BIOL 325 recommended
BIOL 353	3	Biochemistry II	BIOL 352
BIOL 360	3	Research Techniques	BIOL 203, BIOL 204, BIOL 315
BIOL 365	3	Undergraduate Research I	BIOL 204, BIOL 204L, department authorization
BIOL 366	3	Undergraduate Research II	BIOL 204, BIOL 204L, department authorization
BIOL 410+	4	Methods in Molecular Biology	BIOL 355
BIOL 425	3	Seminar on Current Topics in Molecular and Cell Biology	BIOL 410
BIOT 410	3	Introduction to Biotechnology	BIOL 206, BIOL 355
PHAR 242	3	Introduction to Pharmacology II	PHAR 241, BIOL 313, BIOL 314 (concurrent)
PHAR 341	3	Pharmacotherapy	PHAR 241, BIOL 314
CHEM 221+	4	Analytical Chemistry	CHEM 204
PSYC 123	3	General Psychology	
PSYC 226	3	Developmental Psychology	PSYC 123

Important Notes:

1. *All students will be enrolled according to the results of the placement test or results of the College Board.
2. +Includes laboratory.
3. Major and core courses must be approved with a C or higher.
4. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
5. This study program provides two alternatives for students: 121 credits or 133 credits. The student will be able to select which will be the alternative of his study program.
6. ^The alternative of 133 credits corresponds to students interested in continuing professional studies.
7. Subject to change.

Bachelor and Master of Science in Food Technology and Safety

Program's description

The joined BS/MS program in Food Technology and Safety allows students to understand the processes, regulations and science related to the manufacturing of foods and food preservation. Alumni will be able to work in the food industry or in the government as inspectors or analysts and will be able to make decisions regarding the safety of food products. Students will apply the best available technology in their graduate research to propose solutions to contemporary problems of public health concern.

Admission GPA: 2.50

Graduation GPA: 3.00 (Graduate)

Curricular Content

General Education Component - 36 credits

Course	Credits	Title	Prerequisites
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
ENGS 153	3	Fundamentals of Speaking, Reading and Writing English II	ENGS 152
SPGS 152*	3	Fundamentals of Reading and Writing	
SPGS 250	3	Writing Techniques	SPGS 152
HUGS 101	3	World Culture I	
HUGS 102	3	World Culture II	HUGS 101
HIGS 201	3	Puerto Rico History and Culture	
SOGS 201	3	The Human Being and Social Consciousness	
SOGS 202	3	State-Government and the Human Being	SOGS 201
MAGS 120(I)	3	Introductory Algebra	
SCGS 200	3	Science, Technology and Society	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 250

Core Component- 47 credits

Course	Credits	Title	Prerequisites
BIOL 203+	4	General Biology I	
BIOL 204+	4	General Biology II	BIOL 203
CHEM 203+	4	General Chemistry I	Co req. MATH 151
CHEM 204+	4	General Chemistry II	CHEM 203
CHEM 351+	4	Organic Chemistry I	CHEM 204
CHEM 352+	4	Organic Chemistry II	CHEM 351
MATH 121+	3	Intermediate Algebra	MAGS 120 (I) or placement test
MATH 151+	4	Precalculus I	MATH 121 or minimum of 600 points in CEEB and placement test
MATH 152+	4	Precalculus II	MATH 151
MATH 221+	4	Calculus I	MATH 152
PHSC 203+	4	General Physics I	MATH 151
PHSC 204+	4	General Physics II	PHSC 203

Major Component - 77 credits

Course	Credits	Title	Prerequisites
BIOL 206+	4	General Microbiology	BIOL 204
BIOL 321+	4	Food Microbiology	BIOL 206, Co BIOL 321L
BIOL 323	3	Industrial Microbiology	BIOL 206
BIOL 350	3	Biochemistry	BIOL 204, CHEM 352
BIOL 315	3	Biostatistics	MATH 151
MANA 260	3	Managerial Strategies	
NUTR 201	4	Introduction to Nutrition	
FOOD 101	3	Introduction to Food Biotechnology	
FOOD 201	3	Microbial Food Safety Hazards and Quality Control	
FOOD 250	3	Food Safety and Protection Related to Public Health	
FOOD 300	4	Food Laws Standard Regulatory	

Course	Credits	Title	Prerequisites
FOOD 400	3	Food Biotechnology	
FOOD 450	4	Food Quality Assurance	
STAT 750	3	Statist And Experimental Design	Biostatistics or STAT 505
CHEM 504+	4	Food Chemistry	CHEM 352
FOOD 501	3	Food Safety Toxicology	
FOOD 581	2	Graduate Seminar	
FOOD 603	3	Comparative Food & Agriculture Systems	
FOOD 605	3	Food Safety Disease Control	
FOOD 606	3	Food Packaging and Processing	
FOOD 607	3	Food Safety Risk Assessment	
FOOD 611	3	Quality Management in the Food	
FOOD 691	3	Graduate Project I	
FOOD 692	3	Graduate Project II	

Directed Electives - 8 credits

Course	Credits	Title	Prerequisites
BIOL 329+	4	General Ecology	BIOL 204, MATH 152
AGRO 300+	4	Agroecology I	BIOL 329
AGRO 301+	4	Agroecology II	AGRO 300

Important Notes:

1. * All students will be enrolled according to the results of the placement test or results of the College Board.
2. Any student who passes the CEEB advanced exam (level 2) with a minimum of 3, may enroll in the MATH 221 course.
3. +Includes laboratory.
4. Major and core courses must be approved with a C or higher.
5. Graduation GPA 3.00.
6. Second-year students and above must obtain an academic evaluation with the program coordinator before completing the enrollment process.
7. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
8. Subject to change.

Post-Bachelor Certificate in Medical Technology

Program's description

The student will receive a complete academic training, preparing him for the prevention, detection, and clinical diagnosis that will help in the treatment of various pathologies. In addition, he will learn how to perform laboratory tests, interpret test results, and make diagnostic conclusions. The Post Baccalaureate Certificate in Medical Technology has a strong emphasis on technological advances and molecular analysis. The program combines theory with practice in laboratories and external clinical fields.

Admission GPA: 2.75

Graduation GPA: 2.50

Curricular Content

Major Component - 26 credits

Course	Credits	Title	Prerequisites
MTEC 400	2	Introduction to Clinical Laboratory Administration and Bioethics	
MTEC 401	2	Clinical Laboratory Instrumentation, Methodologies and Molecular Techniques	
MTEC 402	2	Clinical Parasitology and Clinical Virology	
MTEC 406+	4	Clinical Hematology and Hemostasis	Co-req. MTEC 406L
MTEC 406L	0	Clinical Hematology and Hemostasis Laboratory	Co-req. MTEC 406
MTEC 404	1	Clinical Mycology	
MTEC 412	1	Study and Analysis of Body Fluids and Urine Analysis	
MTEC 410	4	Clinical Chemistry	
MTEC 408+	3	Clinical Immunology and Clinical Serology	Co-req. MTEC 408L
MTEC 408L	0	Clinical Immunology and Clinical Serology Laboratory	Co-req. MTEC 408
MTEC 414+	4	Clinical Bacteriology	Co-req. MTEC 414L
MTEC 414L	0	Clinical Bacteriology Laboratory	Co-req. MTEC 414
MTEC 417+	3	Immunohematology	Co-req. MTEC 417L
MTEC 417L	0	Immunohematology Laboratory	Co-req. MTEC 417

Major Component -19 credits (760 horas)

Course	Credits	Title	Prerequisites
MTEC 407	4	Clinical Laboratory Practice-Hematology	MTEC 406, MTEC 406L
MTEC 405	4	Clinical Laboratory Practice-Microbiology	MTEC 414, MTEC 414L
MTEC 415	3	Clinical Laboratory Practice –Blood Bank	MTEC 417, MTEC 417L
MTEC 403	1	Clinical Laboratory Practice-Parasitology	MTEC 402
MTEC 413	1	Clinical Laboratory Practice-Body Fluids and Urine Analysis	MTEC 412
MTEC 411	4	Clinical Laboratory Practice-Clinical Chemistry	MTEC 410
MTEC 409	1	Clinical Laboratory Practice- Serology	MTEC 408, MTEC 408L
MTEC 416	1	Clinical Laboratory Practice -Study Cases Clinical Laboratory	

Important Notes:

- Before applying to the program, the student must have completed a Bachelor of Science with a minimum GPA of 2.75.
- + Course with laboratory.
- Students must have a clean criminal record.
- Oral interview and an essay to be performed during the evaluation process.
- Three letters of recommendation from science and/or Math professors.
- Students will be responsible for dates and meetings which shall participate for admission to the professional phase.
- Whether a student meets the requirements does not guarantee admission to the program.
- Students must earn a grade of C or higher in core and major courses.
- Students must complete all required courses for the post-baccalaureate certificate degree with a minimum GPA of 2.50.
- Medical Technology Program accredited by the National Accreditation Agency for Clinical Laboratory Sciences (NAACLS) in Gurabo Campus.
- Subject to change.

Post-Bachelor Certificate in Horticultural Therapy

Program's description

This program integrates the knowledge, strategies, and technology of agricultural sciences with those of psychology; to promote the human-nature relationship in a therapeutic way. Through horticultural therapy, students will develop skills and competencies that promote the increase or maintenance of physical and mental well-being of diverse populations, in diverse settings. The theoretical bases, models and principles of this type of therapy will be addressed, as well as its psychological and horticultural foundations. Students will also have the opportunity to learn about and practice administrative, programming, evaluation, and logistical issues associated with strategies of this therapeutic process. This program can complement the skills of professionals in any profession, but in particular those related to areas of health (mental or physical) and agriculture.

Admission GPA: 2.50

Graduation GPA: 3.00

Curricular Content

Specialty Component - 12 credits

Course	Credits	Title	Prerequisites
HORT 401	3	Introduction to Horticultural Therapy	
HORT 402	3	Horticultural Therapy Techniques	HORT 401
HORT 403	3	Programming Horticultural Therapy Techniques	HORT 402
HORT 404	3	Practicum in Horticultural Therapy	HORT 403

Important Notes:

1. Student must possess a bachelor's degree in Natural Sciences, Psychology, Education, or any other area related to the study program.
2. Minimum grade to pass courses is C.
3. Subject to change

DEPARTMENT OF TECHNOLOGY

Associate Degree in Engineering for Lasers and Telecommunication Technologies

Program's description

This program prepares lasers and telecommunication technologies technicians to work in industries whose processes and operations require the extensive use of lasers and/or optical or photonic devices in order to meet production or mission goals. This usually implies the integration of optical, photonics, or laser subsystems into larger systems, where photonics is an enabling technology.

Admission GPA: 2.00

Graduation GPA: 2.00

Curricular Content

General Education Component - 15 credits

Course	Credits	Title	Prerequisites
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
SPGS 152*	3	Fundamentals of Reading and Writing	
HUGS 101 or SOGS 201	3	World Culture I or The Human Being and Social Consciousness	
MAGS 120 (I)	3	Introductory Algebra	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 152

Core Component- 6 credits

Course	Credits	Title	Prerequisites
OPSC 100 or MATH 121+	3	Mathematics For Optics and Photonics or Intermediate Algebra	MAGS 120 (I) or placement test
ENMA 101	3	Introduction to Entrepreneurial Development	

Major Component - 22 credits

Course	Credits	Title	Prerequisites
OPSC 101+	5	Fundamentals of Lights and Laser	
OPSC 102+	4	Laser Systems and Applications I	OPSC 100, OPSC 101
OPSC 104+	3	Photonics Enabled Technologies	OPSC 102
OPSC 110+	5	Electronics for Optics and Photonics I	OPSC 100
OPSC 111+	5	Electronics for Optics and Photonics II	OPSC 110

Directed Electives – 7 or 9 credits

Course	Credits	Title	Prerequisites
OPSC 103+	4	Laser Systems and Applications II	OPSC 102
OPSC 120	5	Industry Technical Internship	OPSC 102, OPSC 110
OPSC 201+	3	Fiber Optic Communications	OPSC 101

Important Notes:

1. All students will be enrolled according to the results of the placement test or results of the College Board.
2. +Includes laboratory.
3. Second-year students and above must obtain an academic evaluation with the program coordinator before completing the enrollment process.
4. Some advanced laboratories in the last semester will be offered at the PRPI facilities in Barceloneta.
5. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
6. Subject to change.

Associate Degree in Computer Sciences

Program's description

The associate degree in Computer Sciences has been designed to meet the technological demands of the workplace, in tune with the vision and mission of the University. Both the business world and the scientific world need people trained in this field to lead, design, organize, adapt, develop and evaluate innovative projects that incorporate technology. Computer science represents a continuing field of challenges. The speed in the development of an institution, whether private or governmental, will depend on the mastery of computerized technology of its employees.

Admission GPA: 2.00

Graduation GPA: 2.00

Curricular Content

General Education Component - 15 credits

Course	Credits	Title	Prerequisites
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
SPGS 152*	3	Fundamentals of Reading and Writing	
HUGS 101 or SOGS 201	3	World Culture I or The Human Being and Social Consciousness	
MAGS 120 (I)	3	Introductory Algebra	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 250

Core Component- 18 credits

Course	Credits	Title	Prerequisites
MATH 121+	3	Intermediate Algebra	MAGS 120 (I) or placement test
COSC 460	3	Topics in Computing Sciences I	Department approval
COSC 461	4	Topics in Computing Sciences II	Department approval
ACCO 111	4	Introduction to Accounting I	
ACCO 112	4	Introduction to Accounting II	ACCO 111

Major Component -22 credits

Course	Credits	Title	Prerequisites
COSC 111	3	Computer Literacy	
COSC 113	4	Computer Applications	COSC 111
COSC 131	4	Programming Logic	
COSC 230	4	Computer Science Programming	COSC 131
COSC 235	3	Computer Organization Architecture	COSC 131
COSC 240	4	Computer Science Programming I	COSC 131, MATH 121

Important Notes:

- * All students will be enrolled according to the results of the placement test or results of the College Board.
- New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
- Subject to change.

Bachelor in Sciences major in Computer Sciences

Program's description

The Bachelor of Science program with a concentration in Computer Science prepares a professional with the knowledge to code algorithms using the general methodological concepts of structured programming to solve defined problems. The graduate will be able to analyze and code specific programs, using different methodologies and development languages, in order to solve defined problems; as well as developing software, using different development methodologies and languages, to solve problems in real situations of their profession in various application areas. It is expected that the graduate can use the methodologies of Software Engineering to propose, analyze, develop and implement software to solve problems in real situations of their specialty and in various areas of application.

Admission GPA:

Graduation GPA:

Curricular Content

General Education Component - 36 credits

Course	Credits	Title	Prerequisites
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
ENGS 153	3	Fundamentals of Speaking, Reading and Writing English II	ENGS 152
SPGS 152*	3	Fundamentals of Reading and Writing	
SPGS 250	3	Writing Techniques	SPGS 152
HUGS 101	3	World Culture I	
HUGS 102	3	World Culture II	HUGS 101
HIGS 201	3	Puerto Rico History and Culture	
SOGS 201	3	The Human Being and Social Consciousness	
SOGS 202	3	State-Government and the Human Being	SOGS 201
MAGS 120 (I)	3	Introductory Algebra	
SCGS 200	3	Science, Technology and Society	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 250

Core Component- 24 credits³

Course	Credits	Title	Prerequisites
Required Courses			
MATH 121+	3	Intermediate Algebra	MAGS 120 (I) or placement test
MATH 151+	4	Precalculus I	MATH 121 or minimum of 600 points on CEEB and placement test.
MATH 152	4	Precalculus II	MATH 151
MATH 221	4	Calculus I	MATH 152
CHEM 351+	4	Organic Chemistry I	CHEM 204
CHEM 352+	4	Organic Chemistry II	CHEM 351
Choose two (2) courses³			
BIOL 203+	4	General Biology I	
BIOL 204+	4	General Biology II	BIOL 203
CHEM 203+	4	General Chemistry I	Co req. MATH 151
CHEM 204+	4	General Chemistry II	CHEM 203
PHSC 203+	4	General Physics I	MATH 221
PHSC 204+	4	General Physics II	PHSC 203

Major Component - 46 credits

Course	Credits	Title	Prerequisites
COSC 131+	4	Programming Logic	MAGS 120 (I) concurrent
COSC 230+	4	Computer Science Programming	COSC 131
COSC 235	3	Computer Organization Architecture	COSC 131
COSC 240+	4	Computer Science Programming I	COSC 131, MATH 121

Course	Credits	Title	Prerequisites
COSC 330	3	Computer Communications	COSC 240
COSC 335+	4	Data Structure	COSC 240, MATH 152
COSC 340	3	System Analysis Design	COSC 240
COSC 350	3	Programming Languages	COSC 335
COSC 440	3	Operating Systems	COSC 335
COSC 445	3	Data Base	COSC 240
COSC 460	3	Topics in Computing Sciences	Department authorization
COSC 470	3	Final Project	COSC 340
MATH 340	3	Discrete Methods	MATH 152
BIOL 315	3	Biostatisticss	MATH 152

Directed Electives – 12 to 16 credits

Course	Credits	Title	Prerequisites
MATH 222**	4	Calculus II	MATH 221
MATH 350**	3	Linear Algebra	MATH 221
COSC 461	3	Topics in Computing Sciences II	Department authorization
COSC 462	3	Topics in Computing Sciences III	Department authorization
COSC 450**	3	Introduction to the Design and Analysis of Algorithms	COSC 335, MATH 340
ACCO 111	4	Introduction to Accounting I	
ACCO 112	4	Introduction to Accounting II	ACCO 111

Important Notes:

1. *All students will be enrolled according to the results of the placement test or results of the College Board.
2. Major and core courses must be approved with a C or higher.
3. Students can be enrolled in 8 credits of science courses according to the following combinations: PHSC 203-204; BIOL 203-204 or CHEM 203-204
4. ** Elective courses recommended to the student to continue graduate studies.
5. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
6. Subject to change.

BUSINESS, TOURSIM, AND ENTREPERNEURSHIP ACADEMIC DIVISION

DEPARTMENT OF BUSINESS

Associate in Business Administration in Accounting

Program's description

Graduates of the associate degree in Business Administration in Accounting will be able to coordinate and carry out related rules and practices of accounting activities. Among the activities of the accountant are: preparation of financial statements, cost analysis, assessments, and audits, among others. This rigorous professional, accurate and timely manner produces and provides information to its customers, private and government agencies and the general public, for economic and financial decision making

Admission GPA: 2.00

Graduation GPA: 2.00

Curricular Content

General Education Component - 15 credits

Course	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
MAGS 120 (I)	3	Introductory Algebra	
HUGS 101 or SOGS 201	3	World Culture I or The Human Being and Social Consciousness	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 152

Core Component- 26 credits

Course	Credits	Title	Prerequisites
ACCO 111	4	Introduction to Accounting I	
ACCO 112	4	Introduction to Accounting II	ACCO 111
MARK 134	3	Introduction to Marketing	
COIS 201	3	Data Processing	
FINA 202	3	Business Finance	ACCO 111
QUME 250	3	Managerial Quantitative Methods	MAGS 120 (I)
MANA 204	3	Business Law	
MANA 210	3	Introduction to Management	

Major Component - 20 credits

Course	Credits	Title	Prerequisites
ACCO 201	4	Intermediate Accounting I	ACCO 112
ACCO 202	4	Intermediate Accounting II	ACCO 201
ACCO 203	3	Cost Accounting	ACCO 112, ACCO 202
ACCO 205	3	Taxes of Puerto Rico	ACCO 112
ACCO 304	3	Auditing	ACCO 112
ACCO 350	3	Computerized Accounting	ACCO 112

Important Notes:

1. All students will be enrolled according to the results of the placement test or results of the College Board.
2. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
3. Subject to change.

Associate in Business Administration in Management

Program's description

The associate degree in Business Administration in Management, enables students to take various administrative positions in business and industry, government agencies or nonprofit organizations. The manager is the person responsible for the efficient management of the company. He/She is committed to efficiently use the resources of the organization efficiently in order to achieve the company objectives through the functions of employees to fulfill the mission of the company.

Admission GPA: 2.00

Graduation GPA: 2.00

Curricular Content

General Education Component - 15 credits

Course	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
MAGS 120 (I)	3	Introductory Algebra	
HUGS 101 or	3	World Culture I or	
SOGS 201		The Human Being and Social Consciousness	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 152

Core Component- 26 credits

Course	Credits	Title	Prerequisites
ACCO 111	4	Introduction to Accounting I	
ACCO 112	4	Introduction to Accounting II	ACCO 111
MARK 134	3	Introduction to Marketing	
COIS 201	3	Data Processing	
FINA 202	3	Business Finance	ACCO 111
QUME 250	3	Managerial Quantitative Methods	MAGS 120(I)
MANA 204	3	Business Law	
MANA 210	3	Introduction to Management	

Major Component - 21 credits

Course	Credits	Title	Prerequisites
MANA 321	3	Leadership and Supervision	MANA 210
MANA 230	3	Organizational Behavior	
INBU 350	3	International Business	
MANA 322	3	Management Services	MANA 210
MANA 316	3	Small Business Administration	
MANA 405	3	International Management	MANA 210, INBU 350
MANA 213	3	Human Resources Management	MANA 210

Important Notes:

- * All students will be enrolled according to the results of the placement test or results of the College Board.
- New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
- Subject to change.

Associate Degree in Business Administration in Computerized Information Systems

Program's description

Graduates of the associate degree in Computerized Information Systems will have the knowledge and skills to propose, implement and evaluate comprehensive and efficient information problems of organizations through expert management of information technologies and systems solutions. It offers expertise in the field of programming and analysis and application development

Admission GPA: 2.00

Graduation GPA: 2.00

Curricular Content

General Education Component - 15 credits

Course	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
MAGS 120 (I)	3	Introductory Algebra	
HUGS 101 or SOGS 201	3	World Culture I or The Human Being and Social Consciousness	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 152

Core Component- 26 credits

Course	Credits	Title	Prerequisites
ACCO 111	4	Introduction to Accounting I	
ACCO 112	4	Introduction to Accounting II	ACCO 111
MARK 134	3	Introduction to Marketing	
COIS 201	3	Data Processing	
FINA 202	3	Business Finance	ACCO 111
QUME 250	3	Managerial Quantitative Methods	MAGS 120 (I)
MANA 204	3	Business Law	
MANA 210	3	Introduction to Management	

Major Component - 21 credits

Course	Credits	Title	Prerequisites
COIS 112	3	Introduction to Data Base	
COIS 211	3	Introduction to Programming	
COIS 218	3	Application Development	COIS 211
COIS 304	3	Hardware and Software Concepts	COIS 201
COIS 309	3	Web Page I	COIS 201
COIS 313	3	Mobile Applications	COIS 201
COIS 425	3	Object Oriented Programming	COIS 211

Important Notes:

- * All students will be enrolled according to the results of the placement test or results of the College Board.
- New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
- Subject to change.

Associate in Business Administration in Computerized Information Systems in Programming

Program's description

The programmer is the person who designs, writes, tests, documents and maintains the programs of a computerized system. This professional will possess the necessary skills to work with the different computer systems on the market. He must be aware of new technology. He will develop methods and practices to improve process efficiency, using computerized information systems

Admission GPA: 2.00

Graduation GPA: 2.00

Curricular Content

General Education Component - 15 credits

Course	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
MAGS 120 (I)	3	Introductory Algebra	
HUGS 101 or SOGS 201	3	World Culture I or The Human Being and Social Consciousness	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 250

Core Component- 26 credits

Course	Credits	Title	Prerequisites
ACCO 111	4	Introduction to Accounting I	
ACCO 112	4	Introduction to Accounting II	ACCO 111
COIS 201	3	Data Processing	
MANA 204	3	Business Law	
MARK 134	3	Introduction to Marketing	
FINA 202	3	Business Finance	ACCO 111
QUME 250	3	Managerial Quantitative Methods	MAGS 120 (I)
MANA 210	3	Introduction to Management	

Major Component - 21 credits

Course	Credits	Title	Prerequisites
COIS 211	3	Introduction to Programming	
COIS 112	3	Introduction to Data Base	
COIS 304	3	Hardware and Software Concepts	COIS 201
COIS 309	3	Web Page I	COIS 201
COIS 218	3	Application Development	COIS 211
COIS 425	3	Object Oriented Programming	COIS 211
COIS 313	3	Mobile Applications	COIS 211

Important Notes:

- * All students will be enrolled according to the results of the placement test or results of the College Board.
- Second-year students and above must obtain an academic evaluation with the program coordinator before completing the enrollment process.
- Students who enroll in courses from other academic programs must meet the corresponding prerequisites.
- Students transferred from other university institutions must comply with the residence policy at UAGM.
- New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
- Accredited by ACBSP in Carolina Campus and additional locations.
- Subject to change.

Associate in Business Administration in Computerized Information Systems in Graphic Design

Program's description

A program that prepares individualsto apply artistic and computer techniques to the interpretation of technical and commercial concepts. Includes instruction in computerassisted art and design, printmaking, concepts sketching, technical drawing, color theory, imaging, studio technique, still and life modeling, multimedia applications, communication skills and commercial art business operations.

Admission GPA: 2.00

Graduation GPA: 2.00

Curricular Content

General Education Component – 15 credits			
Course	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
MAGS 120 (I)	3	Introductory Algebra	
HUGS 101 or SOGS 201	3	World Culture I or The Human Being and Social Consciousness	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 152
Core Component - (16) credits			
Course	Credits	Title	Prerequisites
ACCO 111	4	Introduction to Accounting I	
MANA 210	3	Introduction to Management	
COIS 201	3	Data Processing	
ENMA 201	3	Entrepreneurship	
MARK 134	3	Introduction to Marketing	
Major Component - (24) credits			
Course	Credits	Title	Prerequisites
CSGD 100	3	Digital Photography for Graphic Designers	
CSGD 200	3	Principles of Graphic Design	
CSGD 201	3	Digital Illustration	CSGD 200
CSGD 202	3	Publish Design	CSGD 201, CSGD 203
CSGD 203	3	Image Design	CSGD 200
CSGD 210	3	Advanced Graphic Design	CSGD 202
CSGD 220	3	Portfolio	CSGD 210
WEBD 300	3	Web Animations for Graphic Designer	CSGD 201, CSGD 203

Important Notes:

- * All students will be enrolled according to the results of the placement test or results of the College Board.
- New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
- Accredited by ACBSP in Carolina Campus and additional locations.
- Subject to change.

Associate in Business Administration in Marketing

Program's description

The Associate Degree in Marketing whose purpose is to generate in the participants skills in the marketing area, which serves both for the creation of new companies and for the development of entrepreneurial initiatives that add economic and social value in various contexts, within the parameters of social responsibility, through active learning methodologies.

Admission GPA: 2.00

Graduation GPA: 2.00

Curricular Content

General Education Component - 15 credits

Course	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
MAGS 120 (I)	3	Introductory Algebra	
HUGS 101 or SOGS 201	3	World Culture I or The Human Being and Social Consciousness	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 152

Core Component- 26 credits

Course	Credits	Title	Prerequisites
ACCO 111	4	Introduction to Accounting I	
ACCO 112	4	Introduction to Accounting II	ACCO 111
COIS 201	3	Data Processing	
FINA 202	3	Business Finance	ACCO 112
MANA 204	3	Business Law	
MANA 210	3	Introduction to Management	
MARK 134	3	Introduction to Marketing	
QUME 250	3	Managerial Quantitative Methods	MAGS 120(I)

Major Component - 21 credits

Course	Credits	Title	Prerequisites
MARK 206	3	Consumer Behavior	MARK 134
MARK 320	3	Market Research	MARK 206
MARK 440	3	Strategic Marketing	MARK 206, MARK 320
MARK 322	3	E-Marketing	MARK 206
MARK 323	3	Marketing Integrated Communication	MARK 206
MARK 410	3	International Marketing	MARK 206
MARK 407	3	Marketing Analytics & Omnichannel Advertising	MARK 323

Important Notes:

- * All students will be enrolled according to the results of the placement test or results of the College Board.
- New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
- Subject to change.

Associate in Business Administration in Office Administration and Information Processing in Executive Secretary

Program's description

This program prepares students for positions in administrative support careers. Our goal is to prepare high quality professionals to respond to the demands of a dynamic computerized workplace. The courses are designed to develop proficiency in the use of integrated software, oral and written communication, analysis and coordination of office duties and systems, and other support topics. Emphasis is placed on both the technical and non –technical skills.

Admission GPA: 2.00

Graduation GPA: 2.00

Curricular Content

General Education Component - 15 credits

Course	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
MAGS 120 (I)	3	Introductory Algebra	
HUGS 101 or SOGS 201	3	World Culture I or The Human Being and Social Consciousness	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 152

Core Component- 13 credits

Course	Credits	Title	Prerequisites
ENMA 201	3	Entrepreneurship	
MANA 210	3	Introduction to Management	
ACCO 111	4	Introduction to Accounting I	
MARK 134	3	Introduction to Marketing	

Major Component - 30 credits

Course	Credits	Title	Prerequisites
OFAD 121	3	Keyboarding	
OFAD 122	3	Production of Documents I	OFAD 121
OFAD 221	3	Production of Documents II	OFAD 122
OFAD 280	3	Electronic Document Management Systems	OFAD 121 or concurrent
OFAD 282	3	Office Administration	OFAD 121
OFAD 300	3	Commercial Writing Direct to the Computer	OFAD 221 or concurrent
OFAD 306	3	Integration of Office Technologies Applications I	OFAD 122
OFAD 323	3	Integration of Office Technologies Applications II	OFAD 122
OFAD 422	3	Simulated Office	OFAD 221, 306, 323 or concurrent
OFAD 482	3	Office Practicum	OFAD 422 or concurrent

Important Notes:

- * All students will be enrolled according to the results of the placement test or results of the College Board.
- New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
- Subject to change.

Associate in Business Administration in Entrepreneurship

Program's description

The Entrepreneurship program develops professionals who are trained and committed to the development of a new business class in the country. The graduate will be exposed to the fundamental's aspects of entrepreneurial management so that he or she can consider the start and development of a company as a real alternative for self-employment.

Admission GPA: 2.00

Graduation GPA: 2.00

Curricular Content

General Education Component - 15 credits

Course	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
MAGS 120 (I)	3	Introductory Algebra	
HUGS 101 or SOGS 201	3	World Culture I or The Human Being and Social Consciousness	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 152

Core Component- 26 credits

Course	Credits	Title	Prerequisites
ACCO 111	4	Introduction to Accounting I	
ACCO 112	4	Introduction to Accounting II	ACCO 111
MARK 134	3	Introduction to Marketing	
COIS 201	3	Data Processing	
QUME 250	3	Managerial Quantitative Methods	MAGS 120(I)
FINA 202	3	Business Finance	ACCO 112
MANA 210	3	Introduction to Management	
MANA 204	3	Business Law	

Major Component - 25 credits

Course	Credits	Title	Prerequisites
ENMA 201	3	Entrepreneurship	
ENMA 300	3	Entrepreneurial Innovation	ENMA 201
MARK 206	3	Consumer Behavior	MARK 134
ENMA 400	4	Business Financial Planning	ACCO 111, ACCO 112, FINA 202
ENMA 307	3	Corporate Social Responsibility	MANA 204, ENMA 201, ENMA 300
MARK 322 or MANA 213	3	E-Marketing or Human Resources Management	MARK 206 MANA 210
ENMA 310	3	Franchise, Strategic Alliances and Family Business	ENMA 201
ENMA 407	3	Legal, Tax and Environmental Responsibility	MANA 204, ENMA 201, ENMA 300

Important Notes:

- * All students will be enrolled according to the results of the placement test or results of the College Board.
- New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
- Subject to change.

Bachelor in Business Administration major in Office Technology Management

Program's description

This program provides fundamental information for students and the knowledge of Microsoft applications that is required in the employment market and for management competence. Graduates will be able to develop and design electronic publications and commercial pages on a network. They will also be able to work with portal workflow management to design, develop and maintain virtual projects. This program is unique, as it includes management courses and end-user office technology.

Admission GPA: 2.00

Graduation GPA: 2.00

Curricular Content

General Education Component - 36 credits

Course	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
MAGS 120 (I)	3	Introductory Algebra	
ENGS 153	3	Fundamentals of Speaking, Reading and Writing English II	ENGS 152*
SCGS 200	3	Science, Technology and Society	
HIGS 201	3	Puerto Rico History and Culture	
HUGS 101	3	World Culture I	
SPGS 250	3	Writing Techniques	SPGS 152*
SOGS 201	3	The Human Being and Social Consciousness	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 250
SOGS 202	3	State-Government and the Human Being	SOGS 201
HUGS 102	3	World Culture II	HUGS 101

Core Component- 50 credits

Course	Credits	Title	Prerequisites
ACCO 111	4	Introduction to Accounting I	
ACCO 112	4	Introduction to Accounting II	ACCO 111
MARK 134	3	Introduction to Marketing	
COIS 201	3	Data Processing	
ENMA 201	3	Entrepreneurship	
STAT 201	3	Statistics	QUME 250
FINA 202	3	Business Finance	ACCO 112
MANA 213	3	Human Resources Management	MANA 210
MANA 210	3	Introduction to Management	
MANA 204	3	Business Law	
QUME 250	3	Managerial Quantitative Methods	MAGS 120 (I)
MANA 340	3	Operations Management	QUME 250, MANA 210
COIS 223	3	Technology Management	COIS 201
INBU 350	3	International Business	
ECON 402	3	Management Economy	
BUSI 499	3	Business Simulation	18 core credits approved

Major Component - 36 credits

Course	Credits	Title	Prerequisites
OTEM 201	3	Information Technology	
OTEM 202	3	End-User Solutions	OTEM 201
OTEM 303	3	Introduction to Database Management	OTEM 201
OTEM 310	3	Office Information Management	
OTEM 404	3	Training and Development in Office Technology Management	
OTEM 405	3	Integrated Applications	OTEM 202, OTEM 303

Directed Electives (Student must choose 3 courses)

Electronic Publications - 9 credits

OTEM 401	3	Document Publishing	OTEM 405
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Course	Credits	Title	Prerequisites
OTEM 402	3	Web Based Document Publishing	OTEM 401
OTEM 410	3	End-User Project	OTEM 402
Electronic Content Management- 9 credits			
OTEM 415	3	Portal Workflow Management	OTEM 405
OTEM 416	3	Electronic Document Management	OTEM 415
OTEM 420	3	End-User Project Electronic Content Management	OTEM 416
Training for “Microsoft Office User Specialist” (MOUS)- 9 credits			
OTEM 425	3	Microsoft Word and Power Point	OTEM 405
OTEM 426		Microsoft Excel and Access	OTEM 405
OTEM 427	3	End-User Project (MOUS)	OTEM 425, OTEM 426

Important Notes:

1. *All students will be enrolled according to the results of the placement test or results of the *College Board*.
2. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
3. Subject to change.

DEPARTMENT OF TOURISM AND CULINARY ARTS
Associate of Science in Tourism and Hospitality Management in Hotel Management
Program's description

This academic program is designed to prepare students for entry-level managerial positions in the hospitality industry. The curriculum places heavy reliance on experience acquired through a 350-hour Internship in a lodging property. Students who achieve outstanding records may, upon completing this program, apply for admission to the bachelor's degree major in our School.

Admission GPA: 2.00

Graduation GPA: 2.00

Curricular Content
General Education Component - 15 credits

Course	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
MAGS 120 (I)	3	Introductory Algebra	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 152
HUGS 101 or SOGS 201	3	World Culture I or The Human Being and Social Consciousness	

Core Component- 30 credits

Course	Credits	Title	Prerequisites
HMNG 101	3	Introduction to Hospitality Industry	
HMNG 202	3	Food and Beverage Management and Menu Development	MAGS 120(I)
HMNG 207	3	Basic Wines, Beers, and Spirits	HMNG 101 or CHEF 116
HMNG 211	3	Hospitality Ethics	HMNG 101 or CHEF 116
HMNG 259	3	Hospitality Accounting	MAGS 120(I)
HMNG 281	3	Guest Service Experience	
HMNG 291	3	Technological Application for the Tourism Industry	HMNG 101
HMNG 347	3	Hospitality Human Resources Management	
HMNG 370	3	Hospitality Sales and Marketing	
HMNG 375	3	Social Media and Content Design	HMNG 370

Major Component - 15 credits

Course	Credits	Title	Prerequisites
HMHM 302	3	Introduction to Hotel Lodging Management	HMNG 101
HMHM 305	3	Hotel Operations-Front Desk and Housekeeping	HMHM 302
HMHM 303	3	Hospitality Facilities Management and Hotel Design	HMHM 305
HMHM 306	3	Casino Operations Management	HMNG 101
HMHM 390	3	Practicum in Hotel Management	HMHM 305

Important Notes:

- * All students will be enrolled according to the results of the placement test or results of the College Board.
- +Includes laboratory.
- Minimum Major GPA 2.50.
- The core, concentration and practice courses must be passed with a minimum of C.
- Second-year students and above must obtain an academic evaluation with the program coordinator before completing the enrollment process.
- Students who enroll in courses from other programs must meet the corresponding prerequisites.
- It is required to have the current ServSafe Manager Certification vigente (3 years or less) before starting the practices.
- Students transferred from other university institutions must comply with the policy of residence and academic progress at UAGM.
- New students, without previous university experience, are required to take the Student Induction and

Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.

10. Subject to change.

Associate of Science in Culinary Arts

Program's description

The associate degree program of Science in Culinary Arts combines a supervisory base with professional courses, Garde Manger, Baking and Pastry, Cooking Methods and International Cuisine. Emphasis is placed on hands-on practice and the development of specialized skills for work in the field. This program offers options that prepare the student for advancement into entry-level management positions. A Practicum experience is required in a restaurant, convention centers or hotel setting.

Admission GPA: 2.00

Graduation GPA: 2.00

Curricular Content

General Education Component – 15 credits

Course	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
MAGS 120 (I)	3	Introductory Algebra	
HUGS 101 or	3	World Culture I or	
SOGS 201		The Human Being and Social Consciousness	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 152

Core Component-15 credits

Course	Credits	Title	Prerequisites
HMNG 202	3	Food and Beverage Management and Menu Development	MAGS 120 (I)
HMNG 207	3	Basics of Wines, Beers and Spirits	CHEF 116
HMNG 211	3	Hospitality Ethics	CHEF 116
HMNG 347	3	Hospitality Human Resources Management	
HMNG 351	3	Purchasing and Cost Control	HMNG 202

Major Component - 31 credits

Course	Credits	Title	Prerequisites
CHEF 105+	3	Culinary Skills & Sauces	CHEF 116 (in progress)
CHEF 107+	6	Cooking Methods & Techniques	CHEF 116, CHEF 105+
CHEF 116	3	Culinary Arts Basic Concepts	
CHEF 200+	3	Introduction to Baking	CHEF 107+
CHEF 202+	3	Garde Manger	CHEF 107+
CHEF 204+	3	Culinary Nutrition	CHEF 202+
CHEF 206+	3	Advance Baking, Pastries and Plated Desserts	CHEF 200+
CHEF 213+	3	International Cuisine	CHEF 202+
CHEF 214 +	3	Regional and Seasonal Puerto Rican and Caribbean Cuisine	CHEF 202+
CHEP 231 or CAIA 301	1	Culinary Practicum (350 hours) or Culinary Arts Internship Abroad	CHEF 213+, CHEF 214+

Important Notes:

- * All students will be enrolled according to the results of the placement test or results of the College Board.
- +Includes laboratory.
- Major GPA 2.50.
- The core, concentration and practice courses must be passed with a minimum of C.
- Students who enroll in courses from other programs must meet the corresponding prerequisites.
- Second-year students and above must obtain an academic evaluation with the program coordinator before completing the enrollment process.
- It is required to have the current ServSafe Manager Certification vigente (3 years or less) before starting the practices.
- Students transferred from other university institutions must comply with the policy of residence and academic progress at UAGM.
- New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
- Accredited by American Culinary Federation (ACFEF).
- Subject to change.

Associate Degree in Commercial Baking and Pastry

Program's description

In the Associate Degree in Commercial Bakery and Pastry Science, students will learn about the basic managerial and operational issues of a bakery and pastry business. In addition, you will have a hands-on approach to making local and international bakery and pastry products targeting different areas of the food industry. Students will acquire the knowledge and skills necessary to begin or continue their professional careers in establishments such as bakeries, pastry shops within establishments such as hotels, restaurants and hospitals, among other sectors of the food industry, or establish their own business. Through the courses of the professional component, the students will elaborate products related to the topics of making breads, desserts for plating, Puerto Rican and Caribbean desserts, chocolate and sugar, celebration cakes, and nutritional desserts. This program incorporates 200 hours of internships in the food sector in Puerto Rico or the United States that integrate the concept of bakery and pastry as part of their operational tasks. Upon completing this associate degree, the student will be able to request and continue their studies in the Bachelor of Culinary Management where they will expand their culinary knowledge and be able to work in various operations within the food field or establish their own business.

Admission GPA: 2.00

Graduation GPA: 2.00

Curricular Content

General Education Component – 15 credits

Course	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
MAGS 120 (I)	3	Introductory Algebra	
HUGS 101 or SOGS 201	3	World Culture I or The Human Being and Social Consciousness	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 152

Core Component-21 credits

Course	Credits	Title	Prerequisites
HMNG 202	3	Food and Beverage Management and Menu Development	MAGS 120 (I)
HMNG 259	3	Hospitality Accounting	MAGS 120 (I)
HMNG 281	3	Guest Service Experience	
HMNG 347	3	Hospitality Human Resources Management	
HMNG 370	3	Hospitality Sales and Marketing	
HMNG 351	3	Purchasing and Cost Control	HMNG 202
HMNG 381	3	Hospitality Business Development & Entrepreneurship	HMNG 370

Major Component - 28 credits

Course	Credits	Title	Prerequisites
CHEF 106	3	Introduction to Baking and Pastry (theory)	
CHEF 108+	3	Breads and Doughs (lab)	CHEF 106 (en progreso)
CHEF 109+	3	Artisan Breads (lab)	CHEF 108 +
CHEF 201+	3	Pâtisserie I (lab)	CHEF 106
CHEF 209+	3	Regional Puerto Rican and Caribbean Desserts (lab)	CHEF 201+
CHEF 205+	3	Pâtisserie II (lab)	CHEF 201+
CHEF 207+	3	Cakes: Preparation and Decoration (lab)	CHEF 201+
CHEF 208+	3	Chocolate and Sugar (lab)	CHEF 205+
CHEF 300 +	3	Desserts for Special Diets (lab)	CHEF 205+
CHEF 301 or CBIA 300	1	Baking and Pastry Practicum (200 hours) or Commercial Baking Internship Abroad	CHEF 108+, CHEF 109+, CHEF 205+, CHEF 207+

Important Notes:

- *All students will be enrolled according to the results of the placement test or results of the College Board.
- + Includes laboratory.

3. Major GPA 2.50.
4. All general education courses must be passed with a minimum of D. Practice courses must be passed with a minimum grade of C.
5. Second-year students and above must obtain an academic evaluation with the program coordinator before completing the enrollment process.
6. Students who enroll in courses from other programs must meet the corresponding prerequisites.
7. Students transferred from other university institutions must comply with the policy of residence and academic progress at UAGM
8. It is required to have the current ServSafe Manager Certification vigente (3 years or less) before starting the practices.
9. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
10. Subject to change.

Bachelor in Business Administration major in Management

Program's description

The principal goal of this major is to enable students to occupy different administrative positions in commercial and industrial companies, government agencies, and nonprofit organizations. Among courses included in the program are: accounting for decision-making, administration of human resources, labor legislation, supervision, management of operations and managerial strategies. In addition, students can select courses in areas such as: administration of small businesses, real estate, government and business, principles of insurance and development of companies.

Admission GPA: 2.00 (See admission requirements for accelerated adult program.)

Graduation GPA: 2.00

Curricular Content

General Education Component - 36 credits			
Course	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
MAGS 120 (I)	3	Introductory Algebra	
ENGS 153	3	Fundamentals of Speaking, Reading and Writing English II	ENGS 152*
SCGS 200	3	Science, Technology and Society	
HIGS 201	3	Puerto Rico History and Culture	
HUGS 101	3	World Culture I	
SPGS 250	3	Writing Techniques	SPGS 152*
SOGS 201	3	The Human Being and Social Consciousness	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 250
SOGS 202	3	State-Government and the Human Being	SOGS 201
HUGS 102	3	World Culture II	HUGS 101
Core Component- 50 credits			
Course	Credits	Title	Prerequisites
ACCO 111	4	Introduction to Accounting I	
ACCO 112	4	Introduction to Accounting II	ACCO 111
MARK 134	3	Introduction to Marketing	
COIS 201	3	Data Processing	
ENMA 201	3	Entrepreneurship	
STAT 201	3	Statistics	QUME 250
FINA 202	3	Business Finance	ACCO 112
MANA 210	3	Introduction to Management	
MANA 213	3	Human Resources Management	MANA 210
MANA 204	3	Business Law	
QUME 250	3	Managerial Quantitative Methods	MAGS 120 (I)
MANA 340	3	Operations Management	QUME 250, MANA 210
COIS 223	3	Technology Management	COIS 201
INBU 350	3	International Business	
ECON 402	3	Management Economy	
BUSI 499	3	Business Simulation	18 core credits approved
Major Component - 27 credits			
Course	Credits	Title	Prerequisites
MANA 321	3	Leadership and Supervision	
MANA 230	3	Organizational Behavior	
MANA 433	3	Data Analysis and Projections for Decision	QUME 250
MANA 322	3	Management Services	MANA 210
MANA 316	3	Small Business Administration	
MANA 405	3	International Management	MANA 210, INBU 350
MANA 435	3	Supply Chain Management	MANA 340 approved or concurrent

Course	Credits	Title	Prerequisites
ENMA 300	3	Entrepreneurial Innovation	ENMA 201
MANA 401	3	Enterprise Strategy	FINA 202, MARK 134 y 12 credits approved from the core component

Directed Electives - 6 credits

Course	Credits	Title	Prerequisites
ENMA 310	3	Franchise, Strategic Alliances and Family Business	ENMA 201
MANA 131	3	Relaciones Humanas en el Comercio	
MANA 404	3	Relaciones Laborales	MANA 213
MARK 322	3	E-Marketing	MARK 206
MANA 482	3	Business Work Experience Practicum	BUSI 499 approved or concurrent

Important Notes:

1. * All students will be enrolled according to the results of the placement test or results of the College Board.
2. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
3. Accredited by ACBSP in Carolina Campus and Cupey Campus including additional locations in regular modality.
4. Accredited by AACSB only in Gurabo Campus in regular modality.
5. Subject to change.

Bachelor in Business Administration major in Marketing

Program's description

This major promotes technical competition and the development of skills to carry out market research, to prepare business plans, sales projections and promotional campaigns. The graduate can work in advertising agencies, public relations firms, market research firms and sales departments in diverse companies.

Admission GPA: 2.00 (See admission requirements for accelerated adult program.)

Graduation GPA: 2.00

Curricular Content

General Education Component - 36 credits			
Course	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
MAGS 120 (I)	3	Introductory Algebra	
ENGS 153	3	Fundamentals of Speaking, Reading and Writing English II	ENGS 152*
SCGS 200	3	Science, Technology and Society	
HIGS 201	3	Puerto Rico History and Culture	
HUGS 101	3	World Culture I	
SPGS 250	3	Writing Techniques	SPGS 152*
SOGS 201	3	The Human Being and Social Consciousness	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 250
SOGS 202	3	State-Government and the Human Being	SOGS 201
HUGS 102	3	World Culture II	HUGS 101
Core Component- 50 credits			
Course	Credits	Title	Prerequisites
ACCO 111	4	Introduction to Accounting I	
ACCO 112	4	Introduction to Accounting II	ACCO 111
MARK 134	3	Introduction to Marketing	
COIS 201	3	Data Processing	
ENMA 201	3	Entrepreneurship	
STAT 201	3	Statistics	QUME 250
FINA 202	3	Business Finance	ACCO 112
MANA 213	3	Human Resources Management	MANA 210
MANA 210	3	Introduction to Management	
MANA 204	3	Business Law	
QUME 250	3	Managerial Quantitative Methods	MAGS 120 (I)
MANA 340	3	Operations Management	QUME 250, MANA 210
COIS 223	3	Technology Management	COIS 201
INBU 350	3	International Business	
ECON 402	3	Management Economy	
BUSI 499	3	Business Simulation	18 core credits approved
Major Component - 24 credits			
Course	Credits	Title	Prerequisites
MARK 206	3	Consumer Behavior	MARK 134
MARK 320	3	Market Research	STAT 201, MARK 206
MARK 440	3	Strategic Marketing	MARK 206, MARK 320
MARK 322	3	E-Marketing	MARK 206
MARK 323	3	Marketing Integrated Communication	MARK 206
MARK 410	3	Marketing Internacional	MARK 206
MARK 407	3	Marketing Analytics & Omnichannel Advertising	MARK 323
MARK 421	3	Product and Brand Management	MARK 206

Directed Electives - 12 credits**

Course	Credits	Title	Prerequisites
MARK 400	3	Service Marketing	MARK 206
MARK 330	3	Retail	MARK 308
MARK 220	3	Social Mark for Non-Profit	MARK 206
MARK 308	3	Sales	MARK 206
MANA 482	3	Business Work Experience Practicum	BUSI 499 approved or concurrent

Important Notes:

1. *All students will be enrolled according to the results of the placement test or results of the *College Board*.
2. **The student will select 12 credits from the directed electives component.
3. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
4. Accredited by ACBSP in Carolina Campus and Cupey Campus including additional locatiosn in regular modality.
5. Accredited by AACSB only in Gurabo Campus y regular modality.
6. Subject to change.

Bachelor in Business Administration major in Accounting

Program's description

This major prepares the student in diverse aspects of accounting, such as the preparation of financial statements, analysis of costs, taxes, auditing, and principles of accounting posting. The student has the opportunity to take additional courses in the following areas: tax systems of Puerto Rico, federal taxes, computerized information systems of accounting, as well as accounting for government and nonprofit organizations.

Admission GPA: 2.00 (See admission requirements for accelerated adult program.)

Graduation GPA: 2.00

Curricular Content

General Education Component - 36 credits			
Course	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
MAGS 120 (I)	3	Introductory Algebra	
ENGS 153	3	Fundamentals of Speaking, Reading and Writing English II	ENGS 152*
SCGS 200	3	Science, Technology and Society	
HIGS 201	3	Puerto Rico History and Culture	
HUGS 101	3	World Culture I	
SPGS 250	3	Writing Techniques	SPGS 152*
SOGS 201	3	The Human Being and Social Consciousness	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 250
SOGS 202	3	State-Government and the Human Being	SOGS 201
HUGS 102	3	World Culture II	HUGS 101
Core Component- 50 credits			
Course	Credits	Title	Prerequisites
ACCO 111	4	Introduction to Accounting I	
ACCO 112	4	Introduction to Accounting II	ACCO 111
MARK 134	3	Introduction to Marketing	
COIS 201	3	Data Processing	
ENMA 201	3	Entrepreneurship	
STAT 201	3	Statistics	QUME 250
FINA 202	3	Business Finance	ACCO 112
MANA 213	3	Human Resources Management	MANA 210
MANA 210	3	Introduction to Management	
MANA 204	3	Business Law	
QUME 250	3	Managerial Quantitative Methods	MAGS 120 (I)
MANA 340	3	Operations Management	QUME 250, MANA 210
COIS 223	3	Technology Management	COIS 201
INBU 350	3	International Business	
ECON 402	3	Management Economy	
BUSI 499	3	Business Simulation	18 core credits approved
Major Component - 29 credits			
Course	Credits	Title	Prerequisites
ACCO 201	4	Intermediate Accounting I	ACCO 112
ACCO 202	4	Intermediate Accounting II	ACCO 112, ACCO 201
ACCO 315	3	Intermediate Accounting III	ACCO 202
ACCO 203	3	Cost Accounting	ACCO 112, ACCO 202
ACCO 304	3	Auditing	ACCO 202
ACCO 205	3	Taxes of Puerto Rico	ACCO 112
ACCO 350	3	Computerized Accounting	ACCO 112
ACCO 450	3	Advancing Accounting & Fund	ACCO 315
ACCO 320	3	Federal Taxes	

Directed Electives - 6 credits

Course	Credits	Title	Prerequisites
ACCO 297	3	Funds Accounting	ACCO 112
ACCO 295	3	Managerial Accounting	ACCO 112
ACCO 307	3	Fund Audit	ACCO 112
ACCO 310	3	Forensic Accounting	ACCO 112
ACCO 321	3	Federal Contributions II, Corporations	ACCO 112
ACCO 405	3	Puerto Rico Taxes II	ACCO 112
MANA 482	3	Business Work Experience Practicum	BUSI 499 approved or concurrent

Important Notes:

1. *All students will be enrolled according to the results of the placement test or results of the *College Board*.
2. ** The student must select six (6) credits from the directed electives component.
3. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
4. Accredited by ACBSP in Carolina Campus and Cupey Campus including additional locations in regular modality.
5. Accredited by AACSB only in Gurabo Campus in regular modality.
6. Subject to change.

Bachelor in Business Administration major in Computerized Information Systems

Program's description

The courses in this major offer student the technical knowledge required to become qualified in the field of programming, as well as in the analysis and development of computer applications. Systems analysis and design, handling of applications in databases, and development of applications using a variety of equipment and computer systems are essential requirements of this specialty. Courses related to auditing and security of systems, telecommunications and networks of microcomputers, programming by objects, programs of productivity and information systems for decision-making are also offered. Upon graduation the student will be prepared to work in organizations and companies that use different computerized systems in their operations.

Admission GPA: 2.00 (See admission requirements for accelerated adult program.)

Graduation GPA: 2.00

Curricular Content

General Education Component - 36 credits

Course	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
MAGS 120 (I)	3	Introductory Algebra	
ENGS 153	3	Fundamentals of Speaking, Reading and Writing English II	ENGS 152*
SCGS 200	3	Science, Technology and Society	
HIGS 201	3	Puerto Rico History and Culture	
HUGS 101	3	World Culture I	
SPGS 250	3	Writing Techniques	SPGS 152*
SOGS 201	3	The Human Being and Social Consciousness	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 250
SOGS 202	3	State-Government and the Human Being	SOGS 201
HUGS 102	3	World Culture II	HUGS 101

Core Component- 50 credits

Course	Credits	Title	Prerequisites
ACCO 111	4	Introduction to Accounting I	
ACCO 112	4	Introduction to Accounting II	ACCO 111
MARK 134	3	Introduction to Marketing	
COIS 201	3	Data Processing	
ENMA 201	3	Entrepreneurship	
STAT 201	3	Statistics	QUME 250
FINA 202	3	Business Finance	ACCO 112
MANA 213	3	Human Resources Management	MANA 210
MANA 210	3	Introduction to Management	
MANA 204	3	Business Law	
QUME 250	3	Managerial Quantitative Methods	MAGS 120 (I)
MANA 340	3	Operations Management	QUME 250, MANA 210
COIS 223	3	Technology Management	COIS 201
INBU 350	3	International Business	
ECON 402	3	Management Economy	
BUSI 499	3	Business Simulation	18 core credits approved

Major Component - 27 credits

Course	Credits	Title	Prerequisites
COIS 211	3	Introduction to Programming	
COIS 218	3	Application Development	COIS 211
COIS 112	3	Introduction to Data Base	
COIS 425	3	Object Oriented Programming	COIS 211
COIS 309	3	Web Page I	COIS 201
COIS 313	3	Mobile Applications	COIS 211
COIS 304	3	Hardware and Software Concepts	COIS 201

Course	Credits	Title	Prerequisites
COIS 320	3	Analysis System Design	COIS 211, 218, 112
COIS 412	3	Network Technology	COIS 201
Directed Electives - 9 credits			
Course	Credits	Title	Prerequisites
COIS 310	3	Web Page II	COIS 309
COIS 217	3	Database	COIS 112
COIS 408	3	Emerging Technology	COIS 201, COIS 211
COIS 311	3	Software Validation	COIS 201
COIS 440	3	E-Commerce Virtual Store Simulation	COIS 201
MANA 482	3	Business Work Experience Practicum	BUSI 499 approved or concurrent

Important Notes:

1. *All students will be enrolled according to the results of the placement test or results of the *College Board*.
2. **The student must select 9 credits from the directed electives component.
3. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
4. Accredited by ACBSP Carolina Campus and Cupey Campus including additional locations in regular modality.
5. Accredited by AACSB only in Gurabo Campus in regular modality.
6. Subject to change.

Bachelor in Business Administration major in Administrative Secretary

Program's description

The office administrator performs a variety of administrative work that includes organizing activities, meetings, and decision-making. She prepares financial data and reports, trains and supervises support staff, and interacts effectively with clients. The graduate will be trained in the applications of computerized programs and will be able to work with highly sophisticated office equipment.

Admission GPA: 2.00 (See admission requirements for accelerated adult program.)

Graduation GPA: 2.00

Curricular Content

General Education Component - 36 credits

Course	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
MAGS 120 (I)	3	Introductory Algebra	
ENGS 153	3	Fundamentals of Speaking, Reading and Writing English II	ENGS 152*
SCGS 200	3	Science, Technology and Society	
HIGS 201	3	Puerto Rico History and Culture	
HUGS 101	3	World Culture I	
SPGS 250	3	Writing Techniques	SPGS 152*
SOGS 201	3	The Human Being and Social Consciousness	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 250
SOGS 202	3	State-Government and the Human Being	SOGS 201
HUGS 102	3	World Culture II	HUGS 101

Core Component- 50 credits

Course	Credits	Title	Prerequisites
ACCO 111	4	Introduction to Accounting I	
ACCO 112	4	Introduction to Accounting II	ACCO 111
MARK 134	3	Introduction to Marketing	
COIS 201	3	Data Processing	
ENMA 201	3	Entrepreneurship	
STAT 201	3	Statistics	QUME 250
FINA 202	3	Business Finance	ACCO 112
MANA 213	3	Human Resources Management	MANA 210
MANA 210	3	Introduction to Management	
MANA 204	3	Business Law	
QUME 250	3	Managerial Quantitative Methods	MAGS 120 (I)
MANA 340	3	Operations Management	QUME 250, MANA 210
COIS 223	3	Technology Management	COIS 201
INBU 350	3	International Business	
ECON 402	3	Management Economy	
BUSI 499	3	Business Simulation	18 core credits approved

Major Component - 36 credits

Course	Credits	Title	Prerequisites
OFAD 121	3	Keyboarding	
OFAD 122	3	Production of Documents I	OFAD 121
OFAD 221	3	Production of Documents II	OFAD 122
OFAD 280	3	Electronic Document Management Systems	OFAD 121 or concurrent
OFAD 291	3	Current Office Procedures and Introduction to Telecommunications	OFAD 122
OFAD 300	3	Commercial Writing Direct to the Computer	OFAD 221
OFAD 306	3	Integration of Office Technologies Applications I	OFAD 122
OFAD 323	3	Integration of Office Technologies Applications II	OFAD 122

Course	Credits	Title	Prerequisites
OFAD 422	3	Simulated Office	OFAD 221, OFAD 323 or concurrent
OFAD 424	3	Development and Planning Professional Training	OFAD 306
OFAD 282	3	Office Administration	OFAD 221
OFAD 382	3	Practicum Internship and Seminar	OFAD 221, 280, 291 and 12 approved credits from the core component

Important Notes:

4. *All students will be enrolled according to the results of the placement test or results of the *College Board*.
5. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
6. Accredited by ACBSP Carolina Campus and Cupey Campus including additional locations in regular modality.
7. Subject to change.

Bachelor in Business Administration in Information Systems major in Network Administration

Program's description

The Network Administration program is aligned with the business platform in and outside of Puerto Rico. The degree will provide an entrepreneurial approach that will provide occupational opportunities in the telecommunications and networks industry entrepreneur, Information Systems and Networks coordinator, local Networks administrator, IT director, Satellite Antenna Installer specialist, Information Systems specialist and Cabling and Technical Coordinator of Security Systems, among other options.

Admission GPA: 2.00

Graduation GPA: 2.00

Curricular Content

General Education Component - 36 credits

Course	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
MAGS 120 (I)	3	Introductory Algebra	
ENGS 153	3	Fundamentals of Speaking, Reading and Writing English II	ENGS 152*
SCGS 200	3	Science, Technology and Society	
HIGS 201	3	Puerto Rico History and Culture	
HUGS 101	3	World Culture I	
SPGS 250	3	Writing Techniques	SPGS 152*
SOGS 201	3	The Human Being and Social Consciousness	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 250
SOGS 202	3	State-Government and the Human Being	SOGS 201
HUGS 102	3	World Culture II	HUGS 101

Core Component- 53 credits

Course	Credits	Title	Prerequisites
ACCO 111	4	Introduction to Accounting I	
ACCO 112	4	Introduction to Accounting II	ACCO 111
MARK 134	3	Introduction to Marketing	
COIS 201	3	Data Processing	
ENMA 201	3	Entrepreneurship	
STAT 201	3	Statistics	QUME 250
FINA 202	3	Business Finance	ACCO 112
MANA 213	3	Human Resources Management	MANA 210
MANA 210	3	Introduction to Management	
MANA 204	3	Business Law	
QUME 250	3	Managerial Quantitative Methods	MAGS 120 (I)
MANA 340	3	Operations Management	QUME 250, MANA 210
COIS 223	3	Technology Management	COIS 201
INBU 350	3	International Business	
ECON 402	3	Management Economy	
BUSI 499	3	Business Simulation	18 core credits approved
MANA 482	3	Business Work Experience Practicum	

Major Component - 30 credits

Course	Credits	Title	Prerequisites
COIS 211	3	Introduction to Programming	
COIS 393	3	Sistemas Operativos	
COIS 320	3	Analysis System Design	
CSST 203	3	PC Troubleshooting and Maintenance	
CSST 304	3	Introduction to Networks	CSST 203
CSST 310	3	Network Hardware Installation & Maintenance	CSST 304
CSST 315	3	LAN Administration	CSST 310

Course	Credits	Title	Prerequisites
CSST 320	3	Disaster Recovery	CSST 310
CSST 410	3	Network Protocols	CSST 310
CSST 423	3	Information Security	CSST 310

Directed Electives - 3 credits

Course	Credits	Title	Prerequisites
COIS 112	3	Introduction to Data Base	
COIS 304	3	Hardware and Software Concepts	COIS 201
COIS 311	3	Software Validation	COIS 201
COIS 408	3	Emerging Technology	COIS 201, COIS 211
COIS 440	3	E-Commerce Virtual Store Simulation	COIS 201

Important Notes:

1. * All students will be enrolled according to the results of the placement test or results of the College Board.
2. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
3. Accredited by ACBSP Carolina Campus and Cupey Campus including additional locations in regular modality.
4. Subject to change.

Bachelor in Business Administration major in Graphic Design

Program's description

The Baccalaureate (Undergraduate or Bachelor) in Design with a concentration in Graphic Design prepares the student to work as a graphic designer, who will master the language of design, both in its visual and non-visual dimensions, and will face new physical, technological, social and cultural worlds. Graduates of the Graphic Design bachelor's program will be trained to properly judge the quality and effectiveness of design projects through rigorous use of current thinking in the field of design. As a graphic designer, you can be: Creative Director, Package Designer, Textile Designer, Corporate Identity Designer, Brand Designer, Advertising Designer, Art Director, and Print Director.

Admission GPA: 2.00 (See admission requirements for accelerated adult program.)

Graduation GPA: 2.00

Curricular Content

General Education Component - 36 credits

Course	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
MAGS 120 (I)	3	Introductory Algebra	
ENGS 153	3	Fundamentals of Speaking, Reading and Writing English II	ENGS 152*
SCGS 200	3	Science, Technology and Society	
HIGS 201	3	Puerto Rico History and Culture	
HUGS 101	3	World Culture I	
SPGS 250	3	Writing Techniques	SPGS 152*
SOGS 201	3	The Human Being and Social Consciousness	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 250
SOGS 202	3	State-Government and the Human Being	SOGS 201
HUGS 102	3	World Culture II	HUGS 101

Core Component- 53 credits

Course	Credits	Title	Prerequisites
ACCO 111	4	Introduction to Accounting I	
ACCO 112	4	Introduction to Accounting II	ACCO 111
MARK 134	3	Introduction to Marketing	
COIS 201	3	Data Processing	
ENMA 201	3	Entrepreneurship	
STAT 201	3	Statistics	QUME 250
FINA 202	3	Business Finance	ACCO 112
MANA 213	3	Human Resources Management	MANA 210
MANA 210	3	Introduction to Management	
MANA 204	3	Business Law	
QUME 250	3	Managerial Quantitative Methods	MAGS 120 (I)
MANA 340	3	Operations Management	QUME 250, MANA 210
COIS 223	3	Technology Management	
INBU 350	3	International Business	
ECON 402	3	Management Economy	
BUSI 499	3	Business Simulation	18 core credits approved
CSGD 482	3	Applied Practice to Graphic Design	CSGD 200, CSGD 351, WEBD 316, TDGD 330

Major Component - 33 credits

Course	Credits	Title	Prerequisites
COMM 420	3	Production and Post-Production of Digital Video	CSGD 200
CSGD 200	3	Principles of Graphic Design	
CSGD 201	3	Digital Illustration	CSGD 200
CSGD 202	3	Publish Design	CSGD 201, CSGD 203
CSGD 203	3	Image Design	CSGD 200

Course	Credits	Title	Prerequisites
CSGD 210	3	Advanced Graphic Design	CSGD 202
CSGD 420	3	Portfolio	CSGD 210
CSGD 351	3	Promotion and Advertising Design	CSGD 200, CSGD 202, WEBD 316, COMM 420
TDGD 330	3	3D Modeling and Animation	CSGD 201, CSGD 203, COMM 420
WEBD 300	3	Web Animation and Graphic Designers	CSGD 201, CSGD 203
WEBD 316	3	Web Design for Graphic Designer	WEBD 300

Important Notes:

1. * All students will be enrolled according to the results of the placement test or results of the College Board.
2. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
3. Subject to change.

Bachelor in Business Administration major in Finance and Economics

Program's description

The Baccalaureate (Undergraduate or Bachelor) in Business Administration with a concentration in Finance and Economics prepares a professional with knowledge of the financial operations of companies and local and international economic systems who can work in private, public and self-employed companies.

Admission GPA: 2.00 (See admission requirements for accelerated adult program.)

Graduation GPA: 2.00

Curricular Content

General Education Component - 36 credits			
Course	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
MAGS 120 (I)	3	Introduction to Algebra	
ENGS 153	3	Fundamentals of Speaking, Reading and Writing English II	ENGS 152*
SCGS 200	3	Science, Technology and Society	
HIGS 201	3	Puerto Rico History and Culture	
HUGS 101	3	World Culture II	HUGS 101
HUGS 102	3	World Culture I	
SPGS 250	3	Writing Techniques	SPGS 152*
SOGS 201	3	The Human Being and Social Consciousness	
SOGS 202	3	State-Government and the Human Being	SOGS 201
INGS 201	3	Introduction to Information Literacy and Research	SPGS 250
Core Component- 50 credits			
Course	Credits	Title	Prerequisites
ACCO 111	4	Introduction to Accounting I	
ACCO 112	4	Introduction to Accounting II	ACCO 111
MARK 134	3	Introduction to Marketing	
COIS 201	3	Data Processing	
ENMA 201	3	Entrepreneurship	
STAT 201	3	Statistics	QUME 250
FINA 202	3	Business Finance	ACCO 112
MANA 213	3	Human Resources Management	MANA 210
MANA 210	3	Introduction to Management	
MANA 204	3	Business Law	
QUME 250	3	Managerial Quantitative Methods	MAGS 120 (I)
MANA 340	3	Operations Management	QUME 250, MANA 210
COIS 223	3	Technology Management	
INBU 350	3	International Business	
ECON 402	3	Management Economy	
BUSI 499	3	Business Simulation	18 core credits approved
Major Component - 27 credits			
Course	Credits	Title	Prerequisites
ECON 221	3	Micro Economics for Business	
ECON 222	3	Macro Economics for Business	
FINA 204	3	Money and Banking	ECON 221, ECON 222
FINA 305	3	Public Finance	FINA 202
FINA 401	3	Investment	ECON 221, ECON 222, FINA 202
ECON 253	3	Economy Development of Puerto Rico	
ECON 403	3	Environmental Economics	ECON 221, ECON 222
ECON 401	3	Macroeconomics Theory	ECON 221, ECON 222
ECON 400	3	Managerial Economics II	ECON 401

Directed Electives - 9 credits

Course	Credits	Title	Prerequisites
ECON 363	3	Global Economic Trends	
ECON 420	3	International Economy and Finances	ECON 401
FINA 240	3	Risk and Insurance	FINA 202
FINA 301	3	Financial Statement Analysis	FINA 202
FINA 308	3	Real Estate and Properties Administration	FINA 202
FINA 312	3	Financing Institutions	FINA 202
FINA 320	3	Banking Policies Administration	FINA 202
FINA 200	3	Personal Financial Planning	FINA 202
MANA 482	3	Business Work Experience Practicum	BUSI 499 approved or concurrent

Important Notes:

1. * All students will be enrolled according to the results of the placement test or results of the College Board.
2. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
3. Accredited by ACBSP in Cupey Campus including additional locations in regular modality.
4. Subject to change.

Bachelor in Business Administration major in Entrepreneurship

Program's description

The Entrepreneurship program develops professionals who are trained and committed to the development of a new business class in the country. The graduate will be exposed to the various aspects of entrepreneurial management so that he can consider the start and development of a company as a real alternative for self-employment. The electives in the area of interest of this program enable him, in the same way, to establish his business in that area in which he is interested. This professional will be able to perform effectively tempering new trends in the business environment and will be able to make significant contributions in favor of that culture through his business management from his own company or the company for which he works.

Admission GPA: 2.00 (See admission requirements for accelerated adult program.)

Graduation GPA: 2.00

Curricular Content

General Education Component - 36 credits

Course	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
MAGS 120 (I)	3	Introduction to Algebra	
ENGS 153	3	Fundamentals of Speaking, Reading and Writing English II	ENGS 152*
SCGS 200	3	Science, Technology and Society	
HIGS 201	3	Puerto Rico History and Culture	
HUGS 101	3	World Culture I	
SPGS 250	3	Writing Techniques	SPGS 152*
SOGS 201	3	The Human Being and Social Consciousness	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 250
SOGS 202	3	State-Government and the Human Being	SOGS 201
HUGS 102	3	World Culture II	HUGS 101

Core Component- 50 credits

Course	Credits	Title	Prerequisites
ACCO 111	4	Introduction to Accounting I	
ACCO 112	4	Introduction to Accounting II	ACCO 111
MARK 134	3	Introduction to Marketing	
COIS 201	3	Data Processing	
ENMA 201	3	Entrepreneurship	
STAT 201	3	Statistics	QUME 250
FINA 202	3	Business Finance	ACCO 112
MANA 213	3	Human Resources Management	MANA 210
MANA 210	3	Introduction to Management	
MANA 204	3	Business Law	
QUME 250	3	Managerial Quantitative Methods	MAGS 120 (I)
MANA 340	3	Operations Management	QUME 250, MANA 210
COIS 223	3	Technology Management	COIS 201
INBU 350	3	International Business	
ECON 402	3	Management Economy	
BUSI 499	3	Business Simulation	18 core credits approved

Major Component - 25 credits

Course	Credits	Title	Prerequisites
ENMA 300	3	Entrepreneurial Innovation	ENMA 201
ENMA 400	4	Business Financial Planning	FINA 202
ENMA 310	3	Franchise, Strategic Alliances and Family Business	ENMA 201
ENMA 407	3	Legal, Tax and Environmental Responsibility	ENMA 400
ENMA 408	3	Seminario Empresarial	All core component

Course	Credits	Title	Prerequisites
ACCO 295	3	Managerial Accounting	ACCO 112
MARK 206	3	Consumer Behavior	MARK 134
MARK 322	3	E-Marketing	MARK 206

Directed Electives - 9 credits

Course	Credits	Title	Prerequisites
MARK 421	3	Product and Brand Management	MARK 206
MARK 320	3	Market Research	STAT 201, MARK 206
ACCO 205	3	Taxes of Puerto Rico	ACCO 111, ACCO 112
ACCO 350	3	Computerized Accounting	
MANA 482	3	Business Work Experience Practicum	BUSI 499 approved or concurrent

Important Notes:

1. * All students will be enrolled according to the results of the placement test or results of the College Board.
2. ** The student choose 9 credits from the directed electives component.
3. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
4. Accredited by ACBSP in Cupey Campus including additional locations in regular modality.
5. Subject to change.

Bachelor of Science in International Tourism and Hospitality major in Hotel Management

Program's description

Students learn to perform management functions through related coursework in Rooms Division Management, Revenue Management, Accounting, Hospitality Sales and Marketing, and Casino Operations, among others.

Admission GPA: 2.00

Graduation GPA: 2.00

Curricular Content

General Education Component - 36 credits

Course	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
SPGS 250	3	Writing Techniques	SPGS 152*
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
ENGS 153	3	Fundamentals of Speaking, Reading and Writing English II	ENGS 152*
MAGS 120 (I)	3	Introduction to Algebra	
SCGS 200	3	Science, Technology and Society	
HIGS 201	3	Puerto Rico History and Culture	
HUGS 101	3	World Culture I	
HUGS 102	3	World Culture II	HUGS 101
INGS 201	3	Introduction to Information Literacy and Research	SPGS 250
SOGS 201	3	The Human Being and Social Consciousness	
SOGS 202	3	State-Government and the Human Being	SOGS 201

Core Component- 42 credits

Course	Credits	Title	Prerequisites
HMNG 101	3	Introduction to Hospitality Industry	
HMNG 202	3	Food and Beverage Management and Menu Development	MAGS 120(I)
HMNG 207+	3	Basic Wines, Beers, and Spirits	HMNG 101 or CHEF 116
HMNG 211	3	Hospitality Ethics	HMNG 101 or CHEF 116
HMNG 259	3	Hospitality Accounting	MAGS 120(I)
HMNG 281	3	Guest Service Experience	
HMNG 291	3	Technological Application for the Tourism Industry	HMNG 101
HMNG 347	3	Hospitality Human Resources Management	
HMNG 351	3	Purchasing and Cost Control	HMNG 202
HMNG 360	3	Hospitality Finance	HMNG 259
HMNG 365	3	Hospitality Law	HMNG 101
HMNG 370	3	Hospitality Sales and Marketing	
HMNG 375	3	Social Media and Content Design	HMNG 370
HMNG 381	3	Hospitality Business Development and Entrepreneurship	HMNG 370

Major Component - 27 credits

Course	Credits	Title	Prerequisites
HMHM 302	3	Introduction to Hotel Lodging Management	HMNG 101
HMHM 305	3	Hotel Operations-Front Desk and Housekeeping	HMHM 302
HMHM 303	3	Hospitality Facilities Management and Hotel Design	HMHM 305
HMHM 304	3	Introduction to Luxury Brands and the Business Dynamics	HMHM 302
HMHM 306	3	Casino Operations Management	HMNG 101
HMHM 390	3	Practicum in Hotel Management	HMHM 305
HMHM 400	3	Revenue Management and Analytics	HMHM 304
CAPH 460	6	Hotel Management Capstone	HMHM 304

Directed Electives – 12 credits (Choose an area or combine them.)

Course	Credits	Title	Prerequisites
Area 1: Free electives in Hospitality and Culinary Arts programs or the Bachelor of Communications with a concentration in Social Communications in the Web			
The student must select 12 credits in electives. The student is required to meet the course prerequisites. Pre-approval from the department is required to enroll in courses from other UAGM schools or other universities.			
Area 2: Sustainable Tourism Entrepreneurship			
HSUS 381	3	Sustainable Tourism /Hospitality Business Planning and Development	HMNG 101
HSUS 385	3	Environmental Management Systems and Leadership Principles	HSUS 381
HSUS 390	6	Sustainable Tourism/Hospitality Entrepreneurial Project Development	HSUS 381, HSUS 385
Area 3: Hospitality Internship or Study Abroad			
If you select the internship, you must complete a minimum of 250 consecutive hours of hospitality work for every 3 credits. If it is an exchange, the course or courses must have the equivalence in credits and the university or study program must be pre-approved by the department.			
Hospitality Internship			
HIAB 247	3	Hospitality Internship Abroad I	
HIAB 248	6	Hospitality Internship Abroad II	
HIAB 249	9	Hospitality Internship Abroad III	
HIAB 250	12	Hospitality Internship Abroad IV	
Study Abroad			
THSA 401	3	Tourism and Hospitality Study Abroad I	
THSA 402	3	Tourism and Hospitality Study Abroad II	
THSA 403	3	Tourism and Hospitality Study Abroad III	
THSA 404	3	Tourism and Hospitality Study Abroad IV	
Area 4: Mixology (The student is required to meet the course prerequisites.)			
MIXO 180+	3	Handling and Serving Wines (lab)	
MIXO 184+	3	Modern Cocktails (Lab)	MIXO 179 or HMNG 202, MIXO 180+, MIXO 182+ or HMNG 207+
MIXO 185+	3	Classic Cocktails and Mixology (Lab)	MIXO 184+
MIXO 187+	3	Bartending Practicum	(Co-req.) MIXO 185+

Important Notes:

- * All students will be enrolled according to the results of the placement test or results of the College Board.
- +Includes laboratory.
- Minimum graduation GPA is 2.00 and minimum major GPA is 2.50.
- The core, concentration and practice courses must be passed with a minimum of C.
- Second-year students and above must obtain an academic evaluation with the program coordinator before completing the enrollment process.
- Students who enroll in courses from other programs must meet the corresponding prerequisites.
- It is required to have the current ServSafe Manager Certification vigente (3 years or less) before starting the practices.
- Students transferred from other university institutions must comply with the policy of residence and academic progress at UAGM.
- New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
- Accredited by Accreditation Commission for Programs in Hospitality Administration (ACPHA).
- Subject to change.

Bachelor of Science in Tourism and Hospitality Management major in Event and Convention Planning

Program's description

Students learn to perform management functions through related coursework in Special Events Management, Convention Sales, Exhibits and Trade Show Management, Convention and Events Planning Logistics, and Catering Sales and Operations, among others.

Admission GPA: 2.00

Graduation GPA: 2.00

Curricular Content

General Education Component - 36 credits

Course	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
SPGS 250	3	Writing Techniques	SPGS 152*
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
ENGS 153	3	Fundamentals of Speaking, Reading and Writing English II	ENGS 152*
MAGS 120 (I)	3	Introduction to Algebra	
SCGS 200	3	Science, Technology and Society	
HIGS 201	3	Puerto Rico History and Culture	
HUGS 101	3	World Culture I	
HUGS 102	3	World Culture II	HUGS 101
INGS 201	3	Introduction to Information Literacy and Research	SPGS 250
SOGS 201	3	The Human Being and Social Consciousness	
SOGS 202	3	State-Government and the Human Being	SOGS 201

Core Component- 42 credits

Course	Credits	Title	Prerequisites
HMNG 101	3	Introduction to Hospitality Industry	
HMNG 202	3	Food and Beverage Management and Menu Development	MAGS 120(I)
HMNG 207+	3	Basic Wines, Beers, and Spirits	HMNG 101 or CHEF 116
HMNG 211	3	Hospitality Ethics	HMNG 101 or CHEF 116
HMNG 259	3	Hospitality Accounting	MAGS 120(I)
HMNG 281	3	Guest Service Experience	
HMNG 291	3	Technological Application for the Tourism Industry	HMNG 101
HMNG 347	3	Hospitality Human Resources Management	
HMNG 351	3	Purchasing and Cost Control	HMNG 202
HMNG 360	3	Hospitality Finance	HMNG 259
HMNG 365	3	Hospitality Law	HMNG 101
HMNG 370	3	Hospitality Sales and Marketing	
HMNG 375	3	Social Media and Content Design	HMNG 370
HMNG 381	3	Hospitality Business Development and Entrepreneurship	HMNG 370

Major Component - 27 credits

Course	Credits	Title	Prerequisites
HMEV 302	3	Introduction to Special Events Management	HMNG 101
HMEV 335	3	Event Sales and Sponsorship	HMNG 370, HMEV 302
HMEV 340	3	Event Venue Management	HMEV 302
HMEV 345	3	Event Experience Design	HMNG 291, HMNG 370
HMEV 350	3	Event Technology	HMEV 302, HMNG 291
HMEV 406	3	Special Events Logistics	HMEV 335, HMEV 345, HMNG 375
HMEV 455	3	Practicum in Events	HMEV 302
CAPE 404	6	Event Production Capstone	HMEV 406

Directed Electives – 12 credits (Choose an area or combine them.)

Course	Credits	Title	Prerequisites
Area 1: Free electives in Hospitality and Culinary Arts programs or the Bachelor of Communications with a concentration in Social Communications in the Web			
The student must select 12 credits in electives. The student is required to meet the course prerequisites. Pre-approval from the department is required to enroll in courses from other UAGM schools or other universities.			
Area 2: Sustainable Tourism Entrepreneurship			
HSUS 381	3	Sustainable Tourism /Hospitality Business Planning and Development	HMNG 101
HSUS 385	3	Environmental Management Systems and Leadership Principles	HSUS 381
HSUS 390	6	Sustainable Tourism/Hospitality Entrepreneurial Project Development	HSUS 381, HSUS 385
Area 3: Hospitality Internship or Study Abroad			
If you select the internship, you must complete a minimum of 250 consecutive hours of hospitality work for every 3 credits. If it is an exchange, the course or courses must have the equivalence in credits and the university or study program must be pre-approved by the department.			
Hospitality Internship			
HIAB 247	3	Hospitality Internship Abroad I	
HIAB 248	6	Hospitality Internship Abroad II	
HIAB 249	9	Hospitality Internship Abroad III	
HIAB 250	12	Hospitality Internship Abroad IV	
Study Abroad			
THSA 401	3	Tourism and Hospitality Study Abroad I	
THSA 402	3	Tourism and Hospitality Study Abroad II	
THSA 403	3	Tourism and Hospitality Study Abroad III	
THSA 404	3	Tourism and Hospitality Study Abroad IV	
Area 4: Mixology (The student is required to meet the course prerequisites.)			
MIXO 180+	3	Handling and Serving Wines (lab)	
MIXO 184+	3	Modern Cocktails (Lab)	MIXO 179+ or HMNG 202, MIXO 180+, MIXO 182 or HMNG 207+
MIXO 185+	3	Classic Cocktails and Mixology (Lab)	MIXO 184+
MIXO 187+	3	Bartending Practicum	(Co-req.) MIXO 185+

Important Notes:

- * All students will be enrolled according to the results of the placement test or results of the College Board.
- +Includes laboratory.
- Minimum graduation GPA is 2.00 and minimum major GPA is 2.50.
- The core, concentration and practice courses must be passed with a minimum of C.
- Second-year students and above must obtain an academic evaluation with the program coordinator before completing the enrollment process.
- Students who enroll in courses from other programs must meet the corresponding prerequisites.
- It is required to have the current ServSafe Manager Certification vigente (3 years or less) before starting the practices.
- Students transferred from other university institutions must comply with the policy of residence and academic progress at UAGM.
- New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
- Accredited by Accreditation Commission for Programs in Hospitality Administration (ACPHA).
- Subject to change.

Bachelor of Science in Culinary Management

Program's description

This bachelor program is ideal for those students who want to manage its own business, restaurant, or kitchen. This program will combine the professional and concentration courses of culinary arts and the managerial function required to operate and manage a kitchen or restaurant. Emphasis is given in cost control and increasing profits. A Practicum experience of 350 hours is required in a restaurant, convention centers or hotel in the culinary arts setting.

Admission GPA: 2.00

Graduation GPA: 2.00

Curricular Content

General Education Component - 36 credits

Course	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
SPGS 250	3	Writing Techniques	SPGS 152*
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
ENGS 153	3	Fundamentals of Speaking, Reading and Writing English II	ENGS 152*
MAGS 120 (I)	3	Introduction to Algebra	
SCGS 200	3	Science, Technology and Society	
HIGS 201	3	Puerto Rico History and Culture	
HUGS 101	3	World Culture I	
HUGS 102	3	World Culture II	HUGS 101
INGS 201	3	Introduction to Information Literacy and Research	SPGS 250
SOGS 201	3	The Human Being and Social Consciousness	
SOGS 202	3	State-Government and the Human Being	SOGS 201

Core Component- 39 credits

Course	Credits	Title	Prerequisites
HMNG 101	3	Introduction to Hospitality Industry	
HMNG 202	3	Food and Beverage Management and Menu Development	MAGS 120(I)
HMNG 207	3	Basic Wines, Beers, and Spirits	HMNG 101 or CHEF 116
HMNG 211	3	Hospitality Ethics	HMNG 101 or CHEF 116
HMNG 259	3	Hospitality Accounting	MAGS 120(I)
HMNG 281	3	Guest Service Experience	
HMNG 290	3	Spreadsheet and Databases Applications	HMNG 101
HMNG 347	3	Hospitality Human Resources Management	
HMNG 351	3	Purchasing and Cost Control	HMNG 202
HMNG 365	3	Hospitality Law	HMNG 101
HMNG 370	3	Hospitality Sales and Marketing	
HMNG 375	3	Social Media and Content Design	HMNG 370
HMNG 381	3	Hospitality Business Development and Entrepreneurship	HMNG 370

Major Component - 46 credits

Course	Credits	Title	Prerequisites
CHEF 105+	3	Culinary Skills & Sauces	CHEF 116 in progress
CHEF 107+	6	Cooking Methods and Techniques	CHEF 116, CHEF 105+
CHEF 116	3	Culinary Arts Basic Concepts	
CHEF 200+	3	Introduction to Baking	CHEF 107+
CHEF 202+	3	Garde Manger	CHEF 107+
CHEF 203+	3	Modernist Cuisine	CHEF 202+
CHEF 204+	3	Culinary Nutrition	CHEF 202+
CHEF 206+	3	Advanced Baking, Pastries, and Plated Desserts	CHEF 200+
CHEF 213+	3	International Cuisine	CHEF 202+
CHEF 214+	3	Regional and Seasonal Puerto Rican and Caribbean Cuisine	CHEF 202+
CHEF 361	3	Restaurant Sustainability	CHEF 116

Course	Credits	Title	Prerequisites
CHEF 425+	6	Modern Banquet Kitchen	CHEF 206. CHEF 213, CHEF 214
CHEP 231 or CAIA 301	1	Culinary Practicum (350 hours) or Culinary Arts Internship Abroad	CHEF 213+, CHEF 214+
CAPC 452+	6	Restaurant Management Capstone	HMNG 381, CHEF 231, CHEF 213+, CHEF 214+

Important Notes:

1. *All students will be enrolled according to the results of the placement test or results of the College Board.
2. +Includes laboratory.
3. Major GPA is 2.50.
4. Practice courses must be passed with a minimum of C.
5. Second-year students and above must obtain an academic evaluation with the program coordinator before completing the enrollment process.
6. Students who enroll in courses from other programs must meet the corresponding prerequisites.
7. It is required to have the current ServSafe Manager Certification vigente (3 years or less) before starting the practices.
8. Students transferred from other university institutions must comply with the policy of residence and academic progress at UAGM.
9. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
10. Subject to change.

Bachelor of Science in Culinary Nutrition

Program's description

This academic bachelor program prepares students to perform as culinary nutrition consultants within the hospitality industry. With an increasing trend to eat healthier foods, the culinary nutrition program differs from others offered in the island in the sense that it will teach students the concepts and techniques of culinary arts and flavors while still emphasizing the nutritional value of each ingredient and meals. Management courses are also part of the curriculum.

Admission GPA: 2.00

Graduation GPA: 2.00

Curricular Content

General Education Component - 36 credits

Course	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
SPGS 250	3	Writing Techniques	SPGS 152*
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
ENGS 153	3	Fundamentals of Speaking, Reading and Writing English II	ENGS 152*
MAGS 120 (I)	3	Introduction to Algebra	
SCGS 200	3	Science, Technology and Society	
HIGS 201	3	Puerto Rico History and Culture	
HUGS 101	3	World Culture I	
HUGS 102	3	World Culture II	HUGS 101
INGS 201	3	Introduction to Information Literacy and Research	SPGS 250
SOGS 201	3	The Human Being and Social Consciousness	
SOGS 202	3	State-Government and the Human Being	SOGS 201

Core Component- 39 credits

Course	Credits	Title	Prerequisites
HESC 125+	4	Human Anatomy and Physiology I	
HESC 126+	4	Human Anatomy and Physiology II	HESC 125+
CHEM 122+	4	General Chemistry I	MAGS 120(I)
BCHM 210	3	Survey of Biochemistry	CHEM 122+
CUNU 101	3	Introduction to Culinary Nutrition	
CHEF 105+	3	Culinary Skills and Sauces	CHEF 116 (in progress)
CHEF 107+	6	Cooking Methods and Techniques	CHEF 116, CHEF 105+
CHEF 116	3	Culinary Arts Basic Concepts	
CHEF 200+	3	Introduction to Baking	CHEF 107+
CHEF 202+	3	Garde Manger	CHEF 107+
CHEF 203+	3	Modernist Cuisine	CHEF 202+
CHEF 213+	3	International Cuisine	CHEF 202+

Major Component - 46 credits

Course	Credits	Title	Prerequisites
HMNG 259	3	Hospitality Accounting	MAGS 120(I)
HMNG 347	3	Hospitality Human Resources Management	CUNU 250 or HMNG 211
STAT 201 or PUHE 201	3	Statistics for Business Administration or Introduction to Biostatistics	MAGS 120(I)
CUNU 205+	3	Food Preparation and Nutrition Facts Analysis	CHEF 200+, CHEF 202+, CUNU 101
CUNU 250	3	Nutrition in the Humans Life Cycle	CUNU 101, CHEF 107+, HESC 126+, CHEM 122+
CUNU 300	3	Menu Planning, Purchase, Facility Design, and Cost Control	CUNU 205+, CUNU 250, MAGS 120(I)
CUNU 325+	3	Food Science	HESC 126+, CHEF 107+, BCHM 210
CUNU 330	3	Metabolic and Advanced Nutrition	HESC 126+, BCHM 210, CUNU 250
CUNU 350	3	Community Nutrition	CHEF 213+, CUNU 250, CUNU 300
CUNU 401+	3	Nutritional Bakery	CHEF 200+
CUNU 412+	3	Spa Cuisine	CHEF 213+, CUNU 300, CUNU 325+, CUNU 401+

Course	Credits	Title	Prerequisites
CUNU 413+	3	Vegetarian Cuisine	CHEF 213+, CUNU 300, CUNU 325+, CUNU 401+
CUNU 414+	3	Sports Cuisine	CHEF 213+, CUNU 300, CUNU 325+, CUNU 401+
CUNU 415	6	Medical Nutrition Therapy	CUNU 330, CUNU 350, BCHM 210, HESC 126+
CUNP 305	1	Gastronomy Nutritional Internship (350 hours)	CHEF 213+, CUNU 250, CUNU 300, CUNU 325+, CUNU 412+, CUNU 413+, CUNU 414+ HMNG 259, HMNG 347, CUNP 305, STAT 201
CUNP 422	1	Culinary Nutrition Practicum (350 hours)	o PUHE 201, CUNU 330, CUNU 350, CUNU 415

Important Notes:

1. *All students will be enrolled according to the results of the placement test or results of the College Board.
2. +Includes laboratory.
3. Graduation GPA 2.00 and major GPA is 2.50.
4. Practice courses must be passed with a minimum of C
5. Second-year students and above must obtain an academic evaluation with the program coordinator before completing the enrollment process.
6. Students who enroll in courses from other programs must meet the corresponding prerequisites.
7. It is required to have the current ServSafe Manager Certification vigente (3 years or less) before starting the practices.
8. Students transferred from other university institutions must comply with the policy of residence and academic progress at UAGM.
9. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
10. Subject to change.

HEALTH SCIENCES ACADEMIC DIVISION
DEPARTMENT OF ALLIED HEALTH SCIENCES
Associate Degree in Pharmacy Technician
Program's description

This program provides training in the area of registration, handling, and control of medicines. The curriculum includes practical training hours in pharmacies that help the student to be eligible to take the examination of the Pharmacy Examining Board of Puerto Rico.

Admission GPA: 2.00

Graduation GPA: 2.00

Curricular Content
General Education Component – 15 credits

Courses	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
MAGS 120 (I)	3	Introduction to Algebra	
HUGS 101 or	3	World Culture I or	
SOGS 201		The Human Being and Social Consciousness	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 152

Core Component- 3 credits

Courses	Credits	Title	Prerequisites
COAT 107	3	Keyboarding and Basic Skills in the Computer	

Major Component - 49 credits

Courses	Credits	Title	Prerequisites
PHAT 200	3	Pharmacy Introduction	
PHAT 203	3	Pharmaceutical Calculation I	MAGS 120(I)
PHAT 204	3	Pharmaceutical Calculation II	MAGS 120(I), PHAT 203
PHAT 207	4	Pharmacotherapy	
PHAT 209	4	Pharmacotherapy II	PHAT 207
PHAT 211	4	Pharmacotherapy III	PHAT 207, PHAT 209
PHAT 212	3	Pharmaceutical Legislation	PHAT 200
PHAT 214	3	Posology	MAGS 120 (I), PHAT 203
PHAT 217	3	Pharmaceutical Technology	PHAT 200, PHAT 207, COAT 107
PHAT 221	4	Pharmacy Laboratory	PHAT 200, PHAT 203, PHAT 207, PHAT 212
PHAT 225	3	Pharmaceutical Chemistry	
PHAT 227	3	Hospital Pharmacy	
PHAT 229	3	Clinical Practice I	PHAT 200, 203, 204, 207, 209, 211, 212, 214, 217, 221
PHAT 236	3	Clinical Practice II	PHAT 200, 203, 204, 207, 209, 211, 212, 229
PHAT 245	3	Clinical Practice III	PHAT 200, PHAT 203, PHAT 207, PHAT 209, PHAT 211, PHAT 212, PHAT 214, PHAT 217, PHAT 221, PHAT 229, PHAT 236

Important Notes:

- * Students will be placed in these courses according to the results of the University Admission Evaluation Tests (PEAU) or the CEEB. Each will have two levels: ENGS 152 (1) y ENGS 152; SPGS 152 (1) y SPGS 152.
- Second-year students and above must obtain an academic evaluation before completing the enrollment process.

3. It is recommended that for the following courses the student completes the proposed hours: **PHAT 229: 300 hours, ***PHAT 236: 350 hours y *** PHAT 245: 350 hours.
4. Major component courses must be passed with a grade of C or better.
5. To practice the profession, the graduate is required to take and pass the exam offered by the Puerto Rico Pharmacy Examining Board.
6. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
7. Subject to changes.

Associate Degree in Respiratory Therapy

Program's description:

The Associate Degree in Respiratory Therapy prepares students to be skilled in assisting in the diagnosis, treatment, management, control, rehabilitation, and preventive care of patients with cardiopulmonary problems.

Admission GPA: 2.00

Graduation GPA: 2.00

Curricular Content

General Education Component – 15 credits			
Courses	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
MAGS 120 (I)	3	Introduction to Algebra	
HUGS 101 or SOGS 201	3	World Culture I or The Human Being and Social Consciousness	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 152
Core Component– 20 credits			
Courses	Credits	Title	Prerequisites
HESC 125 **	4	Human Anatomy and Physiology I	
HESC 126**	4	Human Anatomy and Physiology II	HESC 125
CHEM 122**	4	General Chemistry	MAGS 120 (I)
PHSC 201	4	General Physics for Health Sciences	MAGS 120 (I)
HESC 207	4	Microbiology	
Major Component – 45 credits			
Courses	Credits	Title	Prerequisites
REST 100	3	Ethical and Professional Issues in Respiratory Care	
REST 104	3	Cardiopulmonary Pharmacology	
REST 106****	5	Fundamentals Of Respiratory Care	REST 104, HESC 125
REST 210****	5	Airway Management	REST 104, REST 217, REST 106
REST 211****	5	Pulmonary Function Testing and Acid-Base Balance	REST 104, REST 106, REST 210
REST 212	3	Pulmonary Rehabilitation and Home Care	REST 211, REST 217, REST 218, REST 222
REST 217	3	Cardiopulmonary Physiology and Anatomy	HESC 125
REST 218	3	Cardiopulmonary Pathophysiology	HESC 125, REST 104
REST 222****	5	Mechanical Ventilation in Respiratory Care	REST 106, REST 210, REST 211, REST 217
REST 225	3	Patient Assessment and Special Procedures in Respiratory Care	REST 104, REST 106, REST 210, REST 211, REST 217, REST 218, REST 222
REST 227	3	Review in Respiratory Care	REST 100, REST 104, REST 106, REST 210, REST 211, REST 212, REST 217, REST 218, REST 222, REST 225, REST 413
REST 421****	4	Practicum	REST 100, REST 104, REST 106, REST 210, REST 211, REST 212, REST 217, REST 218, REST 222, REST 225, REST 413, REST 417

Important Notes:

- * All students will be enrolled based on placement test results or College Board results. Courses have two levels: ENGS (1), ENGL 152 (I) y SPGS 152 (I)
- Major component courses must be passed with a grade of C or better.
- **45 lab hours
- ****450 hours of practice
- In order to practice the profession, it is required that the graduate take and pass the exams offered by the Respiratory Care Examining Board of Puerto Rico.

6. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
7. Subject to changes.

Associate of Science in Radiologic Technology

Program's description

The radiological technologist can provide services in state government hospitals, federal government hospitals, or private medical institutions. This program prepares leaders in the use of interdisciplinary healthcare equipment that delineates pathological and anatomical conditions using sophisticated diagnostic equipment.

Admission GPA: 2.00

Graduation GPA: 2.00

Curricular Content

General Education Component – 15 credits

Courses	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
MAGS 120 (I)	3	Introduction to Algebra	
HUGS 101 or SOGS 201	3	World Culture I or The Human Being and Social Consciousness	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 152

Core Component- 11 credits

Courses	Credits	Title	Prerequisites
BIOL 101	3	Introduction to Biological Sciences	
HESC 125	4	Human Anatomy and Physiology I	
HESC 126	4	Human Anatomy and Physiology II	HESC 125

Major Component - 51 credits

Courses	Credits	Title	Prerequisites
RADI 101	2	Introductions to Radiological Sciences	
RADI 102	3	Radiological Physics I	MAGS 120(I)
RADI 103	3	Medical Terminology	
RADI 104	3	Radiological Physics II	MAGS 120(I), RADI 102
RADI 107	3	Radiographic Positioning I	HESC 125, RADI 101, RADI 103
RADI 108	3	Radiographic Positioning II	HESC 126, RADI 101, RADI 103, RADI 107
RADI 109	3	Radiographic Positioning III	HESC 126, RADI 101, RADI 103, RADI 108
RADI 121	2	Patient Care	BIOL 101, RADI 101
RADI 200	3	Radiobiology And Radiology Protection	MAGS 120 (I), RADI 102, RADI 104, RADI 213
RADI 210	2	Quality Assurance	RADI 213
RADI 212	3	Pathology, Evaluation and Radiographic Critique	RADI 108, HESC 125, HESC 126
RADI 213	3	Principles Of Radiographic Exposure and Processing	MAGS 120 (I), RADI 102
RADI 214	3	Cr & Dr Image Acquisition and Display	MAGS 120 (I), RADI 102, RADI 104, RADI 213
RADI 215	3	Pharmacology	
RADI 230	1	Clinical Practicum I	HESC 125, RADI 101, RADI 103, RADI 121, concurrent with RADI 107
RADI 231	1	Clinical Practicum II	HESC 125, RADI 101, RADI 103, RADI 107, RADI 121, RADI 230, concurrent with RADI 108

Courses	Credits	Title	Prerequisites
RADI 255	2	Introduction to Imaging Modalities	
RADI 330	1	Clinical Practicum III	HESC 125, RADI 101, RADI 103, RADI 108, RADI 230, RADI 231, RADI

Courses	Credits	Title	Prerequisites
			121, concurrent with RADI 109
RADI 331	1	Clinical Practicum IV	HESC 125, RADI 101, RADI 103, RADI 107, RADI 109, RADI 330, RADI 121
RADI 380	6	Radiologic Technology Seminar Registry Review	All RADI courses, concurrent with RADI 214, RADI 255, RADI 331

Important Notes:

1. * All students will be enrolled according to the results of the placement test or results of the College Board
2. + Includes laboratory
3. *** Courses must be approved with B or higher
4. Concentration and professional courses must be approved with a C or higher.
5. Major GPA 2.50.
6. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
7. Subject to changes.

Associate Degree of Science in Medical Sonography

Program's description

The graduate of the Associate Degree in Medical Sonography will be a professional prepared in the field of Diagnostic Imaging technology that uses ultrasound to perform routine sonographic procedures under medical supervision.

Admission GPA: 2.00

Graduation GPA: 2.00

Curricular Content

General Education Component – 15 credits			
Courses	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
MAGS 120 (I)	3	Introduction to Algebra	
HUGS 101 or SOGS 201	3	World Culture I or The Human Being and Social Consciousness	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 152
Core Component- 14 credits			
Courses	Credits	Title	Prerequisites
HESC 125+	4	Human Anatomy and Physiology I	
HESC 126+	4	Human Anatomy and Physiology II	HESC 125
HESC 220	2	Patient Care	SONO 100
HESC 230+	4	Sectional Anatomy	HESC 125 - 126
Major Component - 41 credits			
Courses	Credits	Title	Prerequisites
SONO 100**	2	Introduction to Medical Sonography	Admission to the Program
SONO 102	2	Ultrasound Scanning and Protocols	SONO 100
SONO 110	3	General Physics Compendium	MAGS 120 (I)
SONO 234	3	Ultrasound Physics and Instrumentation I	SONO 110
SONO 235	3	Ultrasound Physics and Instrumentation II	SONO 234
SONO 238+	3	Abdomen Sonography and Laboratory	HESC 125, SONO 100, SONO 102
SONO 240+	3	Small Parts Sonography and Laboratory	SONO 242, SONO 250
SONO 242+	3	Genitourinary System and Laboratory	SONO 238, SONO 247
SONO 247**	1	Clinical Education I	SONO 102, SONO 238 concurrent
SONO 248**	1	Clinical Education II	SONO 247
SONO 249**	3	Clinical Education III	SONO 248
SONO 250+	3	Obstetrical Sonography I	SONO 238, SONO 247
SONO 251	3	Obstetrical Sonography II	SONO 250
SONO 252	3	Pathology and Medical Terminology	HESC 125, SONO 100, SONO 102
SONO 256	3	Integration Seminar	SONO 250, SONO 240 concurrent
SONO 260	2	General Sonography Review	SONO 238, SONO 242, SONO 250, SONO 248

Important Notes:

1. *All students will be enrolled according to the results of the placement test or results of the College Board.
2. + Includes laboratory
3. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
4. Major and core courses must be approved with a C or higher.
5. Major GPA 2.50.
6. Second-year students and above must obtain an academic evaluation with the program coordinator before completing the enrollment process.
7. ** These courses must be approved with a B or higher.
8. Subject to changes.

Associate Degree in Health Sciences in Vascular Sonography

Program's description

The graduate of the Associate Degree in Vascular Sonography will be a professional prepared in the field of vascular diagnostic ultrasound. You will use instruments that emit high frequency waves for the anatomical evaluation of the human vascular system. This professional will provide the physician with a summary of the findings found during vascular studies, in order to assist in the management and diagnosis of different clinical conditions.

Admission GPA: 2.00

Graduation GPA: 2.00

Curricular Content

General Education Component – 15 credits

Courses	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
MAGS 120(I)	3	Introduction to Algebra	
HUGS 101 or	3	World Culture I or	
SOGS 201		The Human Being and Social Consciousness	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 152

Core Component- 17 credits

Courses	Credits	Title	Prerequisites
HESC 125+	4	Human Anatomy and Physiology I	
HESC 126+	4	Human Anatomy and Physiology II	HESC 125
HESC 220	2	Patient Care	SONO 100
HESC 230+	4	Sectional Anatomy	HESC 125 - 126
HESC 335	3	Cardiovascular anatomy	HESC 230

Major Component - 35 credits

Courses	Credits	Title	Prerequisites
SONO 100**	2	Introduction to Medical Sonography	Admission to the Program
SONO 102	2	Ultrasound Scanning and Protocols	SONO 100
SONO 110	3	General Physics Compendium	MAGS 120 (I)
SONO 234	3	Ultrasound Physics and Instrumentation I	SONO 110
SONO 235	3	Ultrasound Physics and Instrumentation II	SONO 234
SONO 252	3	Pathology and Medical Terminology	HESC 125, SONO 100, SONO 102
SONO 334	3	Physics and Vascular Instrumentation	SONO 235, SONO 260
SONO 336+	3	Vascular Technology I	HESC 335, SONO 334
SONO 337+	3	Vascular Technology II	SONO 336
SOVA 338+ **	1	Clinical Education in Vascular Technology I	
SOVA 339+ **	1	Clinical Education in Vascular Technology II	
SOVA 340+ **	3	Clinical Education in Vascular Technology III	
SONO 256	3	Integration Seminar	
SONO 260	2	General Sonography Review	SONO 336, SONO 337

Important Notes:

1. *All students will be enrolled according to the results of the placement test or results of the College Board.
2. + Includes laboratory.
3. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
4. Major and core courses must be approved with a C or higher.
5. Major GPA 2.50.
6. Second-year students and above must obtain an academic evaluation with the program coordinator before completing the enrollment process.
7. ** These courses must be approved with a B or higher.
8. Subject to changes.

Associate of Science in Public Health

Program's description

Graduates of the associate degree will be able strengthen the competences to help in public health problems from a perspective of health promotion and health education. They will be able to work providing direct or indirect services to individuals, families, groups, organizations, and communities. In addition, the program provides a way for health services workers with a certificate degree to get a college degree to further advance in their career goals. It also provides a starting point for students interested in other health related careers.

Admission GPA: 2.00

Graduation GPA: 2.00

Curricular Content

General Education Component – 15 credits

Courses	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
MAGS 120(I)	3	Introduction to Algebra	
HUGS 101 or	3	World Culture I or	
SOGS 201		The Human Being and Social Consciousness	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 152

Core Component- 12 credits

Courses	Credits	Title	Prerequisites
HESC 125+	4	Human Anatomy and Physiology I	
HESC 126+	4	Human Anatomy and Physiology II	HESC 125
BIOL 203	4	General Biology I	

Major Component - 25 credits

Courses	Credits	Title	Prerequisites
EPID 200	3	Fundamentals of Epidemiology	MAGS 120 (I)
PUHE 200	3	Fundamentals of Public Health	
PUHE 220	3	Health Communication	
PUHE 221	3	Determinants of Health	
HESC 201	3	Medical Terminology	HESC 125
HESC 203	3	Human Sexuality	
HESC 210	3	Patient Care for Health Professionals	HESC 201
HESC 220	4	Project in Community Health	PUHE 200, HESC 210, EPID 200 PUHE 220

Important Notes:

- *All students will be enrolled according to the results of the placement test or results of the College Board.
- + Includes laboratory.
- New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
- The minimum concentration average for graduation is 2.50.
- All general education courses must be passed with a D or higher.
- Students who enroll in courses from other academic programs must meet the prerequisites corresponding.
- Students transferred from other university institutions must comply with the residence standard and standard of academic progress at the UAGM.
- Subject to changes.

Bachelor of Science in Nutrition and Dietetics

Program's description

The Bachelor of Science in Nutrition and Dietetics aims to prepare experts in the area of food and nutrition qualified to interpret and apply scientific knowledge of nutrition planning, organizing, developing and managing programs for health promotion and prevention of chronic health conditions as well as research, study and solution of nutrition problems in individuals and groups. This program is accredited by the Accreditation Council for Education in Nutrition and Dietetics (ACEND).

Admission GPA: 3.00

Graduation GPA: 2.50

Curricular Content

General Education Component - 36 credits

Courses	Credits	Title	Prerequisite
ENGS 152*	3	Fundamentals of Oral Communication, Reading and Writing I	
ENGS 153	3	Fundamentals of Oral Communication, Reading and Writing II	ENGS 152*
SPGS 152*	3	Fundamentals of Reading and Writing	
SPGS 250	3	Writing Techniques	SPGS 152*
HUGS 101	3	World Culture I	
HUGS 102	3	World Culture II	HUGS 101
HIGS 201	3	Puerto Rico History and Culture	
SOGS 201	3	The Human Being and Social Consciousness	
SOGS 202	3	State-Government and the Human Being	SOGS 201
MAGS 120 (I)	3	Introductory Algebra	
SCGS 200	3	Science, Technology and Society	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 250

Core Component - 31 credits

Courses	Credits	Title	Prerequisite
BIOL 103	3	Biology for Health Sciences	
CHEM 224+	4	Fundamentals of General Chemistry	
BIOL 303+	4	Human Biology I	BIOL 103 Co-req. BIOL 303L
CHEM 225+	4	Fundamentals of Organic Chemistry	CHEM 224
HESC 360	3	Statistics Applied to Health Science	MAGS 120(I)
BIOL 301	3	Food Microbiology	BIOL 103
BIOL 304+	4	Human Biology II	BIOL 303, BIOL 303L Co-req. BIOL 304L
BIOL 350	3	Biochemistry	CHEM 225, CHEM 225L
PSYC 123	3	General Psychology	

Major Component - 66 credits

Courses	Credits	Title	Prerequisite
NUTR 201	4	Introduction to Nutrition	BIOL 103, BIOL 303, BIOL 303L, CHEM 224, CHEM 224L, CHEM 225, CHEM 225L
NUTR 310	4	Food Service Systems Management	NUTR 201
NUTR 420	3	Nutritional Assessment	NUTR 201, BIOL 304, BIOL 304L
NUTR 202	3	Food Science	NUTR 201, BIOL 301, Co-req. NUTR 202L
NUTR 202L	1	Food Science Laboratory	NUTR 201, BIOL 301, Co-req. NUTR 202
NUTR 403	3	Advanced Nutrition & Metabolism	NUTR 420, BIOL 350
NUTR 405	3	Nutrition Throughout the Life Cycle	NUTR 420
NUTR 425	3	Community Nutrition	NUTR 420
NUTR 305	2	Sociocultural Aspects in Nutrition	NUTR 425
NUTR 320	3	Foodservice Facility Design and Equipment	NUTR 310

Courses	Credits	Title	Prerequisite
NUTR 440	4	Medical Nutrition Therapy I	NUTR 403, NUTR 405
Major Component - 66 credits			
Courses	Credits	Title	Prerequisite
NUTR 460	3	Purchasing and Preparation of Quantity Foodservice	NUTR 202, NUTR 202L, NUTR 310
NUTR 321	3	Institutional Menu Planning	NUTR 320, NUTR 460, Co-req. NUTR 321L
NUTR 321L	1	Institutional Menu Planning Laboratory	NUTR 320, NUTR 460, Co-req. NUTR 321
NUTR 435	3	Educational Strategies in Nutrition	NUTR 425
NUTR 436	3	Foodservice Practice Experience	NUTR 201, 202, 310, 320, 321, 321L, 460, 440, 441
NUTR 441	4	Medical Nutrition Therapy II	NUTR 440
NUTR 442	3	Medical Nutrition Therapy Supervised Practice Experience	NUTR 201, 405, 420, 435, 441, 451, 403, 436, 450
NUTR 450	3	Community Supervised Practice Experience	NUTR 201, 305, 405, 420, 425, 435, 440, 441, 451, 436
NUTR 451	2	Nutritional Research Methods	NUTR 420, HESC 360
NUTR 455	3	Integration Seminar & Fundamental Aspects in Nutrition Dietetics	NUTR 440
NUTR 204	3	Vegetarian Nutrition	NUTR 201, NUTR 202, NUTR 202L
NUTR 205	2	Nutrition in Sports and Exercise	NUTR 420

Important Notes:

1. * Students will be enrolled according to their College Board results or placement test.
2. +Includes laboratory.
3. Students that are new freshman, without any previous university experience Will be required to take the
4. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
5. Students must be enrolled in the BS Science in Nutrition or BS Food and Nutrition Management in order to apply and compete for a space in the BS in Nutrition and Dietetics Coordinated Program. If students comply with all the requirements, they may apply to the coordinated program during the first semester of the third year.
6. All concentration courses must be approved with an "A" or "B".
7. Program accredited by Accreditation Council for Education in Nutrition and Dietetics (ACEND)
8. Subject to changes.

Bachelor of Sciences in Speech-Language Therapy

Program's description

Our goal is to prepare speech language therapy professionals with the knowledge, skills, and attitudes that are necessary to serve as therapists in the areas of counseling, prevention, and intervention of persons with communication impairments. The teaching/training process will be characterized by ample participation in the clinical processes, freedom to question and express ideas, and the principle of liberty of individuals' rights.

Admission GPA: 2.50

Graduation GPA: 2.50

Curricular Content

General Education Component - 36 credits

Courses	Credits	Title	Prerequisite
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
ENGS 153	3	Fundamentals of Speaking, Reading and Writing English II	ENGS 152*
SPGS 152*	3	Fundamentals of Reading and Writing	
SPGS 250	3	Writing Techniques	SPGS 152*
HUGS 101	3	World Culture I	
HUGS 102	3	World Culture II	HUGS 101
HIGS 201	3	Puerto Rico History and Culture	
SOGS 201	3	The Human Being and Social Consciousness	
SOGS 202	3	State-Government and the Human Being	SOGS 201
MAGS 120 (I)	3	Introduction to Algebra	
SCGS 200	3	Science, Technology and Society	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 250

Core Component- 21 credits

Courses	Credits	Title	Prerequisite
SPAN 230	3	Introduction to Linguistics	
PHSC 101	3	Physical Science	MAGS 120 (I)
BIOL 103	3	Biology for Health Sciences	
BIOL 200	3	Principles of Human Anatomy	BIOL 103
ENGL 331	3	Oral Communication	ENGS 153
HESC 360	3	Statistics Applied to Health Science	MAGS 120 (I)
HESC 365	3	Health Sciences Research	HESC 360

Major Component - 63 credits

Courses	Credits	Title	Prerequisite
EDUC 245	3	Human Growth and Development	
EDUC 250	3	Exceptional Child Education and Assistive Technology	
SPTH 353	3	Phonetics	SPAN 230
SPTH 202	3	Introduction To Professions in Communication Sciences and Disorders	
SPTH 205	3	Anatomy And Physiology of Speech and Language	BIOL 200
SPTH 355	3	Speech Development: Normal and Pathological Processes	SPTH 353
SPTH 255	3	Language Development: Normal and Pathological Processes	EDUC 245
SPTH 257	3	Introduction to Audiology and Aural Rehabilitation	SPTH 205, SPTH 255, SPTH 355
SPTH 406	3	Language Disorders	SPTH 255
SPTH 402	3	Treatment In CSD: Basics Concepts, Legal and Ethical Aspects	SPTH 255, SPTH 355
SPTH 404	3	Treatment in CSD: Related and Severe Conditions	SPTH 255
SPTH 357	3	Early Intervention	SPTH 255
SPTH 375	3	Fluency	SPTH 255, SPTH 406, SPTH 355
SPTH 310	3	Technology in Communication Science & Disorders	SPTH 255, SPTH 355, SPTH 402
SPTH 395	3	Voice	SPTH 205, SPTH 402

Courses	Credits	Title	Prerequisite
SPTH 300	3	Speech and Hearing Science	BIOL 200, PSHS 101, SPTH 202
SPTH 440	3	Knowledge Integration in Speech and Language Therapy	All courses SPTH, except SPTH 450, SPTH 451, SPTH 375, SPTH 395, SPTH 300, SPTH 310, SPLA 300, SPLA 308
SPTH 450	3	Clinical Practice I	All courses SPTH, except, SPTH 310, SPTH 451, SPLA 308
SPTH 451	3	Clinical Practice II	All courses SPTH, except, SPLA 308
SPLA 300	3	Professional Writing for the Therapist Speech-Language	SPGS 250, SPTH 402, SPTH 406
SPLA 308	3	Development of Reading and Writing K-3	SPGS 250, SPTH 255

Important Notes:

1. * All students will be enrolled according to the results of the placement test or results of the College Board
2. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
3. Subject to changes.

Bachelor in Nutrition Sciences

Program's description

The program focus is on the utilization of food for human growth and metabolism, in both normal and dysfunctional states. Includes instruction in food science, biochemistry, and food and nutrition studies. The program is designed for students who expect to pursue advanced degrees in nutritional sciences or professional degrees in medicine, dentistry, or public health.

Admission GPA: 2.50

Graduation GPA: 2.00

Curricular Content

General Education Component - 36 credits

Courses	Credits	Title	Prerequisite
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
ENGS 153	3	Fundamentals of Speaking, Reading and Writing English II	ENGS 152*
SPGS 152*	3	Fundamentals of Reading and Writing	
SPGS 250	3	Writing Techniques	SPGS 152*
HUGS 101	3	World Culture I	
HUGS 102	3	World Culture II	HUGS 101
HIGS 201	3	Puerto Rico History and Culture	
SOGS 201	3	The Human Being and Social Consciousness	
SOGS 202	3	State-Government and the Human Being	SOGS 201
MAGS 120 (I)	3	Introduction to Algebra	
SCGS 200	3	Science, Technology and Society	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 250

Core Component- 31 credits

Courses	Credits	Title	Prerequisite
BIOL 103	3	Biology for Health Sciences	
CHEM 224+	4	Fundamentals of General Chemistry	
BIOL 303+	4	Human Biology I	BIOL 103 Co-req. BIOL 303L
CHEM 225+	4	Fundamentals of Organic Chemistry	CHEM 224
HESC 360	3	Statistics Applied to Health Science	MAGS 120 (I)
BIOL 301	3	Food Microbiology	BIOL 103
BIOL 304+	4	Human Biology II	BIOL 303, BIOL 303L Co-req. BIOL 304L
BIOL 350	3	Biochemistry	CHEM 225, CHEM 225L
PSYC 123	3	General Psychology	

Major Component - 57 credits

Courses	Credits	Title	Prerequisite
NUTR 201	4	Introduction to Nutrition	BIOL 103, BIOL 303, BIOL 303L, CHEM 224, CHEM 224L, CHEM 225, CHEM 225L
NUTR 310	4	Food Service System Management	NUTR 201
NUTR 420	3	Nutritional Assessment	NUTR 201, BIOL 304, BIOL 304L
NUTR 202	3	Food Science	NUTR 201, BIOL 301, Co-req. NUTR 202L
NUTR 202L	1	Food Science Laboratory	NUTR 201, BIOL 301, Co-req. NUTR 202
NUTR 330	3	Nutritional Problems: A global perspective	NUTR 420
NUTR 403	3	Advanced Nutrition & Metabolism	NUTR 420, BIOL 350
NUTR 405	3	Nutrition Throughout the Life Cycle	NUTR 420
NUTR 425	3	Community Nutrition	NUTR 420
NUTR 204	3	Vegetarian Nutrition	NUTR 201, NUTR 202, NUTR 202L
NUTR 205	2	Nutrition in Sports and Exercise	NUTR 420

Courses	Credits	Title	Prerequisite
NUTR 305	2	Sociocultural Aspects in Nutrition	NUTR 425
NUTR 320	3	Foodservice Facility Design and Equipment	NUTR 310
NUTR 440	4	Medical Nutrition Therapy I	NUTR 403, NUTR 405
NUTR 460	3	Purchasing and Preparation of Quantity Foodservice	NUTR 202, NUTR 202L, NUTR 310
NUTR 321	3	Institutional Menu Planning	NUTR 320, NUTR 460, Co-req. NUTR 321L
NUTR 321L	1	Institutional Menu Planning Laboratory	NUTR 320, NUTR 460, Co-req. NUTR 321
NUTR 435	3	Educational Strategies in Nutrition	NUTR 425
NUTR 441	4	Medical Nutrition Therapy II	NUTR 440
NUTR 451	2	Nutritional Research Methods	NUTR 420, HESC 360

Important Notes:

1. *All students will be enrolled according to the results of the placement test or results of the College Board.
2. + Includes laboratory
3. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
4. Subject to changes.

Bachelor of Sciences major in Food and Nutrition Management

Program's description

Upon completion of this innovative program, graduates will have acquired knowledge of nutrition concepts and leadership, managerial and entrepreneurship skills to compete in the work force in the food service sector or other nutrition related programs. Graduates will have a wide range of career opportunities such as food service managers or directors at hospitals, long term care facilities, schools, and corporate food service operations. Other opportunities include catering manager, food marketing, distribution, and nutrition related programs in the private or public sector.

Admission GPA: 2.50

Graduation GPA: 2.00

Curricular Content

General Education Component - 36 credits			
Courses	Credits	Title	Prerequisite
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
ENGS 153	3	Fundamentals of Speaking, Reading and Writing English II	ENGS 152*
SPGS 152*	3	Fundamentals of Reading and Writing	
SPGS 250	3	Writing Techniques	SPGS 152*
HUGS 101	3	World Culture I	
HUGS 102	3	World Culture II	HUGS 101
HIGS 201	3	Puerto Rico History and Culture	
SOGS 201	3	The Human Being and Social Consciousness	
SOGS 202	3	State-Government and the Human Being	SOGS 201
MAGS 120 (I)	3	Introduction to Algebra	
SCGS 200	3	Science, Technology and Society	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 250
Core Component- 34 credits			
Courses	Credits	Title	Prerequisite
BIOL 103	3	Biology for Health Sciences	
CHEM 224+	4	Fundamentals of General Chemistry	
BIOL 303+	4	Human Biology I	BIOL 103
CHEM 225+	4	Fundamentals of Organic Chemistry	CHEM 224
HESC 360	3	Statistics Applied to Health Science	MAGS 120 (I)
BIOL 301	3	Food Microbiology	BIOL 103
BIOL 304+	4	Human Biology II	BIOL 303, BIOL 303
BIOL 350	3	Biochemistry	CHEM 225, CHEM 225L
PSYC 123	3	General Psychology	
SPAN 255	3	Research and Writing	SPGS 250
Major Component - 57 credits			
Courses	Credits	Title	Prerequisite
NUTR 201	4	Introduction to Nutrition	BIOL 103, BIOL 303, BIOL 303L, CHEM 224, CHEM 224L, CHEM 225, CHEM 225L
NUTR 310	4	Food Service System Management	NUTR 201
NUTR 420	3	Nutritional Assessment	NUTR 201, BIOL 304, BIOL 304L
NUTR 202	3	Food Science	NUTR 201, BIOL 301
NUTR 202L	1	Food Science Laboratory	NUTR 201, BIOL 301
NUTR 305	2	Sociocultural Aspects in Nutrition	NUTR 425
NUTR 320	3	Foodservice Facility Design and Equipment	NUTR 310
NUTR 430	2	Senior Professional Development Seminar	NUTR 320
NUTR 460	3	Purchasing and Preparation of Quantity Foodservice	NUTR 202, NUTR 202L, NUTR 310
ACCO 109	3	Basic Accounting for Non-Accountants I	
ACCO 110	3	Basic Accounting for Non-Accountants II	ACCO 109
MARK 133	3	Essentials of Marketing	

Courses	Credits	Title	Prerequisite
ECON 123	3	Economic Principles and Problems Compendium	
MANA 213	3	Human Resources Management	MANA 210
MANA 230	3	Organizational Behavior	
Electives - 6 credits			
Courses	Credits	Title	Prerequisite
Elective	3		
Elective	3		

Important Notes:

1. *All students will be enrolled according to the results of the placement test or results of the College Board.
2. + Includes laboratory.
3. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
4. Subject to changes.

Bachelor in Radiological Sciences major in Computerized Tomography and Magnetic Resonance Imaging

Program's description

This program was created to meet the needs of highly specialized personnel in the field of radiologic technology, so that they can meet the demand of service demanded by the community. It also prepares leaders in the use of interdisciplinary healthcare equipment that delineates pathological and anatomical conditions using sophisticated diagnostic equipment.

Admission GPA: 2.50

Graduation GPA: 2.00

Curricular Content

General Education Component - 36 credits

Course	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
MAGS 120 (I)	3	Introduction to Algebra	
ENGS 153	3	Fundamentals of Speaking, Reading and Writing English II	ENGS 152*
SCGS 200	3	Science, Technology and Society	
HIGS 201	3	Puerto Rico History and Culture	
HUGS 101	3	World Culture I	
SPGS 250	3	Writing Techniques	SPGS 152*
SOGS 201	3	The Human Being and Social Consciousness	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 250
SOGS 202	3	State-Government and the Human Being	SOGS 201
HUGS 102	3	World Culture II	HUGS 101

Core Component- 19 credits

Course	Credits	Title	Prerequisites
BIOL 101	3	Introduction to Biological Sciences	
HESC 125+	4	Human Anatomy and Physiology I	
HESC 126+	4	Human Anatomy and Physiology II	HESC 125
HESC 231	4	Cross Sectional Anatomy I	BIOL 101, HESC 125, HESC 126
HESC 232	4	Cross Sectional Anatomy II	BIOL 101, HESC 125, HESC 126, HESC 231

Major Component - 69 credits

Course	Credits	Title	Prerequisites
RADI 101	2	Introductions To Radiological Sciences	
RADI 102	3	Radiological Physics I	MAGS 120 (I)
RADI 103	3	Medical Terminology	
RADI 104	3	Radiological Physics II	MAGS 120 (I), RADI 102
RADI 107+	3	Radiographic Positioning I	HESC 125, RADI 101, RADI 103
RADI 108+	3	Radiographic Positioning II	HESC 126, RADI 101, RADI 103, RADI 107
RADI 109+	3	Radiographic Positioning III	HESC 126, RADI 101, RADI 103, RADI 108
RADI 121	2	Patient Care	BIOL 101, RADI 101
RADI 200	3	Radiobiology and Radiology Protection	MAGS 120 (I), RADI 102, RADI 104, RADI 213
RADI 210	2	Quality Assurance	RADI 213
RADI 212	3	Pathology, Evaluation and Radiographic Critique	RADI 108, HESC 125, HESC 126
RADI 213	3	Principles of Radiographic Exposure and Processing	MAGS 120 (I), RADI 102
RADI 214	3	Cr & Dr Image Acquisition and Display	MAGS 120 (I), RADI 102, RADI 104, RADI 213
RADI 215	3	Pharmacology	
RADI 230	1	Clinical Practicum I	HESC 125, RADI 101, RADI 103, RADI 121, concurrent

Course	Credits	Title	Prerequisites
RADI 231+	1	Clinical Practicum II	with RADI 107 HESC 125, RADI 101, RADI 103, RADI 107, RADI 121, RADI 230, concurrent with RADI 108
RADI 255	2	Introduction to Imaging Modalities	
RADI 311	2	Computed Tomography Physics	RADI 102, RADI 200, concurrent HESC 231, RADI 313, RADI 316 y RADI 440
RADI 312	2	Magnetic Resonance Physics	RADI 102, RADI 200, concurrent with HESC 232, RADI 314, RADI 315 y RADI 441
RADI 313	2	Comparative Pathology I	concurrent with HESC 231, RADI 311, RADI 316 y RADI 440
RADI 314	2	Comparative Pathology II	concurrent with HESC 232, RADI 313, RADI 315 y RADI 441
RADI 315	2	CT Protocols	concurrent with HESC 231, RADI 311, RADI 313 y RADI 440
RADI 316	2	MRI Protocols	concurrent with HESC 232, RADI 312, RADI 314 y RADI 441
RADI 330	1	Clinical Practicum III	HESC 125, RADI 101, RADI 103, RADI 108, RADI 230, RADI 231, RADI 121 concurrent with RADI 109
RADI 331	1	Clinical Practicum IV	HESC 125, RADI 101, RADI 103, RADI 107, RADI 109, RADI, 330, RADI 121
RADI 380	6	Radiologic Technology Seminar Registry Review	Todos los Course de RADI, concurrent with RADI 214, RADI 255, RADI 331
RADI 440	1	Clinical Practicum with Seminar V	concurrent with HESC 231, RADI 311, RADI 313, RADI 316
RADI 441	1	Clinical Practicum with Seminar VI	concurrent with HESC 232, RADI 312, RADI 314 y RADI 315
RADI 490	2	CT Professional Review	RADI 311, RADI 316
RADI 495	2	MRI Professional Review	RADI 312, RADI 315

Important Notes:

1. * All students will be enrolled according to the results of the placement test or results of the College Board.
2. + Includes laboratory.
3. *These courses must be approved with a B or higher.
4. **Students will be placed according to the results of the University Admission Evaluation Tests (PEAU).
5. Major and core courses must be approved with a C or higher.
6. Major GPA 2.50
7. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
8. Subject to changes.

Bachelor of Sciences in General Medical Sonography major in Adult Vascular and Echocardiography Technology

Program's description

The baccalaureate degree prepares the student as a leading technician in the interdisciplinary health team that delineates pathological conditions and anatomy using sophisticated equipment that generates high-frequency sound. The student also will acquire the competencies necessary to work in different hospital scenarios and will be able to perform ultrasound studies of the abdominal, gynecological, obstetrical area, of small parts, blood vessels and adult heart.

Admission GPA: 2.50

Graduation GPA: 2.00

Curricular Content

General Education Component - 36 credits

Courses	Credits	Title	Prerequisite
SPGS 152*	3	Fundamentals of Reading and Writing	
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
MAGS 120 (I)	3	Introduction to Algebra	
ENGS 153	3	Fundamentals of Speaking, Reading and Writing English II	ENGS 152*
SCGS 200	3	Science, Technology and Society	
HIGS 201	3	Puerto Rico History and Culture	
HUGS 101	3	World Culture I	
SPGS 250	3	Writing Techniques	SPGS 152*
SOGS 201	3	The Human Being and Social Consciousness	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 250
SOGS 202	3	State-Government and the Human Being	SOGS 201
HUGS 102	3	World Culture II	HUGS 101

Core Component- 17 credits

Courses	Credits	Title	Prerequisite
HESC 125+	4	Human Anatomy and Physiology I	
HESC 126+	4	Human Anatomy and Physiology II	HESC 125
HESC 220	2	Patient Care	SONO 100
HESC 230+	4	Sectional Anatomy	HESC 126, HESC 126
HESC 335	3	Cardiovascular Anatomy	HESC 230

Major Component - 70 credits

Courses	Credits	Title	Prerequisite
SONO 100**	2	Introduction to Medical Sonography	Admission to the program
SONO 102	2	Ultrasound Scanning and Protocols	SONO 100
SONO 110	3	General Physics Compendium	MAGS 120 (I)
SONO 234	3	Ultrasound Physics and Instrumentation I	SONO 110
SONO 235	3	Ultrasound Physics and Instrumentation II	SONO 234 (I)
SONO 238+	3	Abdomen Sonography and Laboratory	HESC 125, SONO 100, SONO 102
SONO 240+	3	Small Parts Sonography and Laboratory	SONO 242, SONO 250
SONO 242+	3	Genitourinary System and Laboratory	SONO 238, SONO 247
SONO 247**	1	Clinical Education I	SONO 102, SONO 238 concurrent
SONO 248**	1	Clinical Education II	SONO 247
SONO 249**	3	Clinical Education III	SONO 248
SONO 250+	3	Obstetrical Sonography I	SONO 238, SONO 247
SONO 251	3	Obstetrical Sonography II	SONO 250
SONO 252	3	Pathology and Medical Terminology	HESC 125, SONO 100, SONO 102
SONO 256	3	Integration Seminar	HESC 125, SONO 250, SONO 240, SONO 238, SONO 242
SONO 260	2	General Sonography Review	SONO 238, SONO 242, SONO 250, SONO 248, SONO 336,

Courses	Credits	Title	Prerequisite
SONO 334	3	Physics and Vascular Instrumentation	SONO 337
SONO 336+	3	Vascular Technology I	SONO 235, SONO 260
SONO 337+	3	Vascular Technology II	HESC 335, SONO 334
SONO 338+**	3	Techniques and Protocols for Adult Echocardiography	SONO 336
SONO 340+**	3	Adult Echocardiography with laboratory	HESC 335, SONO 334
SONO 341+**	3	Adult Echocardiography practice in laboratory	SONO 338
SONO 342	3	Cardiac Pathophysiology	SONO 338, SONO 340 concurrent
SONO 347+**	2	Clinical Education in Vascular Technology I	SONO 340, SONO 341
SONO 348+**	2	Clinical Education in Vascular Technology II	SONO 334, SONO 336 concurrent
SONO 349+**	2	Clinical Education in Adult Echocardiography	SONO 341 concurrent
SONO 400+**	2	Advance Seminar of General Sonography in laboratory	SONO 340, SONO 341
			SONO 336, SONO 337

Important Notes:

1. All students will be enrolled according to the results of the placement test or results of the College Board
2. Major and core courses must be approved with a C or higher.
3. Major GPA 2.50.
4. Second-year students and above must obtain an academic evaluation with the program coordinator before completing the enrollment process.
5. ** These courses must be approved with a B or higher.
6. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
7. Subject to changes.

Bachelor in Natural Sciences with major in Respiratory Therapy

Program's description

The Baccalaureate in Natural Sciences program with a concentration in Respiratory Therapy, prepare health professionals in the area of respiratory care with a comprehensive education, with technical skills, but also with basic knowledge in psychology, mathematics and languages, and with the tools to handle new technology.

Admission GPA: 2.30

Graduation GPA: 2.00

Curricular Content

General Education Component - 36 credits

Courses	Credits	Title	Prerequisite
SPGS 152*	3	Fundamentals of Reading and Writing	
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
MAGS 120 (I)	3	Introduction to Algebra	
ENGS 153	3	Fundamentals of Speaking, Reading and Writing English II	ENGS 152*
SCGS 200	3	Science, Technology and Society	
HIGS 201	3	Puerto Rico History and Culture	
HUGS 101	3	World Culture I	
SPGS 250	3	Writing Techniques	SPGS 152*
SOGS 201	3	The Human Being and Social Consciousness	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 250
SOGS 202	3	State-Government and the Human Being	SOGS 201
HUGS 102	3	World Culture II	HUGS 101

Core Component- 20 credits

Courses	Credits	Title	Prerequisite
HESC 125 **	4	Human Anatomy and Physiology I	
HESC 126**	4	Human Anatomy and Physiology II	HESC 125
CHEM 122**	4	General Chemistry	MAGS 120(I)
PHSC 201	4	General Physics for Health Sciences	MAGS 120(I)
HESC 207	4	Microbiology	

Major Component - 54 credits

Courses	Credits	Title	Prerequisite
REST 100	3	Ethical and Professional Issues in Respiratory Care	
REST 104	3	Cardiopulmonary Pharmacology	
REST 106****	5	Fundamentals of Respiratory Care	REST 104, HESC 125
REST 210****	5	Airway Management	REST 104, REST 217, REST 106
REST 211****	5	Pulmonary Function Testing and Acid-Base Balance	REST 104, REST 106, REST 210
REST 212	3	Pulmonary Rehabilitation and Home Care	REST 211, REST 217, REST 218, REST 222
REST 217	3	Cardiopulmonary Physiology and Anatomy	HESC 125
REST 218	3	Cardiopulmonary Pathophysiology	HESC 125, REST 104
REST 222****	5	Mechanical Ventilation in Respiratory Care	REST 106, REST 210, REST 211, REST 217
REST 225	3	Patient Assessment and Special Procedures in Respiratory Care	REST 104, REST 106, REST 210, REST 211, REST 217, REST 218, REST 222
REST 227	3	Review in Respiratory Care	REST 100, REST 104, REST 106, REST 210, REST 211, REST 212, REST 217, REST 218, REST 222, REST 225, REST 413
REST 413	3	Pediatric in Respiratory Care	REST 106, REST 210, REST 212, REST 217, REST 218, REST 222
REST 417	3	Supervision And Managemet of Respiratory Care Department	REST 222

Courses	Credits	Title	Prerequisite
REST 300	3	Polysomnography	REST 104, REST 210, REST 217, REST 222, REST 218, REST 225, REST 227, REST 413
REST 421****	4	Practicum	REST 100, REST 104, REST 106, REST 210, REST 211, REST 212, REST 217, REST 218, REST 222, REST 225, REST 413, REST 417

Important Notes:

1. *All students will be enrolled according to the results of the placement test or results of the College Board. Courses have two levels: ENGS (1), ENGL 152 (I) y SPGS 152 (I)
2. Major component courses must be passed with a grade of C or better.
3. **45 laboratory hours
4. ****450 practice hours
5. In order to practice the profession, it is required that the graduate take and pass the exams offered by the Respiratory Care Examining Board of Puerto Rico.
6. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
7. Subject to change.

DEPARTMENT OF NURSING

Associate Degree in Science in Nursing

Program's description

The purpose of the Program is to prepare professionals in nursing who can perform clinical functions at primary, secondary and tertiary level, collaborating interdisciplinary with the health team and other professionals. The Associate nurse is the person who collaborates and participates in the planning and execution of direct nursing care for hospitalized and outpatient's clients. They use their basic skills and nursing skills grounded in a knowledge of the natural sciences and human behavior. It participates in activities related to the health of the family and the community and can render its services by contract with agencies or individuals as long as it exercises under the direction and supervision of the nurse or the generalist nurse or specialist.

Admission GPA: 2.25

Graduation GPA: 2.00

Curricular Content

General Education Component – (15) credits			
Course	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
MAGS 120 (I)	3	Introduction to Algebra	
HUGS 101 or	3	World Culture I or	
SOGS 201		The Human Being and Social Consciousness	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 152
Core Component– (14) credits			
Course	Credits	Title	Prerequisites
BIOL 103	3	Biology for Health Sciences	
BIOL 106+	4	Human Anatomy and Physiology	
HESC 207+	4	Microbiology	
PSYC 123	3	General Psychology	
Major Component – (37) credits			
Course	Credits	Title	Prerequisites
NURS 102+	5	Fundamentals of Practice Nursing	Co-req. HESC 207
NURS 103+	4	Basic Principles of Pharmacology	MAGS 120 (I), NURS 102
NURS 309+	5	Maternal and Child Nursing Care	NURS 102, NURS 103
NURS 313+	5	Medical-Surgical Nursing Care I	NURS 102, NURS 103
NURS 308+	5	Mental Health and Psychiatric Nursing Care	NURS 102, NURS 103, PSYC 123
NURS 314+	5	Medical-Surgical Nursing II Care	NURS 313
NURS 408+	5	Pediatric Nursing Care	NURS 309, NURS 313
NURS 407	3	Knowledge Integration in Nursing ADN	NURS 309, NURS 313,
Electives – (3) credits			
Course	Credits	Title	Prerequisites
Free Elective	3		

Important Notes:

1. + Includes laboratory.
2. * All students will be enrolled according to the results of the placement test or results of the College Board
3. Major and core courses must be approved with a C or higher.
4. Courses NURS 102, NURS 308, NURS 309, NURS 313, NURS 314, NURS 408 have a clinical practice component.
5. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
6. Accredited by Accreditation Commission for Education in Nursing (ACEN) in Carolina Campus and Cupey Campus, including its additional locations.
7. Subject to change.

Bachelor in Sciences in Nursing

Program's description

This program prepares general nurses, to provide a holistic health care to individuals and families. The program emphasizes the prevention of diseases and the promotion and maintenance of health. Students learn to intervene with patients in different stages of human growth and development and with complex health conditions in the areas of medical-surgical, maternal-infant, pediatrics, mental health, community, and psychiatric nursing. Diverse selected clinical scenarios, high technology equipment for simulation and community experiences, are used for the development of the competencies of the degree. The graduates of the baccalaureate are prepared to pass the board exam to practice the profession of nursing in Puerto Rico.

Admission GPA: 2.50

Graduation GPA: 2.00

Curricular Content

General Education Component - 36 credits

Course	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
MAGS 120 (I)	3	Introduction to Algebra	
ENGS 153	3	Fundamentals of Speaking, Reading and Writing English II	ENGS 152*
SCGS 200	3	Science, Technology and Society	
HIGS 201	3	Puerto Rico History and Culture	
HUGS 101	3	World Culture I	
SPGS 250	3	Writing Techniques	SPGS 152*
SOGS 201	3	The Human Being and Social Consciousness	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 250
SOGS 202	3	State-Government and the Human Being	SOGS 201
HUGS 102	3	World Culture II	HUGS 101

Core Component- 18 credits

Course	Credits	Title	Prerequisites
PUHE 201	3	Introduction to Biostatistics	MAGS 120 (I)
BIOL 106+	4	Human Anatomy and Physiology	
HESC 207+	4	Microbiology	
CHEM 122+	4	General Chemistry	MAGS 120 (I)
PSYC 123	3	General Psychology	

Major Component - 69 credits

Course	Credits	Title	Prerequisites
NURS 102+	5	Fundamentals of Nursing	Co-req. HESC 207
NURS 103+	4	Basic Principles of Pharmacology	MAGS 120 (I), NURS 102
NURS 300+	4	Health and Physical Assessment	NURS 102, NURS 103
NURS 215+	4	Pathophysiology for Nursing	BIOL 106, NURS 102, NURS 103
NURS 308+	5	Mental Health and Psychiatric Nursing Care	NURS 102, NURS 103, PSYC 123
NURS 309+	5	Maternal and Child Nursing Care	NURS 102, NURS 103
NURS 313+	5	Medical-Surgical Nursing Care I	NURS 102, NURS 103
NURS 209	3	Nutrition in Nursing Practice	
NURS 314+	5	Medical-Surgical Nursing II Care	NURS 313
NURS 408+	5	Pediatric Nursing Care	NURS 309, NURS 313
NURS 210+	3	Nursing Informatics	
NURS 380	3	Nursing Research	INGS 201, PUHE 201
NURS 403	5	Community Nursing	NURS 300, NURS 314, NURS 408
NURS 410+	3	Nursing Leadership and Management	NURS 403
NURS 421	4	Nursing Board Review for BSN	NURS 403
NURS 480+	6	Practicum	NURS 403

Directed Electives - 3 credits

Course	Credits	Title	Prerequisites
NURS 414	3	Nursing Care of the Older Adult	
NURS 402	3	Critical Care in Nursing	
NURS 417	3	Ethical-Legal Aspects in Nursing	

Important Notes:

1. + Includes laboratory.
1. *All students will be enrolled according to the results of the placement test or results of the College Board.
2. The NURS 102, NURS 308, NURS 309, NURS 313, NURS 314, NURS 403, NURS 408 and NURS 480 courses have a clinical practice component.
3. Major and core courses must be approved with a C or higher.
4. Second-year students and above must obtain an academic evaluation with the program coordinator before completing the enrollment process.
5. Students enrolled in courses from other academic programs must meet the pertinent prerequisites.
6. Students transferred from other universities must meet the standards of residence at UAGM.
7. The course (NURS 480) requires approval with a minimum of B.
8. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
9. Accredited by Accreditation Commission for Education in Nursing (ACEN) in Carolina Campus and Cupey Campus including additional locations.
10. Accredited by the Commission on Collegiate Nursing Education (CCNE) in Gurabo Campus and additional locations.
11. Subject to change.

LIBERAL ARTS ACADEMIC DIVISION

DEPARTMENT OF GENERAL EDUCATION

Associate of Arts in Social Sciences General

Program's description

This program provides a broad vision of society and its processes. It trains the student to understand and work in human and community service programs.

Admission GPA: 2.00

Graduation GPA: 2.00

Curricular Content

General Education Component - 15 credits			
Course	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
MAGS 120 (I)	3	Introduction to Algebra	
HUGS 101 or	3	World Culture I or	
SOGS 201		The Human Being and Social Consciousness	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 152
Core Component – 24 credits			
Course	Credits	Title	Prerequisites
PSYC 123	3	General Psychology	
SOCI 203	3	Elementary Principles of Sociology	
ECON 123	3	Economic Principles and Problems	
SOCI 216	3	Contemporary Social Problems	
SOCI 325	3	Sociology of Deviance	
GEOG 205	3	Global Communities Resources	
PSYC 225	3	Social Psychology	PSYC 123 or PSYC 121
SOSC 250	3	Statistical Methods Applied to Social Sciences	MAGS 120(I)
Major Component - 18 credits			
Course	Credits	Title	Prerequisites
POSC 380	3	Constitutional Law	
POSC 387	3	Law and Society	
POSC 390	3	International Political System	
SOCI 327	3	Community Development	
SOSC 258	3	Investigation Techniques in Social Sciences	SOSC 250
POSC 253	3	Political System of Puerto Rico	

Important Notes:

- * All students will be enrolled according to the results of the placement test or results of the College Board.
- Second-year students and above must obtain an academic evaluation with the program coordinator before completing the enrollment process.
- Students who enroll in courses from other programs must meet the corresponding prerequisites.
- Students transferred from other university institutions must comply with the residency policy at Ana G. Méndez University.
- New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
- Subject to change.

Bachelor of General Social Sciences

Program's description

It provides a broad vision of society and its processes. It enables you to understand and work on community human service programs, as well as to pursue graduate studies.

Admission GPA: 2.00

Graduation GPA: 2.00

Curricular Content

General Education Component - 36 credits			
Course	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
MAGS 120 (I)	3	Introduction to Algebra	
ENGS 153	3	Fundamentals of Speaking, Reading and Writing English II	ENGS 152
HIGS 201	3	Puerto Rico History and Culture	
HUGS 101	3	World Culture I	
SPGS 250	3	Writing Techniques	SPGS 152
SOGS 201	3	The Human Being and Social Consciousness	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 250
SOGS 202	3	State-Government and the Human Being	SOGS 201
HUGS 102	3	World Culture II	HUGS 101
SCGS 200	3	Science, Technology and Society	
Core Component- 33 credits			
Course	Credits	Title	Prerequisites
SOSC 250	3	Statistical Methods Applied to Social Sciences	MAGS 120(I)
GEOG 205	3	Global Communities Resources	
ECON 121	3	Economic Principles and Problems I	
ECON 122	3	Economic Principles and Problems II	ECON 121
POSC 380	3	Constitutional Law	
PSYC 123	3	General Psychology	
PSYC 305	3	Human Relations and Public Service	
SOSC 258	3	Investigation Techniques in Social Sciences	SOSC 250
SOCI 325	3	Sociology of Deviance	
SOCI 216	3	Comtemporany Social Problems	
SOCI 203	3	Elementary Principles of Sociology	
Major Component - 39 credits			
Course	Credits	Title	Prerequisites
PSYC 205	3	Personal Growth Development	
PSYC 225	3	Social Psychology	PSYC 123 or PSYC 121
GEOG 225	3	Geography of Puerto Rico	
POSC 253	3	Political System of Puerto Rico	
POSC 203	3	Introduction to the Study of Political Sciences	
GEOG 201	3	Physical Geography	
GEOG 202	3	Human Geography	
ECON 253	3	Economy Development of Puerto Rico	
POSC 390	3	International Political System	
POSC 387	3	Law and Society	
POSC 373	3	Political System of United States	
SOCI 327	3	Community Development	
SOCI 345	3	Industrial Sociology	
Free Electives - 12 credits			
Course	Credits	Title	Prerequisites
Elective	3		
Elective	3		
Elective	3		

Course	Credits	Title	Prerequisites
Elective	3		

Important Notes:

1. * All students will be enrolled according to the results of the placement test or results of the College Board.
2. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
3. Subject to change.

Bachelor of Arts in Humanities major in Socio-Humanistic Studies

Program's description

Provide a solid foundation in the humanities and social sciences that will enable you to attend social situations and pursue graduate studies.

Admission GPA: 2.00

Graduation GPA: 2.00

Curricular Content

General Education Component - 36 credits

Course	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
MAGS 120 (I)	3	Introduction to Algebra	
ENGS 153	3	Fundamentals of Speaking, Reading and Writing English II	ENGS 152
HIGS 201	3	Puerto Rico History and Culture	
HUGS 101	3	World Culture I	
SPGS 250	3	Writing Techniques	SPGS 152
SOGS 201	3	The Human Being and Social Consciousness	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 250
SOGS 202	3	State-Government and the Human Being	SOGS 201
HUGS 102	3	World Culture II	HUGS 101
SCGS 200	3	Science, Technology and Society	

Core Component- 30 credits

Course	Credits	Title	Prerequisites
SOSC 250	3	Statistical Methods Applied to Social Sciences	MAGS 120 (I)
SOCI 216	3	Comtemporany Social Problems	
SOCI 325	3	Sociology of Deviance	
POSC 380	3	Constitutional Law	
POSC 390	3	International Political System	
ECON 123	3	Economic Principles and Problems	
POSC 253	3	Political System of Puerto Rico	
ART 101	3	Art Appreciation	
PHIL 201	3	Introduction to Philosophy	
COMM 211	3	Legal and Ethical Aspects of Communications	

Major Component - 24 credits

Course	Credits	Title	Prerequisites
PSYC 123	3	General Psychology	
SOCI 203	3	Elementary Principles of Sociology	
POSC 387	3	Law and Society	
SOSC 258	3	Investigation Techniques in Social Sciences	SOSC 250
GEOG 205	3	Global Communities Resources	
POSC 373	3	Political System of United States	
SOCI 327	3	Community Development	
POSC 203	3	Introduction to the Study of Political Sciences	

Electives - 30 credits

Course	Credits	Title	Prerequisites
Elective	3	Concentration electives	
Elective	3	Concentration electives	
Elective	3	Concentration electives	
Elective	3	Concentration electives	
Elective	3	Concentration electives	
Elective	3	Concentration electives	
Elective	3	Free Elective	
Elective	3	Free Elective	
Elective	3	Free Elective	

Course	Credits	Title	Prerequisites
Elective	3	Free Elective	

Important Notes:

1. * All students will be enrolled according to the results of the placement test or results of the College Board.
2. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
3. Subject to change.

DEPARTMENT OF EDUCATION

Associate Degree in Infants and Toddlers

Program's description

The Infants and Toddlers Associate Degree is a program designed for the preparation of professionals that will work in childcare centers for infants and toddlers, and Early Head Start centers. The program offers professional formation so that graduates can provide services in compliance with the appropriate practices and quality standards regarding early child development. The process will be centered on the acquisition of knowledge, skills and attitudes toward the relationships among the social, physical, emotional, linguistic, creative and cognitive developmental dimensions of typical and atypical children. The program will provide future professionals with the tools that they will use in the field to help children develop the required skills to be successful in their real-world settings and eventually in school.

Admission GPA: 2.00

Graduation GPA: 2.50

Curricular Content

General Education Component – 15 credits			
Course	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
MAGS 120 (I)	3	Introduction to Algebra	
HUGS 101 or	3	World Culture I or	
SOGS 201	3	The Human Being and Social Consciousness	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 152
Core Component- 12 credits			
Course	Credits	Title	Prerequisites
ITAD 106	3	Introduction to Infants and Toddlers Education	
ITAD 302	3	Health, Safety, Hygiene and Nutrition: Significant Axes in Early Intervention	
ITAD 308	3	Family and the Community: Bridges for The Formation of Infants and Toddlers	
ITAD 403	3	Creation And Management of Environments for Infants and Toddlers	ITAD 363
Major Component - 30 credits			
Course	Credits	Title	Prerequisites
ITAD 173	3	Child Development I: Cognitive, Physical and Motor Aspects	
ITAD 174	3	Child Development II: Social and Emotional Aspects	ITAD 173
ITAD 222	3	Second Language Development in Infants and Toddlers	ITAD 173
ITAD 225	3	Methodology for the Design of Developmental Environments for Infants and Toddlers	ITAD 355, 363
ITAD 339	3	Inclusion Practices in Infants and Toddler Development Programs	ITAD 173
ITAD 355	3	Observation Techniques for the Assessment of Infants and Toddlers	ITAD 173
ITAD 363	3	Curriculum For Infants and Toddlers	ITAD 173
ITAD 401	3	Clinical Experiences Seminar	ITAD 355, 363
ITAD 440	3	Practice in Environments for the Development of Toddlers	ITAD 401
ITAD 441	3	Practice in Infant Development Environments	ITAD 401

Important Notes:

- * All students will be enrolled according to the results of the placement test or results of the College Board.
- New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
- Subject to change.

Associate Degree in Education with emphasis in Exercise Instructor

Program's description

The associate degree in Exercise Instructor has two objectives: to prepare instructors in physical efficiency and certify them as personal trainers with the Department of Recreation and Sports.

Admission GPA: 2.00

Graduation GPA: 2.50

Curricular Content

General Education Component – 15 credits			
Course	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
MAGS 120 (I)	3	Introduction to Algebra	
HUGS 101 or	3	World Culture I or	
SOGS 201	3	The Human Being and Social Consciousness	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 152
Core Component- 6 credits			
Course	Credits	Title	Prerequisites
EDUC 100	3	Education and Society	
EDUC 327	3	Foundations of Health, Hygiene and Nutrition	
Major Component - 27 credits			
Course	Credits	Title	Prerequisites
ESHP 101	3	Introduction to Exercise Sciences	
ESHP 201	3	Anatomy and Kinesiology	
ESHP 202	3	Exercise Physiology	ESHP 201
ESHP 203	3	Design and Prescription of Exercise	ESHP 202
ESHP 204	3	Exercices with Special Population	ESHP 203
ESHP 300	3	Psychological Foundation of Exercise	
ESHP 301	3	Managing and Teaching Exercise Classes	ESHP 203
REED 110	3	First Aid for Sports and Physical Activities	
ESHP 302	3	Practice as a Personal Trainer	ESHP 101, ESHP 204, ESHP 301
Electives - 3 credits			
Course	Credits	Title	Prerequisites
Elective	3		

Important Notes:

1. * All students will be enrolled according to the results of the placement test or results of the College Board.
2. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
3. Subject to change.

Associate Degree in Sports Training

Program's description

The Associate Degree in Sports Training is a program that provides professional formation to future trainers, sports leaders working in sports leagues or community organizations, or parents of athletes. The program facilitates the development of candidates' competencies towards an effective role, ethical behavior and an understanding of the need for equity and inclusion in the sports. The learning experience is supported by the acquisition of a theoretical (science) and practical (physical activity) framework of the required content, so that the candidate will become competent as a trainer, based on an ethical and behavioral. The code is based on the social responsibility of protecting the safety and well-being of persons participating in different sports programs, as well as the defense of the athlete's rights. The program is guided by the regulations for the initial and sport development levels of trainer studies of the American Sport Education Program (ASEP) and the National Association of Sport and Physical Education (NASPE) in the United States, as well as the Aligning a European Higher Education Structure in Sport Science (AEHESIS) in Europe.

Admission GPA: 2.00

Graduation GPA: 2.00

Curricular Content

General Education Component – 15 credits			
Course	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
ENG5 152*	3	Fundamentals of Speaking, Reading and Writing English I	
MAGS 120 (I)	3	Introduction to Algebra	
HUGS 101 or	3	World Culture I o	
SOGS 201		The Human Being and Social Consciousness	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 152
Core Component- 12 credits			
Course	Credits	Title	Prerequisites
EDUC 245	3	Human Growth and Development	
PHED 220	3	Anatomy and Physiology	
PHED 222	3	First Aid and Swimming	
PHED 355	3	Evaluation and Research in Physical Education	
Major Component - 27 credits			
Course	Credits	Title	Prerequisites
SPRT 101	3	Sport Pedagogy	
SPRT 102	3	Methodology for Training	
SPRT 103	3	Physiology for Sport Fitness Performance	
SPRT 104	3	Methodology of Physical Training	
SPRT 105	3	Ethical and Philosophical Principles of the Coach	
SPRT 106	3	Fundamental Analysis of Movement in Sport	
SPRT 108	3	Sport Management for Coaches	
SPRT 109	3	Concepts of Sport Psychology	
SPRT 110	3	Sport Coaching Practicum	

Important Notes:

- * All students will be enrolled according to the results of the placement test or results of the College Board.
- New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
- Subject to change.

Associate Degree in Personal Training

Program's description

The Associate Degree in Personal Training is a program that provides professional formation to future trainers, sports leaders working in sports leagues or community organizations, or parents of athletes. The program facilitates the development of candidate's competencies towards an effective role, ethical behavior and an understanding of the need for equity and inclusion in the field of physical training. The learning experience is supported by the acquisition of a theoretical (science) and practical (physical activity) framework of the required content, so that the candidate will become competent as a trainer, based on an ethical and behavioral code. The code is based on the social responsibility of protecting the safety and well-being of persons participating in different personal and training programs, as well as the defense of each participant's rights. The program is guided by the regulations for trainer studies of the National Strength and Conditioning Association (NSCA) and the American Council on Exercise (ACE).

Admission GPA: 2.00

Graduation GPA: 2.00

Curricular Content

General Education Component – 15 credits

Course	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
MAGS 120 (I)	3	Introduction to Algebra	
HUGS 101 or	3	World Culture I or	
SOGS 201		The Human Being and Social Consciousness	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 152

Core Component- 9 credits

Course	Credits	Title	Prerequisites
EDUC 245	3	Human Growth and Development	
PHED 210	3	Individual Well-Being and Integral Health	
PHED 220	3	Anatomy and Physiology	

Major Component - 30 credits

Course	Credits	Title	Prerequisites
PERT 102	3	Massage Techniques	
PERT 103	3	Multiple Exercise Programs in Physical Training	
PERT 104	3	Management Strateg for the Personal Trainer	
PERT 105	3	Advanced Evaluation and Management of Athletic Injuries	
PERT 106	3	Design of Cardiovascular and Strength Training Programs	
PERT 107	3	Special Population Exercise Programs Design	
PERT 108	3	Analysis of Current Issues About Personal Training	
PERT 109	3	Clinical Practice in Personal Training	
SPRT 102	3	Methodology for Training	
SPRT 106	3	Fundamental Analysis of Movement in Sport	

Important Notes:

1. *All students will be enrolled according to the results of the placement test or results of the *College Board*.
2. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
3. Subject to change.

Associate Degree in Sign Language Interpretation

Program's description

The Associate Degree in Sign Language Interpretation will be the first academic program at this level in Puerto Rico. The Program will provide theoretical, academic and technical training to those students desiring to pursue a degree in interpreting for the deaf. It includes classroom lectures, laboratory practice skills and field experience in the deaf and hearing community. The structure of the program provides for the students to have opportunities for incidental learning. The program is focused on the student who does not have an academic degree and is interested in developing sign language and interpreting skills to work in immediate settings such as education, vocational and community settings. The program includes courses in liberal arts, which are important for the students to be able to interpret in any setting.

Admission GPA: 2.00

Graduation GPA: 2.00

Curricular Content

General Education Component – 15 credits

Course	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
MAGS 120 (I)	3	Introduction to Algebra	
HUGS 101 or SOGS 201	3	World Culture I or The Human Being and Social Consciousness	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 152

Core Component- 9 credits

Course	Credits	Title	Prerequisites
SIGN 106	3	Visual Gestural Communication and Clasifiers	SIGN 102
SIGN 121	3	Historic and Socio-Cultural Aspects of the Puerto Rican Deaf Culture	
SIGN 122	3	Sign Language Discourse	SIGN 104

Major Component - 27 credits

Course	Credits	Title	Prerequisites
SIGN 102	3	Sign Language I: Foundations, Spelling and Numbers	
SIGN 103	3	Sign Language II: Conversation	SIGN 102
SIGN 104	3	Sign Language III: Narratives	SIGN 103
SIGN 203	3	Introduction to Sign Language Interpreting	SIGN 102, SIGN 121
SIGN 302	3	Ethical and Professional Principles	SIGN 203
SIGN 105	3	Sign Language IV: Advanced	SIGN 104
SIGN 201	3	Sign Language Linguistics	
SIGN 204	3	Interpreting Process Skills	SIGN 203
SIGN 303	3	Consecutive Interpreting	SIGN 203

Directed Electives - 6 credits

Course	Credits	Title	Prerequisites
SPED 315	3	Psychology and Education of the Exceptional Child	
SPTH 257	3	Introduction to Audiology and Aural Rehabilitation	

Important Notes:

1. *All students will be enrolled according to the results of the placement test or results of the *College Board*.
2. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
3. Subject to change.

Bachelor in Arts in Education major in Teaching English as a Second Language K-12

Program's description

The candidate who graduates from these programs will be an academically prepared professional who will be able to perform successfully and contribute favorably to the development of English Learners (ELL). The graduate profile is aligned with the public policy and legislation documents that affect the program, as well as with the CAEP / TESOL Standards for teacher preparation programs.

Admission GPA: 2.50 (See admission requirements for accelerated adult program.)

Graduation GPA: 3.00

Curricular Content

General Education Component - 36 credits

Course	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
MAGS 120 (I)	3	Introduction to Algebra	
ENGS 153	3	Fundamentals of Speaking, Reading and Writing English II	ENGS 152*
SCGS 200	3	Science, Technology and Society	
HIGS 201	3	Puerto Rico History and Culture	
HUGS 101	3	World Culture I	
SPGS 250	3	Writing Techniques	SPGS 152*
SOGS 201	3	The Human Being and Social Consciousness	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 250
SOGS 202	3	State-Government and the Human Being	SOGS 201
HUGS 102	3	World Culture II	HUGS 101

Core Component- 39 credits

Course	Credits	Title	Prerequisites
HIST 273	3	History of United States of America	
EDUC 106	3	Introduction to Education and Field Experience I	
EDUC 161	3	Integration of Technology in Education	EDUC 106
EDUC 245	3	Human Growth and Development	
EDUC 250	3	Exceptional Child Education and Assistive Technology	EDUC 245
EDUC 251	3	Sociological Foundations in Education	EDUC 106
EDUC 252	3	Psychological Foundations in Education	EDUC 245
EDUC 370	3	Philosophical Foundations in Education	EDUC 251, EDUC 252
EDUC 375	3	Curriculum Planning and Design	EDUC 370
EDUC 376	3	Evaluation, Measurement, and Assessment of the Educational Process	EDUC 375
EDUC 419	3	Introduction to Educational Research	MAGS 120 (I), INGS 201
EDUC 435	3	Interdisciplinary Seminar	Program authorization
EDUC 436	3	Seminar of Pedagogical Integration	Program authorization

Major Component - 42 credits

Course	Credits	Title	Prerequisites
ENGL 230	3	Introduction to Literary Genres	
ENGL 245	3	English Grammar	
ENGL 247	3	Introduction to Linguistics	ENGL 153
ENGL 310	3	English Phonetics	ENGL 228
ENED 105	3	Introduction to the Teaching of English as a Second Language	
ENED 204	3	Children's Literature in the ESL Classroom	ENGL 220
ENED 205	3	Adolescent Literature in the ESL Classroom	ENGL 220
ENED 350	3	Introduction to Multicultural Education	
ENED 320	3	Teaching Reading and Writing in the ES Classroom	
ENED 365	3	ESL Curriculum: Methods, Materials, and Assessment in the ESL Classroom	EDUC 375

Course	Credits	Title	Prerequisites
ENED 403	3	Teaching Oral Communication in English as a Second Language	
ENED 437	3	Clinical Experiences (Pre-Practicum in TESL K-12)	Program authorization
ENED 438	6	Practicum and Seminar in TESL K-12	Program authorization

Important Notes:

1. *All students will be enrolled according to the results of the placement test or results of the *College Board*.
2. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
3. Accredited by Council for the Accreditation of Educator Preparator (CAEP) in Gurabo Campus, Cupey Campus and Carolina Campus, including additional locations.
4. The student who does not approve the EDUC 435 or EDUC 436 course may enroll in the EDUC 437 Advanced Seminar in Education course in order to repeat the course. This course does not carry additional credits or additional cost.
5. Subject to change.

Bachelor of Arts in Education major in Special Education K-12

Program's description

The student who graduates from this program will be academically well prepared to work as a special education teacher in elementary and secondary level. This program will form a citizen with a base on knowledge about the behavior and development of the human being, specially on exceptional children and adolescents. The student who pursuit this major, develops the necessary skills, knowledge, and values to manage the professional demands of this field according to the sensibility, law and legislations that protect this population. Through this program, it is expected that the educator contributes to improve the quality of life of the exceptional population, to develop effective communication skills and identify solutions for social problems. In addition, it is expected that the educator develops a comprehensive and tolerance attitude towards the cultural diversity and respect to the human being.

Admission GPA: 2.50 (See admission requirements for accelerated adult program.)

Graduation GPA: 3.00

Curricular Content

General Education Component - 36 credits

Course	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
MAGS 120 (I)	3	Introduction to Algebra	
ENGS 153	3	Fundamentals of Speaking, Reading and Writing English II	ENGS 152*
SCGS 200	3	Science, Technology and Society	
HIGS 201	3	Puerto Rico History and Culture	
HUGS 101	3	World Culture I	
SPGS 250	3	Writing Techniques	SPGS 152*
SOGS 201	3	The Human Being and Social Consciousness	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 250
SOGS 202	3	State-Government and the Human Being	SOGS 201
HUGS 102	3	World Culture II	HUGS 101

Core Component- 39 credits

Course	Credits	Title	Prerequisites
HIST 273	3	History of United States of America	
EDUC 106	3	Introduction to Education and Field Experience I	
EDUC 161	3	Integration of Technology in Education	EDUC 106
EDUC 245	3	Human Growth and Development	
EDUC 250	3	Exceptional Child Education and Assistive Technology	EDUC 245
EDUC 251	3	Sociological Foundations in Education	EDUC 106
EDUC 252	3	Psychological Foundations in Education	EDUC 245
EDUC 370	3	Philosophical Foundations in Education	EDUC 251; EDUC 252
EDUC 375	3	Curriculum Planning and Design	EDUC 370
EDUC 376	3	Evaluation, Measurement, and Assessment of the Educational Process	EDUC 375
EDUC 419	3	Introduction to Educational Research	MAGS 120 (I), INGS 201
EDUC 435	3	Interdisciplinary Seminar	Program authorization
EDUC 436	3	Seminar of Pedagogical Integration	Program authorization

Major Component - 39 credits

Course	Credits	Title	Prerequisites
SPED 201	3	Assistive Technology in Special Education	EDUC 250
SPED 202	3	Ethics, Collaboration and Professional Learning in Special Education	
SPED 295	3	Evaluation and Assessment for Students with Special Needs	SPED 306
SPED 306	3	Curriculum, Transition, and Inclusion in K-12 Special Education	EDUC 250
SPED 330	3	Early Intervention and Special Education	
SPED 390	3	Methodology of Teaching Mathematics in Special Education	SPED 393
SPED 393	3	Special Education Teaching Methodology K-12	SPED 306
SPED 394	3	Methodology In Teaching Reading-Writing in Special Education Part I	SPED 393
SPED 395	3	Methodology In Teaching Reading-Writing in Special Education Part II	SPED 394
SPED 396	3	Learning Environment and Behavior Modification Models	SPED 306
SPED 420	3	Clinical Experience in Special Education K-12	Program authorization

Course	Credits	Title	Prerequisites
SPED 430	6	Practicum Seminar in Special Education K-12	Program authorization

Important Notes:

1. *All students will be enrolled according to the results of the placement test or results of the *College Board*.
2. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
3. Accredited by Council for the Accreditation of Educator Preparator (CAEP) in Gurabo Campus, Cupey Campus and Carolina Campus.
4. The student who does not approve the EDUC 435 or EDUC 436 course may enroll in the EDUC 437 Advanced Seminar in Education course in order to repeat the course. This course does not carry additional credits or additional cost.
5. Subject to change.

Bachelor of Arts in Education major in Physical Education K-12

Program's description

This baccalaureate provides a space for the training of future innovative teachers in physical education from the level of K to 12, it is aimed at the development of competent teachers in the scientific foundations, sports skills and the historical perspective in the field, in addition to the objective's general education.

Admission GPA: 2.50 (See admission requirements for accelerated adult program.)

Graduation GPA: 3.00

Curricular Content

General Education Component – 36 credits

Course	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
MAGS 120 (I)	3	Introduction to Algebra	
ENGS 153	3	Fundamentals of Speaking, Reading and Writing English II	ENGS 152*
SCGS 200	3	Science, Technology and Society	
HIGS 201	3	Puerto Rico History and Culture	
HUGS 101	3	World Culture I	
SPGS 250	3	Writing Techniques	SPGS 152*
SOGS 201	3	The Human Being and Social Consciousness	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 250
SOGS 202	3	State-Government and the Human Being	SOGS 201
HUGS 102	3	World Culture II	HUGS 101

Core Component- 39 credits

Course	Credits	Title	Prerequisites
HIST 273	3	History of United States of America	
EDUC 106	3	Introduction to Education and Field Experience I	
EDUC 161	3	Integration of Technology in Education	EDUC 106
EDUC 245	3	Human Growth and Development	
EDUC 250	3	Exceptional Child Education and Assistive Technology	EDUC 245
EDUC 251	3	Sociological Foundations in Education	EDUC 106
EDUC 252	3	Psychological Foundations in Education	EDUC 245
EDUC 370	3	Philosophical Foundations in Education	EDUC 251, EDUC 252
EDUC 375	3	Curriculum Planning and Design	EDUC 370
EDUC 376	3	Evaluation, Measurement, and Assessment of the Educational Process	EDUC 375
EDUC 419	3	Introduction to Educational Research	MAGS 120 (I), INGS 201
EDUC 435	3	Interdisciplinary Seminar	Program authorization
EDUC 436	3	Seminar of Pedagogical Integration	Program authorization

Major Component - 45 credits

Course	Credits	Title	Prerequisites
PHED 101	3	Origin, History and Fundamentals of Physical Education	
PHED 102	3	Anatomy and Kinesiology Applied to Physical Education K-12	
PHED 205	3	Exercise Physiology Applied to Physical Education K-12	
PHED 222	3	First Aid and Swimming	
PHED 302	3	Individual Sports in Physical Education K-12	
PHED 303	3	Teams Sports in Physical Education K-12	
PHED 310	3	Theory and Practice in Physical Education	
PHED 330	3	Adapted Physical Education K-12	
PHED 335	3	Curriculum Design in Physical Education K-12	
PHED 400	3	K-12 Physical Education Planning and Methodology	
PHED 415	3	Physical Education Administration K-12	
PHED 420	3	Evaluation and Measurement of Physical Education K12	
PHED 425	3	Clinical Experience in Physical Education K-12	Program authorization
PHED 450	6	Practicum and Seminar in Physical Education K-12	Program authorization

Important Notes:

1. *All students will be enrolled according to the results of the placement test or results of the *College Board*.
2. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
3. Accredited by Council for the Accreditation of Educator Preparator (CAEP) in Gurabo Campus, Cupey Campus and Carolina Campus.
4. The student who does not approve the EDUC 435 or EDUC 436 course may enroll in the EDUC 437 Advanced Seminar in Education course in order to repeat the course. This course does not carry additional credits or additional cost.
5. Subject to change.

Bachelor of Arts major in Sports and Recreation

Program's description

The students who graduate from Recreation and Sports will be academically well prepared with the proper, knowledge, skills, and attitudes to provide professional services regarding adequate supervision, employee communication, planning management and legal aspects on the labor stage, local and internationally. They will have the knowledge to transmit the importance of solving the inner necessity in everyone to use their free time in a positive way promoting healthy activities to grow in the community. They can work in any environment teaching the citizen how to get out of the ordinary and stressful labors activities to reconstruct and revitalize their body and mind through the Recreation and Sports. They have the tools to work with active or passive recreation activities to cope with all the ages as part of the diversity. Where there are people, there can be a professional of Recreation and Sport teaching activities for life.

Admission GPA: 2.00

Graduation GPA: 2.50

Curricular Content

General Education Component - 36 credits

Course	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
MAGS 120 (I)	3	Introduction to Algebra	
ENGS 153	3	Fundamentals of Speaking, Reading and Writing English II	ENGS 152
SCGS 200	3	Science, Technology and Society	
HIGS 201	3	Puerto Rico History and Culture	
HUGS 101	3	World Culture I	
SPGS 250	3	Writing Techniques	SPGS 152
SOGS 201	3	The Human Being and Social Consciousness	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 250
SOGS 202	3	State-Government and the Human Being	SOGS 201
HUGS 102	3	World Culture II	HUGS 101

Core Component- 18 credits

Course	Credits	Title	Prerequisites
MSED 306	3	Teaching Social Responsibility throug Sports	
REED 316	3	Social Issues in Recreation, Physical Education and Exercise Sciences	
EDUC 327	3	Foundations of Health, Hygiene, and Nutrition	
EDUC 317	3	Statistics for Teachers	
MSED 100	3	Introduction to Sports Sciences	
MSED 102	3	Sports Management	

Major Component - 42 credits

Course	Credits	Title	Prerequisites
REED 105	3	Philosophical And Historical Foundations of Recreation	
REED 106	3	Recreation Governmental	
REED 107	3	Therapeutic Recreation	
REED 108	3	Commercial Recreation, Tourism and Entrepreneurship	
REED 200	3	Development of Recreational Programs	
REED 205	3	Administration and Supervision of Recreational Services	REED 200
REED 320	3	Design and Management of Recreational and Sports Facilities	REED 105, REED 200
REED 303	3	Administration of Urban and National Parks	
REED 400	3	Assessment, Measurement and Evaluation in Recreation	REED 205, MAGS 120
REED 410	3	Investigation Recreation	REED 400
REED 420	6	Practicum I: Administration, Supervision and Leadership in Recreation	
REED 425	6	Practicum II: Development and Evaluation of Recreational Programs	

Recreational Therapy Emphasis Area - 12 credits

TRED 200	3	Recreational Therapy with Mental Health Patients
TRED 201	3	Recreation as Play Therapy for Infants and Children
TRED 202	3	Recreational Therapy with Mental Health Patients

Course	Credits	Title	Prerequisites
TRED 203	3	Recreational therapy with Geriatric Populations	
PHED 222	3	First Aid and Swimming	
TRED 204	3	Recreational Therapy Client Assessment	

Business Recreation and Entrepreneurship Emphasis Area - 12 credits

Course	Credits	Title	Prerequisites
RECR 205	3	Commercial Tourism Recreation	
CRED 201	3	Entrepreneurship and Self-Employment in Recreation	
CRED 203	3	Development of Small Business in Recreation	
CRED 202	3	Events Coordination	
CRED 204	3	Media, Social Networks and Recreational and Sports Entrepreneurship	
PHED 222	3	First Aid and Swimming	

Emphasis area in Pedagogical Sport - 12 credits

Course	Credits	Title	Prerequisites
SPRT 101	3	Sport Pedagogy	
PHED 302	3	Individual Sports in Physical Education K-12	
PHED 303	3	Teams Sports in Physical Education K-12	
MSED 210	3	Sports Coaching	
PHED 222	3	First Aid and Swimming	
RESP 402	3	Recreational Activities at Golden Age	

Important Notes:

1. *All students will be enrolled according to the results of the placement test or results of the *College Board*.
2. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
3. Subject to change.

Bachelor of Arts in Education major in Early Childhood: Preschool and K-3

Program's description

Preschool and K-3: This baccalaureate provides a training space for future innovative teachers at the preschool level prepared to design learning environments that stimulate discovery and interest in learning at an early age.

Admission GPA: 2.50 (See admission requirements for accelerated adult program.)

Graduation GPA: 3.00

Curricular Content

General Education Component - 36 credits

Course	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
MAGS 120 (I)	3	Introduction to Algebra	
ENGS 153	3	Fundamentals of Speaking, Reading and Writing English II	ENGS 152*
SCGS 200	3	Science, Technology and Society	
HIGS 201	3	Puerto Rico History and Culture	
HUGS 101	3	World Culture I	
SPGS 250	3	Writing Techniques	SPGS 152*
SOGS 201	3	The Human Being and Social Consciousness	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 250
SOGS 202	3	State-Government and the Human Being	SOGS 201
HUGS 102	3	World Culture II	HUGS 101

Core Component- 39 credits

Course	Credits	Title	Prerequisites
HIST 273	3	History of United States of America	
EDUC 106	3	Introduction to Education and Field Experience I	
EDUC 161	3	Integration of Technology in Education	EDUC 106
EDUC 245	3	Human Growth and Development	
EDUC 250	3	Exceptional Child Education and Assistive Technology	EDUC 245
EDUC 251	3	Sociological Foundations in Education	EDUC 106
EDUC 252	3	Psychological Foundations in Education	EDUC 245
EDUC 370	3	Philosophical Foundations in Education	EDUC 251, EDUC 252
EDUC 375	3	Curriculum Planning and Design	EDUC 370
EDUC 376	3	Evaluation, Measurement, and Assessment of the Educational Process	EDUC 375
EDUC 419	3	Introduction to Educational Research	MAGS 120 (I), INGS 201
EDUC 435	3	Interdisciplinary Seminar	Program authorization
EDUC 436	3	Seminar of Pedagogical Integration	Program authorization

Major Component - 45 credits

Course	Credits	Title	Prerequisites
ECED 173	3	Introduction to Early Childhood Education	EDUC 245
ECED 200	3	Play And Art as Educational Strategies	ECED 173
ECED 201	3	Family as the Main Axis of a Learning Community	ECED 173
ECED 301	3	Curriculum, Methodology, And Evaluation in Preschool Education	ECED 201
ECED 308	3	Management of Physical and Socio-Emotional Preschool Environment	ECED 173
ECED 360	3	Teaching of Reading and Writing for Preschoolers	ECED 301
SPED 330	3	Early Intervention and Special Education	
EDUC 416	3	Teaching Mathematics at the Primary Level K-3	EDUC 375
EDUC 411	3	Science Teaching at the Elementary School	EDUC 375
EDUC 412	3	Teaching of Social Studies at the Primary Level K-3	EDUC 375
EDUC 413	3	Teaching English at Primary Level K-3	EDUC 375
EDUC 414	3	Language Arts at the Primary Level K-3	EDUC 375
ECED 441	3	Clinical Experience in Early Child Education	Program authorization
ECED 443	6	Practicum Seminar in Early Child Education	Program authorization

Electives - 6 credits

Course	Credits	Title	Prerequisites
Elective	3		
Elective	3		

Important Notes:

1. *All students will be enrolled according to the results of the placement test or results of the *College Board*.
2. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
3. Accredited by Council for the Accreditation of Educator Preparator (CAEP) in Gurabo Campus, Cupey Campus and Carolina Campus, including additional locations.
4. The student who does not approve the EDUC 435 or EDUC 436 course may enroll in the EDUC 437 Advanced Seminar in Education course in order to repeat the course. This course does not carry additional credits or additional cost.
5. Subject to change.

Bachelor Degree of Arts in Education major in Elementary Education, 4th to 6th Grade

Program's description

This baccalaureate provides a training space for future innovative teachers at the fourth to sixth grade level, prepared to design learning environments that foster a meaningful experience of acquiring knowledge of academic subjects.

Admission GPA: 2.50 (See admission requirements for accelerated adult program.)

Graduation GPA: 3.00

Curricular Content

General Education Component - 36 credits

Course	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
MAGS 120 (I)	3	Introduction to Algebra	
ENGS 153	3	Fundamentals of Speaking, Reading and Writing English II	ENGS 152*
SCGS 200	3	Science, Technology and Society	
HIGS 201	3	Puerto Rico History and Culture	
HUGS 101	3	World Culture I	
SPGS 250	3	Writing Techniques	SPGS 152*
SOGS 201	3	The Human Being and Social Consciousness	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 250
SOGS 202	3	State-Government and the Human Being	SOGS 201
HUGS 102	3	World Culture II	HUGS 101

Core Component- 39 credits

Course	Credits	Title	Prerequisites
HIST 273	3	History of United States of America	
EDUC 106	3	Introduction to Education and Field Experience I	
EDUC 161	3	Integration of Technology in Education	EDUC 106
EDUC 245	3	Human Growth and Development	
EDUC 250	3	Exceptional Child Education and Assistive Technology	EDUC 245
EDUC 251	3	Sociological Foundations in Education	EDUC 106
EDUC 252	3	Psychological Foundations in Education	EDUC 245
EDUC 370	3	Philosophical Foundations in Education	EDUC 251, EDUC 252
EDUC 375	3	Curriculum Planning and Design	EDUC 370
EDUC 376	3	Evaluation, Measurement, and Assessment of the Educational Process	EDUC 375
EDUC 419	3	Introduction to Educational Research	MAGS 120 (I), INGS 201
EDUC 435	3	Interdisciplinary Seminar	Department authorization
EDUC 436	3	Seminar of Pedagogical Integration	Department authorization

Major Component - 30 credits

Course	Credits	Title	Prerequisites
PHED 207	3	Games and Sports	EDUC 106
EDUC 221	3	Spanish Teaching Methodology (4-6)	SPGS 152, EDUC 375
EDUC 222	3	English Teaching Methodology in Elementary School	ENGS 152, EDUC 161, EDUC 375
EDUC 323	3	Literature for Children	SPGS 152, EDUC 161
EDUC 351	3	Teaching Science in Elementary School	SCGS 200, EDUC 161, EDUC 375
EDUC 353	3	Teaching Mathematics in Elementary School	MAGS 120 (I), EDUC 161, EDUC 375,
EDUC 357	3	Teaching Social Studies in Elementary School	HIGS 201, HIST 273, HUGS 101, EDUC 375
EDUC 395	3	Clinical Experiences in Elementary Education	Department authorization
EDUC 396	6	Practicum and Seminar in Elementary Forth to Sixth Grade	Department authorization

Important Notes:

1. *All students will be enrolled according to the results of the placement test or results of the *College Board*.
2. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
3. Accredited by Council for the Accreditation of Educator Preparator (CAEP) in Gurabo Campus and Cupey Campus, including additional locations.
4. The student who does not approve the EDUC 435 or EDUC 436 course may enroll in the EDUC 437 Advanced Seminar in Education course in order to repeat the course. This course does not carry additional credits or additional cost.
5. Subject to change.

Bachelor of Secondary Education major in Spanish

Program's description

This baccalaureate provides space for the graduate to successfully carry out his teaching career. It is a program that combines theory and practice through clinical experiences (classroom observations, teacher's aide, pre-practicing teachers, practicing teacher). In such a way that theory and practice go hand in hand. The graduate will be able to use pertinent methods in the teaching of his specialty, use and select literature, didactic materials and appropriate resources for the development of the teaching-learning process.

Admission GPA: 2.50

Graduation GPA: 3.00

Curricular Content

General Education Component - 36 credits

Course	Credits	Title	Prerequisites
SPGS 152 *	3	Fundamentals of Reading and Writing	
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
MAGS 120 (I)	3	Introduction to Algebra	
ENGS 153	3	Fundamentals of Speaking, Reading and Writing English II	ENGS 152*
SCGS 200	3	Science, Technology and Society	
HIGS 201	3	Puerto Rico History and Culture	
HUGS 101	3	World Culture I	
SPGS 250	3	Writing Techniques	SPGS 152*
SOGS 201	3	The Human Being and Social Consciousness	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 250
SOGS 202	3	State-Government and the Human Being	SOGS 201
HUGS 102	3	World Culture II	HUGS 101

Core Component- 39 credits

Course	Credits	Title	Prerequisites
HIST 273	3	History of United States of America	
EDUC 106	3	Introduction to Education and Field Experience I	
EDUC 161	3	Integration of Technology in Education	EDUC 106
EDUC 245	3	Human Growth and Development	
EDUC 250	3	Exceptional Child Education and Assistive Technology	EDUC 245
EDUC 251	3	Sociological Foundations in Education	EDUC 106
EDUC 252	3	Psychological Foundations in Education	EDUC 245
EDUC 370	3	Philosophical Foundations in Education	EDUC 251; EDUC 252
EDUC 375	3	Curriculum Planning and Design	EDUC 370
EDUC 376	3	Evaluation, Measurement, and Assessment of the Educational Process	EDUC 375
EDUC 419	3	Introduction to Educational Research	MAGS 120 (I); INGS 201
EDUC 435	3	Interdisciplinary Seminar	Program authorization
EDUC 436	3	Seminar of Pedagogical Integration	Program authorization

Major Component - 42 credits

Course	Credits	Title	Prerequisites
SPAN 213	3	Literary Genres I	SPGS 152
SPAN 214	3	Literary Genres II	SPAN 213
SPAN 221	3	Introduction to Spanish Literature I	SPGS 250
SPAN 222	3	Introduction to Spanish Literature II	SPAN 221
SPAN 235	3	Linguistic	SPAN 218
SPAN 265	3	Advanced Grammar	SPGS 250
SPAN 451	3	Puerto Rican Literature I	SPGS 250, INGS 201
SPAN 452	3	Puerto Rican Literature II	SPGS 451
SPAN 461	3	Latin American Literature I	SPAN 452
SPAN 462	3	Latin American Literature II	SPAN 462
EDUC 330	3	Spanish Teaching Methodology (Secondary)	EDUC 375, SPAN 213-214

Course	Credits	Title	Prerequisites
EDUC 448	3	Clinical Experience at Secondary School (Spanish)	Program authorization
EDUC 449	6	Practicum Seminar Secondary School (Spanish)	Program authorization

Important Notes:

1. *All students will be enrolled according to the results of the placement test or results of the *College Board*.
2. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
3. Accredited by Council for the Accreditation of Educator Preparator (CAEP) in Cupey Campus.
4. The student who does not approve the EDUC 435 or EDUC 436 course may enroll in the EDUC 437 Advanced Seminar in Education course in order to repeat the course. This course does not carry additional credits or additional cost.
5. Subject to change.

Bachelor of Secondary Education major in History

Program's description

This program provides a space for training innovative future teachers in the seventh to twelfth grade level; Prepared to design learning environments that facilitate the acquisition of knowledge and skills for teaching history.

Admission GPA: 2.50

Graduation GPA: 3.00

Curricular Content

General Education Component - 36 credits

Course	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
MAGS 120 (I)	3	Introduction to Algebra	
ENGS 153	3	Fundamentals of Speaking, Reading and Writing English II	ENGS 152*
SCGS 200	3	Science, Technology and Society	
HIGS 201	3	Puerto Rico History and Culture	
HUGS 101	3	World Culture I	
SPGS 250	3	Writing Techniques	SPGS 152*
SOGS 201	3	The Human Being and Social Consciousness	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 250
SOGS 202	3	State-Government and the Human Being	SOGS 201
HUGS 102	3	World Culture II	HUGS 101

Core Component- 39 credits

Course	Credits	Title	Prerequisites
HIST 273	3	History of United States of America	
EDUC 106	3	Introduction to Education and Field Experience I	
EDUC 161	3	Integration of Technology in Education	EDUC 106
EDUC 245	3	Human Growth and Development	
EDUC 250	3	Exceptional Child Education and Assistive Technology	EDUC 245
EDUC 251	3	Sociological Foundations in Education	EDUC 106
EDUC 252	3	Psychological Foundations in Education	EDUC 245
EDUC 370	3	Philosophical Foundations in Education	EDUC 251, EDUC 252
EDUC 375	3	Curriculum Planning and Design	EDUC 370
EDUC 376	3	Evaluation, Measurement, and Assessment of the Educational Process	EDUC 375
EDUC 419	3	Introduction to Educational Research	MAGS 120 (I), INGS 201
EDUC 435	3	Interdisciplinary Seminar	Program authorization
EDUC 436	3	Seminar of Pedagogical Integration	Program authorization

Major Component - 42 credits

Course	Credits	Title	Prerequisites
HIST 221	3	Ancient and Medieval History	
HIST 230	3	The Renaissance, The Reformation, and the Rise of the Modern State	
HIST 232	3	Contemporary World Problems	
HIST 251	3	History of Puerto Rico I	HIGS 201
HIST 252	3	History of Puerto Rico II	HIST 251
HIST 261	3	Latin American History I	
HIST 271	3	History of United States of America I	HIST 273
HIST 272	3	History of United States of America II	HIST 271
GEOG 201	3	Physical Geography	
GEOG 225	3	Geography of Puerto Rico	
EDUC 332	3	Teaching of Social Sciences in Secondary School	12 major credits
EDUC 434	3	Clinical Experience at Secondary School (HISTORY)	Program authorization
EDUC 455	6	Secondary School Practicum (HISTORY)	Program authorization

Important Notes:

1. *All students will be enrolled according to the results of the placement test or results of the *College Board*.
2. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
3. Accredited by Council for the Accreditation of Educator Preparator (CAEP) in Gurabo Campus and Cupey Campus.
4. The student who does not approve the EDUC 435 or EDUC 436 course may enroll in the EDUC 437 Advanced Seminar in Education course in order to repeat the course. This course does not carry additional credits or additional cost.
5. Subject to change.

Bachelor of Secondary Education major in Biology

Program's description

This bachelor's degree program prepares innovative future teachers at the seventh to twelfth grade level. Graduates will be prepared to design learning environments that will promote the acquisition of knowledge and skills needed for teaching biological sciences.

Admission GPA: 2.50

Graduation GPA: 3.00

Curricular Content

General Education Component - 36 credits

Course	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
MAGS 120 (I)	3	Introduction to Algebra	
ENGS 153	3	Fundamentals of Speaking, Reading and Writing English II	ENGS 152*
SCGS 200	3	Science, Technology and Society	
HIGS 201	3	Puerto Rico History and Culture	
HUGS 101	3	World Culture I	
SPGS 250	3	Writing Techniques	SPGS 152*
SOGS 201	3	The Human Being and Social Consciousness	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 250
SOGS 202	3	State-Government and the Human Being	SOGS 201
HUGS 102	3	World Culture II	HUGS 101

Core Component- 39 credits

Course	Credits	Title	Prerequisites
HIST 273	3	History of United States of America	
EDUC 106	3	Introduction to Education and Field Experience I	
EDUC 161	3	Integration of Technology in Education	EDUC 106
EDUC 245	3	Human Growth and Development	
EDUC 250	3	Exceptional Child Education and Assistive Technology	EDUC 245
EDUC 251	3	Sociological Foundations in Education	EDUC 106
EDUC 252	3	Psychological Foundations in Education	EDUC 245
EDUC 370	3	Philosophical Foundations in Education	EDUC 251, EDUC 252
EDUC 375	3	Curriculum Planning and Design	EDUC 370
EDUC 376	3	Evaluation, Measurement, and Assessment of the Educational Process	EDUC 375
EDUC 419	3	Introduction to Educational Research	MAGS 120 (I), INGS 201
EDUC 435	3	Interdisciplinary Seminar	Program authorization
EDUC 436	3	Seminar of Pedagogical Integration	Program authorization

Major Component - 53 credits

Course	Credits	Title	Prerequisites
BIOL 203+	4	General Biology I	
BIOL 204+	4	General Biology II	BIOL 203
BIOL 325+	4	Botany	BIOL 204
MATH 121+	3	Intermediate Algebra	MAGS 120 (I) or placement test
MATH 151+	4	Precalculus I	MATH 121 or minimum of 600 points on CEEB and placement test.
MATH 152+	4	Precalculus II	MATH 151
BIOL 329+	4	General Ecology	BIOL 204, MATH 152
BIOL 340+	4	Genetics	BIOL 204
CHEM 224+	4	Fundamentals of General Chemistry	
PHSC 101	3	Physical Science	MAGS 120 (I)
PHSC 102	3	Physical Science II	PHSC 101

Course	Credits	Title	Prerequisites
EDUC 334	3	Teaching of Science in the Secondary School	12 major credits
EDUC 432	3	Clinical Experience at Secondary School (Biology)	Program authorization
EDUC 452	6	Practicum Seminar Secondary School (Biology)	Program authorization

Important Notes:

1. *All students will be enrolled according to the results of the placement test or results of the *College Board*.
2. +Includes laboratory.
3. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
4. Accredited by Council for the Accreditation of Educator Preparator (CAEP) in Gurabo Campus.
5. The student who does not approve the EDUC 435 or EDUC 436 course may enroll in the EDUC 437 Advanced Seminar in Education course in order to repeat the course. This course does not carry additional credits or additional cost.
6. Subject to change.

Bachelor of Secondary Education major in General Science

Program's description

This program provides a space for training innovative future teachers in the seventh to twelfth grade level; Prepared to design learning environments that facilitate the acquisition of knowledge and skills for the teaching of science.

Admission GPA: 2.50

Graduation GPA: 3.00

Curricular Content

General Education Component - 36 credits

Course	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
MAGS 120 (I)	3	Introduction to Algebra	
ENGS 153	3	Fundamentals of Speaking, Reading and Writing English II	ENGS 152*
SCGS 200	3	Science, Technology and Society	
HIGS 201	3	Puerto Rico History and Culture	
HUGS 101	3	World Culture I	
SPGS 250	3	Writing Techniques	SPGS 152*
SOGS 201	3	The Human Being and Social Consciousness	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 250
SOGS 202	3	State-Government and the Human Being	SOGS 201
HUGS 102	3	World Culture II	HUGS 101

Core Component- 39 credits

Course	Credits	Title	Prerequisites
HIST 273	3	History of United States of America	
EDUC 106	3	Introduction to Education and Field Experience I	
EDUC 161	3	Integration of Technology in Education	EDUC 106
EDUC 245	3	Human Growth and Development	
EDUC 250	3	Exceptional Child Education and Assistive Technology	EDUC 245
EDUC 251	3	Sociological Foundations in Education	EDUC 106
EDUC 252	3	Psychological Foundations in Education	EDUC 245
EDUC 370	3	Philosophical Foundations in Education	EDUC 251, EDUC 252
EDUC 375	3	Curriculum Planning and Design	EDUC 370
EDUC 376	3	Evaluation, Measurement, and Assessment of the Educational Process	EDUC 375
EDUC 419	3	Introduction to Educational Research	MAGS 120 (I), INGS 201
EDUC 435	3	Interdisciplinary Seminar	Program authorization
EDUC 436	3	Seminar of Pedagogical Integration	Program authorization

Major Component - 45 credits

Course	Credits	Title	Prerequisites
MATH 121+	3	Intermediate Algebra	MAGS 120 (I) or placement test
MATH 151+	4	Precalculus I	MATH 121 or minimum of 600 points on CEEB and placement test
MATH 152+	4	Precalculus II	MATH 151
BIOL 203+	4	General Biology I	
BIOL 204+	4	General Biology II	BIOL 203
PHSC 101	3	Physical Science	MAGS 120 (I)
PHSC 102	3	Physical Science II	PHSC 101
CHEM 203+	4	General Chemistry I	Co req. MATH 151
CHEM 204+	4	General Chemistry II	CHEM 203

Course	Credits	Title	Prerequisites
EDUC 334	3	Teaching of Science in the Secondary School	12 major credits
EDUC 431	3	Clinical Experience at Secondary School (General Sciences)	Program authorization
EDUC 451	6	Practicum Seminar Secondary School (General Sciences)	Program authorization

Important Notes:

1. *All students will be enrolled according to the results of the placement test or results of the *College Board*.
2. +Includes laboratory.
3. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
4. Accredited by Council for the Accreditation of Educator Preparator (CAEP) in Gurabo Campus.
5. The student who does not approve the EDUC 435 or EDUC 436 course may enroll in the EDUC 437 Advanced Seminar in Education course in order to repeat the course. This course does not carry additional credits or additional cost.
6. Subject to change.

Bachelor of Secondary Education major in Mathematics

Program's description

This program provides a space for training innovative future teachers in the seventh to twelfth grade level; Prepared to design learning environments that facilitate the acquisition of knowledge and skills for the teaching of mathematics.

Admission GPA: 2.50

Graduation GPA: 3.00

Curricular Content

General Education Component - 36 credits

Course	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
MAGS 120 (I)	3	Introduction to Algebra	
ENGS 153	3	Fundamentals of Speaking, Reading and Writing English II	ENGS 152*
SCGS 200	3	Science, Technology and Society	
HIGS 201	3	Puerto Rico History and Culture	
HUGS 101	3	World Culture I	
SPGS 250	3	Writing Techniques	SPGS 152*
SOGS 201	3	The Human Being and Social Consciousness	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 250
SOGS 202	3	State-Government and the Human Being	SOGS 201
HUGS 102	3	World Culture II	HUGS 101

Core Component- 39 credits

Course	Credits	Title	Prerequisites
HIST 273	3	History of United States of America	
EDUC 106	3	Introduction to Education and Field Experience I	
EDUC 161	3	Integration of Technology in Education	EDUC 106
EDUC 245	3	Human Growth and Development	
EDUC 250	3	Exceptional Child Education and Assistive Technology	EDUC 245
EDUC 251	3	Sociological Foundations in Education	EDUC 106
EDUC 252	3	Psychological Foundations in Education	EDUC 245
EDUC 370	3	Philosophical Foundations in Education	EDUC 251; EDUC 252
EDUC 375	3	Curriculum Planning and Design	EDUC 370
EDUC 376	3	Evaluation, Measurement, and Assessment of the Educational Process	EDUC 375
EDUC 419	3	Introduction to Educational Research	MAGS 120 (I); INGS 201
EDUC 435	3	Interdisciplinary Seminar	Program authorization
EDUC 436	3	Seminar of Pedagogical Integration	Program authorization

Major Component - 43 credits

Course	Credits	Title	Prerequisites
MATH 121+	3	Intermediate Algebra	MAGS 120 (I) or placement test
MATH 151+	4	Precalculus I	MATH 121 or minimum of 600 points on CEEB and placement test
MATH 152+	4	Precalculus II	MATH 151
MATH 173	3	Plane and Space Geometry I	
MATH 221+	4	Calculus I	MATH 152
MATH 222+	4	Calculus II	MATH 221
MATH 305	3	Probability Statistics I	MATH 152
MATH 345	3	Abstract Algebra	
MATH 350	3	Linear Algebra	MATH 221
EDUC 333	3	Teaching of Mathematics in Secondary School	12 major credits
EDUC 430	3	Clinical Experience at Secondary School (Mathematics)	Program authorization
EDUC 450	6	Practicum Seminar Secondary School (Mathematics)	Program authorization

Important Notes:

1. *All students will be enrolled according to the results of the placement test or results of the *College Board*.
2. +Includes laboratory.
3. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
4. Accredited by Council for the Accreditation of Educator Preparator (CAEP) in Gurabo Campus.
5. The student who does not approve the EDUC 435 or EDUC 436 course may enroll in the EDUC 437 Advanced Seminar in Education course in order to repeat the course. This course does not carry additional credits or additional cost.
6. Subject to change.

Bachelor of Secondary Education major in Chemistry

Program's description

This Bachelor's degree program prepares innovative future teachers at the seventh to twelfth grade level. Graduates will be prepared to design learning environments that will promote the acquisition of knowledge and skills needed for teaching chemistry.

Admission GPA: 2.50

Graduation GPA: 3.00

Curricular Content

General Education Component - 36 credits			
Course	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
MAGS 120 (I)	3	Introduction to Algebra	
ENGS 153	3	Fundamentals of Speaking, Reading and Writing English II	ENGS 152*
SCGS 200	3	Science, Technology and Society	
HIGS 201	3	Puerto Rico History and Culture	
HUGS 101	3	World Culture I	
SPGS 250	3	Writing Techniques	SPGS 152*
SOGS 201	3	The Human Being and Social Consciousness	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 250
SOGS 202	3	State-Government and the Human Being	SOGS 201
HUGS 102	3	World Culture II	HUGS 101
Core Component- 39 credits			
Course	Credits	Title	Prerequisites
HIST 273	3	History of United States of America	
EDUC 106	3	Introduction to Education and Field Experience I	
EDUC 161	3	Integration of Technology in Education	EDUC 106
EDUC 245	3	Human Growth and Development	
EDUC 250	3	Exceptional Child Education and Assistive Technology	EDUC 245
EDUC 251	3	Sociological Foundations in Education	EDUC 106
EDUC 252	3	Psychological Foundations in Education	EDUC 245
EDUC 370	3	Philosophical Foundations in Education	EDUC 251, EDUC 252
EDUC 375	3	Curriculum Planning and Design	EDUC 370
EDUC 376	3	Evaluation, Measurement, and Assessment of the Educational Process	EDUC 375
EDUC 419	3	Introduction to Educational Research	MAGS 120 (I), INGS 201
EDUC 435	3	Interdisciplinary Seminar	Program authorization
EDUC 436	3	Seminar of Pedagogical Integration	Program authorization
Major Component - 52 credits			
Course	Credits	Title	Prerequisites
MATH 121+	3	Intermediate Algebra	MAGS 120 (I) or placement test
MATH 151+	4	Precalculus I	MATH 121 or minimum of 600 points on CEEB and placement test
MATH 152+	4	Precalculus II	MATH 151
BIOL 103	3	Biology for Health Sciences	
PHSC 101	3	Physical Science	MAGS 120 (I)
PHSC 102	3	Physical Science II	PHSC 101
CHEM 203+	4	General Chemistry I	Co req. MATH 151
CHEM 204+	4	General Chemistry II	CHEM 203
CHEM 221+	4	Analytical Chemistry	CHEM 204
CHEM 351+	4	Organic Chemistry I	CHEM 204
CHEM 352+	4	Organic Chemistry II	CHEM 351

Course	Credits	Title	Prerequisites
EDUC 334	3	Teaching of Science in the Secondary School	12 major credits
EDUC 433	3	Clinical Experience at Secondary School (Chemistry)	Program authorization
EDUC 453	6	Practicum Seminar Secondary School (Chemistry)	Program authorization

Important Notes:

1. *All students will be enrolled according to the results of the placement test or results of the *College Board*.
2. +Includes laboratory.
3. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
4. Accredited by Council for the Accreditation of Educator Preparator (CAEP) in Gurabo Campus.
5. The student who does not approve the EDUC 435 or EDUC 436 course may enroll in the EDUC 437 Advanced Seminar in Education course in order to repeat the course. This course does not carry additional credits or additional cost.
6. Subject to change.

Bachelor of Secondary Education major in Vocational Industry Education

Program's description

This program provides a space for training innovative future teachers in the seventh to twelfth grade level; Prepared to design learning environments that facilitate the acquisition of knowledge and skills for teaching in the field of industrial vocational education.

Admission GPA: 2.50

Graduation GPA: 3.00

Curricular Content

General Education Component - 36 credits

Course	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
MAGS 120 (I)	3	Introduction to Algebra	
ENGS 153	3	Fundamentals of Speaking, Reading and Writing English II	ENGS 152*
SCGS 200	3	Science, Technology and Society	
HIGS 201	3	Puerto Rico History and Culture	
HUGS 101	3	World Culture I	
SPGS 250	3	Writing Techniques	SPGS 152*
SOGS 201	3	The Human Being and Social Consciousness	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 250
SOGS 202	3	State-Government and the Human Being	SOGS 201
HUGS 102	3	World Culture II	HUGS 101

Core Component- 39 credits

Course	Credits	Title	Prerequisites
HIST 273	3	History of United States of America	
EDUC 106	3	Introduction to Education and Field Experience I	
EDUC 161	3	Integration of Technology in Education	EDUC 106
EDUC 245	3	Human Growth and Development	
EDUC 250	3	Exceptional Child Education and Assistive Technology	EDUC 245
EDUC 251	3	Sociological Foundations in Education	EDUC 106
EDUC 252	3	Psychological Foundations in Education	EDUC 245
EDUC 370	3	Philosophical Foundations in Education	EDUC 251, EDUC 252
EDUC 375	3	Curriculum Planning and Design	EDUC 370
EDUC 376	3	Evaluation, Measurement, and Assessment of the Educational Process	EDUC 375
EDUC 419	3	Introduction to Educational Research	MAGS 120 (I), INGS 201
EDUC 435	3	Interdisciplinary Seminar	Program authorization
EDUC 436	3	Seminar of Pedagogical Integration	Program authorization

Major Component - 33 credits

Course	Credits	Title	Prerequisites
EDVI 465	3	Foundations of Vocational Industrial Education	
EDVI 466	3	Methodology and Curriculum in Vocational Industrial Education	
EDVI 467	3	Evaluation of Voc Industrial Education	
EDVI 468	3	Development of Educational Resources Applied to Vocational Industrial Education	
EDVI 469	3	Health, Hygiene and Safety in Occupational Education	
EDVI 470	3	Students Organizations	
EDVI 472	3	Organization, Supervision and Administration of Vocational Workshop	
EDVI 473	3	Labor Relation Implications in Industrial Education	
EDVI 448	3	Clinical Experience (Vocational Industrial Education)	Program authorization
EDVI 449	6	Practicum and Seminar in Vocational Industrial Education	Program authorization

Important Notes:

1. *All students will be enrolled according to the results of the placement test or results of the *College Board*.
2. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
3. Accredited by Council for the Accreditation of Educator Preparator (CAEP) in Gurabo Campus.
4. The student who does not approve the EDUC 435 or EDUC 436 course may enroll in the EDUC 437 Advanced Seminar in Education course in order to repeat the course. This course does not carry additional credits or additional cost.
5. Subject to change.

Bachelor of Science in Sign Language Interpretation

Program's description

In the Sign Language Interpretation Program, the student will develop knowledge, advanced professional skills and readiness to become an interpreter. The student will convert a language verbal in sign language, for one or more deaf people, with hearing difficulties allowing the communication with others who are inexperienced in sign language or listeners. Interpreters will work on public or private institutions in the classroom settings, television stations, health settings, legal venues, conferences, theaters, sporting events or other types of events. It is the first program of this type in Puerto Rico and the Caribbean.

Admission GPA: 2.50

Graduation GPA: 2.00

Curricular Content

General Education Component - 36 credits

Course	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
MAGS 120 (I)	3	Introduction to Algebra	
ENGS 153	3	Fundamentals of Speaking, Reading and Writing English II	ENGS 152*
SCGS 200	3	Science, Technology and Society	
HIGS 201	3	Puerto Rico History and Culture	
HUGS 101	3	World Culture I	
SPGS 250	3	Writing Techniques	SPGS 152*
SOGS 201	3	The Human Being and Social Consciousness	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 250
SOGS 202	3	State-Government and the Human Being	SOGS 201
HUGS 102	3	World Culture II	HUGS 101

Core Component- 6 credits

Course	Credits	Title	Prerequisites
HESC 360	3	Statistics Applied to Health Science	MAGS 120 (I)
HESC 365	3	Health Sciences Research	HESC 360, INGS 201

Major Component - 66 credits

Course	Credits	Title	Prerequisites
SIGN 102	3	Sign Language I: Foundations, Spelling and Numbers	
SIGN 103	3	Sign Language II: Conversation	SIGN 102
SIGN 104	3	Sign Language III: Narratives	SIGN 103
SIGN 105	3	Sign Language IV: Advanced	SIGN 104
SIGN 106	3	Visual Gestural Communication and Clasifiers	SIGN 102
SIGN 121	3	Historic and Socio-Cultural Aspects of the Puerto Rican Deaf Culture	
SIGN 122	3	Sign Language Discourse	SIGN 104
SIGN 201	3	Sign Language Linguistics	
SIGN 203	3	Introduction to Sign Language Interpreting	SIGN 102, SIGN 121
SIGN 204	3	Interpreting Process Skills	SIGN 203
SPTH 257	3	Introduction to Audiology and Aural Rehabilitation	
SIGN 302	3	Ethical and Professional Principles	SIGN 203
SIGN 303	3	Consecutive Interpreting	SIGN 203
SIGN 400	3	Simultaneous Interpretation	SIGN 303
SIGN 402	3	Interpretation Models	SIGN 403
SIGN 403	3	Practicum and Theory of Simultaneous Interpreting I and Internship	SIGN 400
SIGN 404	3	Simultaneous Interpretation Practicum II	SIGN 402
SIGN 405	3	Interpreting Idioms Culture	SIGN 400

Course	Credits	Title	Prerequisites
SIGN 406	3	Interpreting in Health Settings	SIGN 400
SIGN 416	3	Psychosocial Aspects of Deafness	
SIGN 407	3	Educational Settings Interpretation	SIGN 400
SIGN 425	3	Sign Language Project	HESC 365

Directed Electives – 12 credits

Course	Credits	Title	Prerequisites
SPED 315	3	Psychology and Education of the Exceptional Child	
SPED 214	3	Assistive Technology in Special Education	SPED 315
SPED 312	3	Education Of Children with Specific Learning Disabilities	SPED 315
SPED 324	3	Behavior Modification of the Handicapped Child	SPED 315

Important Notes:

1. *All students will be enrolled according to the results of the placement test or results of the *College Board*.
2. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
3. Subject to change.

Bachelor of Arts major in Personal and Sport Training

Program's description

Students who successfully meet the requirements of this baccalaureate will have the great opportunity to meet the need for certified professionals in sports activities in different private or public communities in Puerto Rico and other countries in America. They will be academically prepared to provide professional services in mental, technical, theoretical and physical training to participants (individual or group) in an organized sports program. In today's sports industry, our students will have an entrepreneurial vision to assess where they will have the greatest job opportunity through creative thinking and knowledge of a variety of sports and fitness programs. They will receive the appropriate experience to act as supervisors, coaches or administrators in sports areas in different settings. It requires taking a license to practice.

Admission GPA: 2.50

Graduation GPA: 2.00

Curricular Content

General Education Component - 36 credits

Course	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
MAGS 120 (I)	3	Introduction to Algebra	
ENGS 153	3	Fundamentals of Speaking, Reading and Writing English II	ENGS 152*
SCGS 200	3	Science, Technology and Society	
HIGS 201	3	Puerto Rico History and Culture	
HUGS 101	3	World Culture I	
SPGS 250	3	Writing Techniques	SPGS 152*
SOGS 201	3	The Human Being and Social Consciousness	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 250
SOGS 202	3	State-Government and the Human Being	SOGS 201
HUGS 102	3	World Culture II	HUGS 101

Core Component- 24 credits

Course	Credits	Title	Prerequisites
ENTR 300	3	Introduction to Entrepreneurship	
ENTR 301	3	New Venture Creation	
PHED 100	3	History and Philosophy of Sports and Personal and Physical Education	
PHED 217	3	Adapted Physical Fitness	
PHED 240	3	Health, Safety and Well-Being in Physical Education	
PHED 301	3	Anatomy and Physiology in Physical Education	
COIS 111	3	Software Applications	
EDUC 104	3	Effective Oral Presentations	

Major Component - 54 credits

Course	Credits	Title	Prerequisites
COCH 104	3	Sports and Personal Nutrition	
COCH 209	3	Biomechanics in Sports Personal Training	PETR 102
COCH 210	3	Bioenergetics of Exercise in Sports and Personal Training	COCH 104
COCH 211	3	Design of Plyometric Training Programs in Sports and Personal Training	PETR 208
PETR 101	3	Fundamentals Of Research in Sports and Personal Training	
PETR 102	3	Psychological Foundations in Sports and Personal Training	
PETR 105	3	Sports Strength Conditioning and Sports and Personal Training Assistance Techniques	COCH 209
PETR 201	3	Desing of Flexibility Programs in Sport and Personal Training	
PETR 202	3	Measurement, Evaluation and Prescription of Exercise in Sports and Personal Training	

Course	Credits	Title	Prerequisites
PETR 205	3	Gym Administration and Legal Aspects in Sports and Personal Physical Activity	
PETR 206	3	Injury Prevention and First Aid	
PETR 207	3	Methodology in the Periodization of Physical Training	PETR 105
PETR 208	3	Cardiovascular Training in Sports and Personal Training	PETR 207
PETR 210	3	Training in Special Populations in Sports and Personal Training	PETR 208
COCH 409	6	Sports Coaching Practicum	Program authorization
PETR 410	6	Personal Trainer Practicum	Program authorization

Important Notes:

1. *All students will be enrolled according to the results of the placement test or results of the *College Board*.
2. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
3. Subject to change.

Bachelor Degree in Education, major in Exercise Science and Health Promotion

Program's description

The concentration in Exercise Sciences and Health Promotion of the Baccalaureate in Education is a program whose goal is to prepare a well-rounded professional for the fitness industry: instructor, program developer, or fitness efficiency program managers.

Admission GPA: 2.00

Graduation GPA: 2.00

Curricular Content

General Education Component – 36 credits			
Course	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
MAGS 120 (I)	3	Introduction to Algebra	
ENGS 153	3	Fundamentals of Speaking, Reading and Writing English II	ENGS 152*
SCGS 200	3	Science, Technology and Society	
HIGS 201	3	Puerto Rico History and Culture	
HUGS 101	3	World Culture I	
SPGS 250	3	Writing Techniques	SPGS 152*
SOGS 201	3	The Human Being and Social Consciousness	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 250
SOGS 202	3	State-Government and the Human Being	SOGS 201
HUGS 102	3	World Culture II	HUGS 101
Core Component- seleccionar 18 credits			
Course	Credits	Title	Prerequisites
REED 200	3	Development of Recreational Programs	
REED 301	3	Camps Development	
REED 315	3	Legal Issues in Recreation	REED 200
EDUC 318	3	Data Software Analysis	
REED 410	3	Investigation Recreation	REED 400
REED 105	3	Philosophical and Historical Foundations of Recreation	
REED 205	3	Administration and Supervision of Recreational Services	REED 200
REED 210	3	Leadership and Supervision in Recreation	EDUC 100, REED 105, REED 205
REED 320	3	Design and Management of Recreational and Sports Facilities	REED 105, REED 200
REED 400	3	Assessment, Measurement and Evaluation in Recreation	REED 205, MAGS 120 (I)
Major Component - 51 credits			
Course	Credits	Title	Prerequisites
EDUC 100	3	Education and Society	
EDUC 327	3	Foundations of Health, Hygiene, and Nutrition	
ESHP 101	3	Introduction to Exercise Sciences	
ESHP 201	3	Anatomy and Kinesiology	
ESHP 202	3	Exercise Physiology	ESHP 201
ESHP 203	3	Design and Prescription of Exercise	ESHP 202
ESHP 204	3	Exercises with Special Population	ESHP 203
ESHP 300	3	Psychological Foundation of Exercise	
ESHP 301	3	Managing and Teaching Exercise Classes	ESHP 203
REED 110	3	First Aid for Sports and Physical Activities	
ESHP 302	3	Practice as a Personal Trainer	ESHP 101, ESHP 204 and ESHP 301
ESHP 303	3	Management of Physical Efficiency Programs	ESHP 101
ESHP 304	3	Evaluation of Physical Efficiency Programs	ESHP 101
ENMA 201	3	Entrepreneurship	
ESHP 305	6	Practicum in the Administration of Physical Efficiency Programs	Program authorization
Elective	3		

Important Notes:

1. *All students will be enrolled according to the results of the placement test or results of the *College Board*.
2. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
3. Subject to change.

DEPARTMENT OF CRIMINAL JUSTICE AND PUBLIC SAFETY

Associate Degree in Forensic Investigation

Program's description

This major provides an introduction to forensic research from theoretical and practical perspective. It will prepare students on techniques, methods, procedures, basic knowledge and the necessary skills to perform as a forensic investigator.

Admission GPA: 2.00

Graduation GPA: 2.00

Curricular Content

General Education Component - 15 credits			
Course	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
MAGS 120 (I)	3	Introduction to Algebra	
HUGS 101 or	3	World Culture I or	
SOGS 201		The Human Being and Social Consciousness	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 152
Core Component- 18 credits			
Course	Credits	Title	Prerequisites
CRIM 203	3	Criminal Law	
CRIM 206	3	Criminal Procedure	CRIM 203
CRIM 212	3	Probatory Law and Evidence	CRIM 203
IFOR 205	3	Basic Criminal Investigation	CRIM 203
IFOR 210	3	Forensic Photography and Crime Scene Planimetry	
IFOR 215	3	Fundamental Principles of Crime Scene Evidence Collection and Processing	
Major Component - 21 credits			
Course	Credits	Title	Prerequisites
IFOR 220	3	Forensic Investigation of Traffic Accidents	IFOR 205
IFOR 225	3	Interview Techniques and Court Testimony	
IFOR 230	3	Introduction to Forensic Dactyloscopy	IFOR 205
IFOR 235	3	Cyber Crimes Investigation	IFOR 205
IFOR 240	3	Scientific Study of the Crime Scene	IFOR 205
IFOR 255	3	Surveillance and Tracking: Technical and Ethical Aspects	
IFOR 275	3	Integration Seminar in Forensic Investigation	

Important Notes:

1. *All students will be enrolled according to the results of the placement test or results of the *College Board*.
2. Second-year students and above must obtain an academic evaluation with the program coordinator before completing the enrollment process.
3. Students who enroll in courses from other programs must meet the corresponding prerequisites.
4. Students transferred from other university institutions must comply with the residency policy at Ana G. Méndez University.
5. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
6. Subject to change.

Associate Degree in Public Safety

Program's description

Students are exposed to a dynamic curriculum that provides the knowledge required by a professional career in the field of security, through a solid academic preparation that strengthens human values.

Admission GPA: 2.00

Graduation GPA: 2.00

Curricular Content

General Education Component - 15 credits

Course	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
MAGS 120 (I)	3	Introduction to Algebra	
HUGS 101 or	3	World Culture I or	
SOGS 201		The Human Being and Social Consciousness	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 152

Core Component- 24 credits

Course	Credits	Title	Prerequisites
PSAF 140	3	Penal Law in Public Safety	
PSAF 160	3	Civil Rights and Equal Protection	
PSAF 124	3	Community Police and Ethics	
PSAF 215	3	Evidence and Testimony in Court	
PSAF 120	2	Fitness Training and Wellness**	
PSAF 204	2	First Aid and Bloodborne Pathogens	
PSAF 150	2	Forms and Reports	SPGS 152
PSAF 250	3	Sexual Crimes and Domestic Violence	
PSAF 235	3	Criminal Procedures	

Directed Electives - 15 credits

Course	Credits	Title	Prerequisites
PSAF 224	3	Transit Interventions and Vehicle Operation***	PSAF 228
PSAF 208	2	Use of Force and Defense Techniques	PSAF 228
PSAF 236	2	Use of Force and Less Lethal Weapons	PSAF 228
PJPS 240	2	Firearms Use and Handling	
PSAF 216	2	Vehicle Crash Investigation	
PSAF 238	3	Police Patrol and Service Situations	PSAF 228, PSAF 208, PSAF 236, PSAF 224
PSAF 228	3	Police Principles	
PSAF 218	3	Correctional Management System	
PSAF 231	2	Constitutional Law and Correction	
PSAF 225	2	Inmates Transport	
PSAF 226	2	Inmates Management Supervision	
PSAF 232	2	Inmates Growth and Development	
PSAF 234	2	Probation, Parole and Community Treatment	
PSAF 219	3	Introduction to Criminal Intelligence	
PSAF 223	3	Introduction to Crime, Fraud, and Cyber Crimes	
PSAF 227	3	Intelligence, Interview and Interrogation Techniques	
PSAF 239	3	Introduction to Special Criminal Laws	
PSAF 330	3	Organized Crime	
PSAF 143	3	Introduction to Forensic Investigation	
PSAF 201	3	Forensic Photography and Planimetry	
PSAF 237	3	Introduction to Criminalistics	
PSAF 242	3	Forensic Investigation Techniques	

Important Notes:

1. * All students will be enrolled according to the results of the placement test or results of the College Board.
2. ** Includes fitness assessment.

3. *** Requires license requested by the student and granted by the state.
4. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
5. Subject to change.

Associate Degree in Emergency Management and Disaster Recovery

Program's description

The Associate Degree in Emergency Management and Disaster Recovery allows the student to develop proficiency in the immediate response to emergency situations and disasters. The degree offers courses aimed at the management and coordination of these situations as well as courses with practical exercises aimed at the development of rescue skills. Graduates can explore work alternatives in municipal and state emergency management agencies, as well as emergency brigades of private companies.

Admission GPA: 2.00

Graduation GPA: 2.00

Curricular Content

General Education Component - 15 credits

Course	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
MAGS 120 (I)	3	Introduction to Algebra	
HUGS 101 or	3	World Culture I or	
SOGS 201		The Human Being and Social Consciousness	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 152

Core Component- 33 credits

Course	Credits	Title	Prerequisites
PSAF 120	2	Fitness Training and Wellness**	
PSAF 204	2	First Aid and Bloodborne Pathogens	
EMDR 101	3	Introduction to Emergency Management, Mitigation and Preparedness	
EMDR 102	3	Introduction to the Unified Command System	
EMDR 201	3	Emergency Management Planning	EMDR 101, EMDR 102
EMDR 203	3	Occupational Health and Safety Regulations	
EMDR 206	3	Introduction to Disaster Management, Response and Recovery	
EMDR 245	3	Introduction to Terrorism, National Security and Weapons of Destruction	
EMDR 300	3	Design, Evaluation and Development of Exercises	
PSAF 315	2	Application of Preparedness and Mitigation Plans	EMDR 201, EMDR 206
PSAF 210	3	Rope Rescue, Basic Knowledge and Operations	
PSAF 211	3	Technical Rope Rescue	PSAF 210

Directed Electives - 6 credits

Course	Credits	Title	Prerequisites
PSAF 212	3	Rescue in Confined Spaces	PSAF 211
PSAF 213	3	Rescue in Trenches	PSAF 211
PSAF 221	3	Water Rescue	PSAF 211
PSAF 222	3	Rescue in Collapse Structures	PSAF 211
PSAF 233	3	Search and Rescue	PSAF 211

Important Notes:

- * All students will be enrolled according to the results of the placement test or results of the College Board.
- ** Includes fitness assessment.
- *** 30-hour workshop in sign language free of charge.
- New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
- Subject to change.

Bachelor in Social Sciences major in Criminal Justice and Criminology

Program's description

From a sociological, humanistic and interdisciplinary approach, the theories, approaches, and processes that enable students to deal with situations resulting from criminological and criminal justice problems are studied. The study of human behavior, in matters of Public Policy and the role played by the citizen in the democratic and justice processes of the country is emphasized.

It prepares the student for service in a variety of settings related to law and order systems. Develops skills directed towards knowledge for the application of criminological sciences. It will serve as a link between the citizen and the administrative agencies that offer prevention, investigation, evidence collection, interviews with people, examination of files, knowledge of regulations and for the performance of functions in the Criminal Justice System. At the same time, it enables the student body to continue graduate studies in the field of Criminology, Criminal Justice, Law and other related areas.

Admission GPA: 2.00 (See admission requirements for accelerated adult program.)

Graduation GPA: 2.00

Curricular Content

General Education Component - 36 credits

Course	Credits	Title	Prerequisites
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
ENGS 153	3	Fundamentals of Speaking, Reading and Writing English II	ENGS 152*
SPGS 152*	3	Fundamentals of Reading and Writing	
SPGS 250	3	Writing Techniques	SPGS 152*
HUGS 101	3	World Culture I	
HUGS 102	3	World Culture II	HUGS 101
HIGS 201	3	Puerto Rico History and Culture	
SOGS 201	3	The Human Being and Social Consciousness	
SOGS 202	3	State-Government and the Human Being	SOGS 201
MAGS 120 (I)	3	Introduction to Algebra	
SCGS 200	3	Science, Technology and Society	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 250

Core Component- 36 credits

Course	Credits	Title	Prerequisites
ECON 123	3	Economic Principles and Problems	
PSYC 123	3	General Psychology	
PSYC 350	3	Principles of Psychopathology	PSYC 123
PSYC 432	3	Introduction to Forensic Psychology	PSYC 123, PSYC 350
SOCI 203	3	Elementary Principles of Sociology	
SOCI 216	3	Contemporary Social Problems	
GEOG 205	3	Global Communities Resources	
SOSC 250	3	Statistical Methods Applied to Social Sciences	MAGS 120 (I)
SOSC 258	3	Investigation Techniques in Social Sciences	SOSC 250
SOCI 325	3	Sociology of Deviance	
POSC 253	3	Political System of Puerto Rico	
POSC 390	3	International Political System	

Major Component - 45 credits

Course	Credits	Title	Prerequisites
CRIM 103	3	Introduction to Criminal Justice and Criminology	
CRIM 104	3	Introduction to Forensic Investigation	
CRIM 115	3	Ethical Aspects of Justice	
CRIM 200	3	Constitutional Law	
CRIM 203	3	Criminal Law	
CRIM 204	3	Special Criminal Laws	CRIM 203
CRIM 206	3	Criminal Procedure	CRIM 203
CRIM 212	3	Probatory Law and Evidence	CRIM 203
CRIM 320	3	Criminal Investigation	
CRIM 325	3	Juvenile Delinquency in Puerto Rico	

Course	Credits	Title	Prerequisites
CRIM 328	3	Forensic Investigation Techniques	CRIM 104
CRIM 350	3	Rehabilitation and Correctional Systems of Puerto Rico	CRIM 103
CRIM 425	3	Applied Criminalistics	CRIM 320
CRIM 432	3	Criminal Technology, Fraud, and Cyber Crimes	CRIM 104
CRIM 475	3	Supervised Practicum	CRIM 103, 104, 115, 200, 203, 204, 206, 212, 320, 325, 328, 350, 425, 432

Directed Electives - 3 credits

Course	Credits	Title	Prerequisites
CRIM 327	3	Correctional Programs: Administrative Principles	
CRIM 333	3	Prevention and Sociological Aspects of Criminal Behavior	
CRIM 435	3	Investigation and Legal Informatics	
CRIM 436	3	Forensic Sciences	

Important Notes:

1. * All students will be enrolled according to the results of the placement test or results of the College Board.
2. The minimum overall graduation and concentration average is 2.00.
3. Concentration courses must be passed with a minimum of C, including CRIM 475 Supervised Practicum.
4. The Supervised Practicum (CRIM 475) has three modalities, of which the student selects one: location, field visits or professional experience. If the placement modality is selected, the student is required to complete 100 hours outside the classroom.
5. Second-year students and above must obtain an academic evaluation with the program coordinator before completing the enrollment process.
6. Students who enroll in courses from other programs must meet the corresponding prerequisites.
7. Students transferred from other university institutions must comply with the residency policy at Ana G. Méndez University.
8. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
9. Subject to change.

Bachelor in Public Safety

Program's description

This program seeks to develop competent professionals in the area of protection and security. In addition to meeting the needs of human resources in the areas of supervision of security personnel, criminal investigation, protection and security in the public and private sectors, with practical and tactical.

Admission GPA: 2.00

Graduation GPA: 2.00

Curricular Content

General Education Component - 36 credits			
Course	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
MAGS 120 (I)	3	Introduction to Algebra	
ENGS 153	3	Fundamentals of Speaking, Reading and Writing English II	ENGS 152*
SCGS 200	3	Science, Technology and Society	
HIGS 201	3	Puerto Rico History and Culture	
HUGS 101	3	World Culture I	
SPGS 250	3	Writing Techniques	SPGS 152*
SOGS 201	3	The Human Being and Social Consciousness	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 250
SOGS 202	3	State-Government and the Human Being	SOGS 201
HUGS 102	3	World Culture II	HUGS 101
Core Component- 24 credits			
Course	Credits	Title	Prerequisites
PSAF 160	3	Civil Rights and Equal Protection	
PSAF 120**	2	Fitness Training and Wellness	
PSAF 204	2	First Aid and Bloodborne Pathogens	
PSAF 150	2	Forms and Reports	SPGS 152
PSAF 140	3	Penal Law in Public Safety	
PSAF 235	3	Criminal Procedures	
PSAF 215	3	Evidence and Testimony in Court	
PSAF 124	3	Community Police and Ethics	
PSAF 250	3	Sexual Crimes and Domestic Violence	
Major Component – 39 credits			
Course	Credits	Title	Prerequisites
PJPS 120	3	Mediation and Intervention	
PJPS 116	3	Interventions with Special Populations	
CRIM 204	3	Special Criminal Laws	
STAT 300	3	Elements of Statistics I	MAGS 120 (I)
CRIM 305	3	Puerto Rico Criminal Justice Systems	
PUAD 405	3	Government Budgeting	MAGS 120 (I)
EMDR 203	3	Occupational Health and Safety Regulations	
PSAF 290	3	Strategic Planning	
EMDR 206	3	Introduction to Disaster Management, Response and Recovery	
PJPS 300	3	Tactical Planning	
MANA 213	3	Human Resources Management	MANA 210
MANA 230	3	Organizational Behavior	
HURM 304	3	Evaluation and Methods of Performance of Human Resources Environment	
Directed Electives - 15 credits			
PSAF 208	2	Use of Force and Defense Techniques	PSAF 228
PSAF 228	3	Police Principles	
PSAF 224	3	Transit Interventions and Vehicle Operation***	PSAF 228

Course	Credits	Title	Prerequisites
PSAF 236	2	Use of Force and Less Lethal Weapons	PSAF 228
PSAF 238	3	Police Patrol and Service Situations	PSAF 228, PSAF 208, PSAF 236, PSAF 224
PJPS 240	2	Firearms Use and Handling	
PSAF 216	2	Vehicle Crash Investigation	
PSAF 218	3	Correctional Management System	
PSAF 231	2	Constitutional Law and Correction	
PSAF 225	2	Inmates Transport	
PSAF 226	2	Inmates Management Supervision	
PSAF 232	2	Inmates Growth and Development	
PSAF 234	2	Probation, Parole and Community Treatment	
PSAF 219	3	Introduction to Criminal Intelligence	
PSAF 223	3	Introduction to Crime, Fraud, and Cyber Crimes	
PSAF 227	3	Intelligence, Interview and Interrogation Techniques	
PSAF 239	3	Introduction to Special Criminal Laws	
PSAF 330	3	Organized Crime	
PSAF 143	3	Introduction to Forensic Investigation	
PSAF 201	3	Forensic Photography and Planimetry	
PSAF 237	3	Introduction to Criminalistics	
PSAF 242	3	Forensic Investigation Techniques	

Free Electives - 6 credits

Course	Credits	Title	Prerequisites
Elective	3		
Elective	3		

Important Notes:

1. * All students will be enrolled according to the results of the placement test or results of the College Board.
2. ** Includes fitness assessment.
3. *** Requires license requested by the student and granted by the state.
4. Subject to change.

DEPARTMENT OF COMMUNICATIONS

Associate Degree in Cinematography and Photographic Direction

Program's description

This major prepares the student with basic knowledge of photography cinematography techniques, as well as the concepts of audiovisual communication and aesthetics. Alumni will be able to conceptualize and shape audiovisual products for traditional media and electronic.

Admission GPA: 2.00

Graduation GPA: 2.00

Curricular Content

General Education Component - 15 credits

Course	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
MAGS 120 (I)	3	Introduction to Algebra	
HUGS 101 or	3	World Culture I or	
SOGS 201		The Human Being and Social Consciousness	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 152

Core Component- 15 credits

Course	Credits	Title	Prerequisites
COMM 102	3	Introduction to Mass Media	
COMM 101	3	Communication Theory	
COMM 311	3	Introduction to Photojournalism	COMM 102
PROD 313	3	Cinematography and Camera Operation	COMM 102
PROD 308	3	Writing and Style for Audiovisual Communication	COMM 102

Major Component - 21 credits

Course	Credits	Title	Prerequisites
COMM 381	3	Television Principles	COMM 102
PROD 205	3	Audiovisual Production I	COMM 102
PROD 320	3	Camera Direction: Aesthetics of the Image And its Visual Identity	COMM 102
PROD 315	3	Lighting for Audiovisual Media	COMM 102
PROD 325	3	Audiovisual Art Direction	COMM 102
PROD 463	3	Audiovisual Media Project	COMM 102, PROD 205
PROD 333	3	Editing Process	COMM 102

Important Notes:

- * All students will be enrolled according to the results of the placement test or results of the College Board.
- New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
- Subject to change.

Bachelor of Arts in Communications

Program's description

This concentration provides the student with the theoretical and practical knowledge to work as a social communicator in one of the following facets: journalism, public relations, advertising, radio and television. The student will be able to create communication products and know their impact on society.

Admission GPA: 2.25

Graduation GPA: 2.00

Curricular Content

General Education Component - 36 credits

Course	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
MAGS 120 (I)	3	Introduction to Algebra	
ENGS 153	3	Fundamentals of Speaking, Reading and Writing English II	ENGS 152
SCGS 200	3	Science, Technology and Society	
HIGS 201	3	Puerto Rico History and Culture	
HUGS 101	3	World Culture I	
SPGS 250	3	Writing Techniques	SPGS 152
SOGS 201	3	The Human Being and Social Consciousness	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 250
SOGS 202	3	State-Government and the Human Being	SOGS 201
HUGS 102	3	World Culture II	HUGS 101

Core Component- 48 credits

Course	Credits	Title	Prerequisites
ENGL 275	3	Writing for the Professional World	ENGS 152
ENGL 250	3	Fundamentals of Public Speaking	ENGS 152
SPAN 275	3	Advanced Writing in Spanish	SPGS 250
SPAN 240	3	Literature and Diversity	SPGS 250
ECON 125	3	Analysis and Interpretation of Economics Reports	
SOSC 250	3	Statistical Methods Applied to Social Sciences	MAGS 120 (I)
SOSC 258	3	Investigation Techniques in Social Sciences	SOSC 250
DITE 105	3	Digital Information Technology	
MARK 134	3	Introduction to Marketing	
PHIL 103	3	Principles of Reasoning	
COMM 101	3	Communication Theory	
COMM 102	3	Introduction to Mass Media	
COMM 211	3	Legal and Ethical Aspects in Communications	
COMM 212	3	Development and Management of Media Enterprises	MARK 134
COMM 260	3	Introduction to Public Relations	
COMM 270	3	Introduction to Advertising	

Major Component – 33 credits

Course	Credits	Title	Prerequisites
COMM 230	3	Fundamental Principles of Journalism	COMM 102
COMM 306	3	Writing, Style, and Journalism	COMM 230
COMM 307	3	Writing for the Communication Media	COMM 102
COMM 311	3	Introduction to Photojournalism	COMM 102
COMM 431	3	Journalism Workshop	COMM 306
COMM 380	3	Principles of Radio	COMM 102
COMM 385	3	Radio Production and Direction	COMM 380
COMM 381	3	Television Principles	COMM 102
COMM 355	3	Writing for Public Relations	COMM 260
PROD 205	3	Audiovisual Production I	COMM 102
COMM 450	3	Supervised Practicum	24 concentration credits

Free Electives - 6 credits

Course	Credits	Title	Prerequisites
Elective 1**	3		
Elective 2**	3		

Important Notes:

1. * All students will be enrolled according to the results of the placement test or results of the College Board.
2. ** The selection of free electives must be in another concentration as required by the accrediting agency.
3. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
4. Accredited by Accrediting Council on Education in Journalism and Mass Communications (ACEJMC).
5. Subject to change.

Bachelor of Communications major in Film Production, Video and Multimedia

Program's description

This program prepares for the production and direction, creative of cinema, video and multimedia, as well as for the handling of the cinematographic language. You can be a professional in the film, video, television and internet applications industries.

Admission GPA: 2.25

Graduation GPA: 2.00

Curricular Content

General Education Component - 36 credits

Course	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
MAGS 120 (I)	3	Introduction to Algebra	
ENGS 153	3	Fundamentals of Speaking, Reading and Writing English II	ENGS 152*
HIGS 201	3	Puerto Rico History and Culture	
HUGS 101	3	World Culture I	
SPGS 250	3	Writing Techniques	SPGS 152*
SOGS 201	3	The Human Being and Social Consciousness	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 250
SOGS 202	3	State-Government and the Human Being	SOGS 201
HUGS 102	3	World Culture II	HUGS 101
SCGS 200	3	Science, Technology and Society	

Core Component- 48 credits

Course	Credits	Title	Prerequisites
ENGL 275	3	Writing for the Professional World	ENGS 152
ENGL 250	3	Fundamentals of Public Speaking	ENGS 152
SPAN 275	3	Advanced Writing in Spanish	SPGS 250
SPAN 240	3	Literature and Diversity	SPGS 250
ECON 125	3	Analysis and Interpretation of Economics Reports	
SOSC 250	3	Statistical Methods Applied to Social Sciences	MAGS 120 (I)
SOSC 258	3	Investigation Techniques in Social Sciences	SOSC 250
DITE 105	3	Digital Information Technology	
MARK 134	3	Principios de mercadeo	
PHIL 103	3	Principles of Reasoning	
COMM 101	3	Communication Theory	
COMM 102	3	Introduction to Mass Media	
COMM 211	3	Legal and Ethical Aspects in Communications	
COMM 212	3	Development and Management of Media Enterprises	MARK 134
COMM 260	3	Introduction to Public Relations	
COMM 270	3	Introduction to Adversiting	

Major Component - 33 credits

Course	Credits	Title	Prerequisites
PROD 308	3	Writing and Style for Audiovisual Communication	COMM 102
PROD 313	3	Cinematography and Camera Operation	COMM 102
COMM 381	3	Television Principles	COMM 102
PROD 205	3	Audiovisual Production I	COMM 102
PROD 315	3	Lighting for Audiovisual Media	COMM 102
PROD 300	3	Film Direction I	COMM 102
PROD 303	3	Advanced Product and Direction for Audiovisual Media II	PROD 205
PROD 333	3	Editing Process	COMM 102
PROD 350	3	Sound Production for Audiovisual Media	COMM 102

Course	Credits	Title	Prerequisites
COMM 331	3	Digital Graphic Design	COMM 101, 102, DITE 105, PROD 313
COMM 450	3	Supervised Practicum	24 major credits
Free Electives - 6 credits			
Course	Credits	Title	Prerequisites
Free Elective	3		
Free Elective	3		

Important Notes:

1. * All students will be enrolled according to the results of the placement test or results of the College Board.
2. The selection of free electives must be in another concentration as required by the accrediting agency.
3. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
4. Accredited by Accrediting Council on Education in Journalism and Mass Communications (ACEJMC).
5. Subject to change.

Bachelor of Communications major in Public Relations and Advertising

Program's description

This concentration prepares comprehensive public relations and publicists, capable of building and maintaining relationships between organizations and interested publics, using different platforms, including digital ones. Students will master diverse areas of these fields of Communication, such as establishing and maintaining relationships between organizations and their audiences; monitor opinions and attitudes around your client; and establish strategies and campaigns that modify them. This will allow graduates to be up-to-date with market demands as well as to have the preparation required by the Government of Puerto Rico to grant them the license required by the State to practice as a professional relationship.

Admission GPA: 2.25

Graduation GPA: 2.50

Curricular Content

General Education Component - 36 credits

Course	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
MAGS 120 (I)	3	Introduction to Algebra	
ENGS 153	3	Fundamentals of Speaking, Reading and Writing English II	ENGS 152
HIGS 201	3	Puerto Rico History and Culture	
HUGS 101	3	World Culture I	
SPGS 250	3	Writing Techniques	SPGS 152
SOGS 201	3	The Human Being and Social Consciousness	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 250
SOGS 202	3	State-Government and the Human Being	SOGS 201
HUGS 102	3	World Culture II	HUGS 101
SCGS 200	3	Science, Technology and Society	

Core Component- 48 credits

Course	Credits	Title	Prerequisites
ENGL 275	3	Writing for the Professional World	ENGS 152
ENGL 250	3	Fundamentals of Public Speaking	ENGS 152
SPAN 275	3	Advanced Writing in Spanish	SPGS 250
SPAN 240	3	Literature and Diversity	SPGS 250
ECON 125	3	Analysis and Interpretation of Economics Reports	
SOSC 250	3	Statistical Methods Applied to Social Sciences	MAGS 120 (I)
SOSC 258	3	Investigation Techniques in Social Sciences	SOSC 250
DITE 105	3	Digital Information Technology	
MARK 134	3	Introduction to Marketing	
PHIL 103	3	Principles of Reasoning	
COMM 101	3	Communication Theory	
COMM 102	3	Introduction to Mass Media	
COMM 211	3	Legal and Ethical Aspects in Communications	
COMM 212	3	Development and Management of Media Enterprises	MARK 134
COMM 260	3	Introduction to Public Relations	
COMM 270	3	Introduction to Adversiting	

Major Component - 36 credits

Course	Credits	Title	Prerequisites
COMM 230	3	Fundamental Principles of Journalism	COMM 102
COMM 307	3	Writing for the Communication Media	COMM 102
COMM 311	3	Introduction to Photojournalism	COMM 102
COMM 380	3	Principles of Radio	COMM 102
COMM 381	3	Television Principles	COMM 102
COMM 355	3	Writing for Public Relations	COMM 260

Course	Credits	Title	Prerequisites
COMM 390	3	Strategic Media Planning	COMM 260, COMM 355
COMM 435	3	Crisis Communication in Public Relations	COMM 260, COMM 355
COMM 446	3	Public Relations Campaigns	COMM 260, COMM 355
PROD 205	3	Audiovisual Production I	COMM 102
COMM 445	3	Advertising Campaigns	COMM 260
COMM 450	3	Supervised Practicum	24 major credits

Free Electives - 6 credits

Course	Credits	Title	Prerequisites
Elective	3		
Elective	3		

Important Notes:

1. * All students will be enrolled according to the results of the placement test or results of the College Board.
2. **The selection of free electives must be in another concentration as required by the accrediting agency.
3. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
4. Subject to change.

Bachelor in Communications major in Social Communications in the Web

Program's description

Today's communicator training requires agile programs that allow them to face a competitive and demanding world of work. At the same time, universities are facing the increasingly demanding challenge of training communicators with a broad knowledge of culture in general, mastery of communication technologies and capable of creating their own company. The Baccalaureate in Social Communication in the Web will train a social communicator with the necessary skills to join the communications industry. Concentration courses include digital video and sound production, media writing, photography, graphic design, web page design. Also, the courses of Social Sciences and Humanities will form a critical communicator, knowledgeable of their social environment. The program will connect you to a world of knowledge that you can practice in journalism, public relations, marketing and advertising. We have designed an Economics course for communicators. The baccalaureate also includes a series of courses on entrepreneurship and media administration. This baccalaureate is the only one in Puerto Rico that contemplates media convergence in its training, as required by the Internet and that prepares a 360º communicator that is the one that integrates the brand into all its communication products.

Admission GPA: 2.25

Graduation GPA: 2.00

Curricular Content

General Education Component - 36 credits

Course	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
MAGS 120 (I)	3	Introduction to Algebra	
ENGS 153	3	Fundamentals of Speaking, Reading and Writing English II	ENGS 152*
SCGS 200	3	Science, Technology and Society	
HIGS 201	3	Puerto Rico History and Culture	
HUGS 101	3	World Culture I	
SPGS 250	3	Writing Techniques	SPGS 152*
SOGS 201	3	The Human Being and Social Consciousness	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 250
SOGS 202	3	State-Government and the Human Being	SOGS 201
HUGS 102	3	World Culture II	HUGS 101

Core Component- 48 credits

Course	Credits	Title	Prerequisites
COMM 101	3	Communication Theory	
COMM 102	3	Introduction to Mass Media	
COMM 211	3	Legal and Ethical Aspects in Communications	
COMM 212	3	Development and Management of Media Enterprises	MARK 134
COMM 260	3	Introduction to Public Relations	
COMM 270	3	Introduction to Adversiting	
ENGL 275	3	Writing for the Professional World	ENGS 152
ENGL 250	3	Fundamentals of Public Speaking	ENGS 152
SPAN 275	3	Advanced Writing in Spanish	SPGS 250
SPAN 240	3	Literature and Diversity	SPGS 250
ECON 125	3	Analysis and Interpretation of Economics Reports	
SOSC 250	3	Statistical Methods Applied to Social Sciences	MAGS 120 (I)
SOSC 258	3	Investigation Techniques in Social Sciences	SOSC 250
DITE 105	3	Digital Information Technology	
MARK 134	3	Introduction to Marketing	
PHIL 103	3	Principles of Reasoning	

Major Component – 36 credits

Course	Credits	Title	Prerequisites
COMM 215	3	Digital Photography	
COMM 280	3	Use of Voice and Projection	COMM 101, 102
COMM 285	3	Design and Publication of Web Pages	COMM 101, 102

Course	Credits	Title	Prerequisites
COMM 303	3	Social Media Management and Virtual Communities	SOSC 258, COMM 212
COMM 304	3	Research, Monitoring, and Evaluation of social media	COMM 303
COMM 315	3	Media Writing	COMM 101, 102, SPAN 275, ENGL 275
COMM 331	3	Digital Graphic Design	COMM 101, 102, 215, DITE 105
COMM 340	3	Production, Post-Production, and Mastering of Digital Sound	COMM 280
COMM 341	3	Digital Sound Mastering	COMM 340
COMM 420	3	Production and Post-Production of Digital Video	COMM 341
COMM 425	3	Multimedia Production	COMM 285, 320, 331, 340, 420
COMM 450	3	Supervised Practicum	24 credits approved from major with B or higher

Free Electives - 6 credits

Course	Credits	Title	Prerequisites
Elective	3		
Elective	3		

Important Notes:

1. *All students will be enrolled according to the results of the placement test or results of the College Board.
2. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
3. Subject to change.

Bachelor of Arts in Communication major in Digital Production

Program's description

The Bachelor of Arts in Communication with a major in Digital Production is oriented towards aspects of audiovisual production using digital technology. The student's training will emphasize the production of materials for radio, television and / or digital cinema.

Admission GPA: 2.25

Graduation GPA: 2.00

Curricular Content

General Education Component - 36 credits

Course	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
MAGS 120 (I)	3	Introduction to Algebra	
ENGS 153	3	Fundamentals of Speaking, Reading and Writing English II	ENGS 152*
HIGS 201	3	Puerto Rico History and Culture	
HUGS 101	3	World Culture I	
SPGS 250	3	Writing Techniques	SPGS 152*
SOGS 201	3	The Human Being and Social Consciousness	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 250
SOGS 202	3	State-Government and the Human Being	SOGS 201
HUGS 102	3	World Culture II	HUGS 101
SCGS 200	3	Science, Technology and Society	

Core Component- 48 credits

Course	Credits	Title	Prerequisites
SPAN 240	3	Literature and Diversity	SPGS 250
SPAN 275	3	Advanced Writing in Spanish	SPGS 250
ENGL 250	3	Fundamentals of Public Speaking	ENGS 152
ENGL 275	3	Writing for the Professional World	ENGS 152
SOSC 250	3	Statistical Methods Applied to Social Sciences	MAGS 120 (I)
PHIL 103	3	Principles of Reasoning	
ECON 125	3	Analysis and Interpretation of Economics Reports	
DITE 105	3	Digital Information Technology	
SOSC 258	3	Investigation Techniques in Social Sciences	SOSC 250
MARK 134	3	Introduction to Marketing	
COMM 101	3	Communication Theory	
COMM 102	3	Introduction to Mass Media	
COMM 211	3	Legal and Ethical Aspects in Communications	
COMM 212	3	Development and Management of Media Enterprises	MARK 134
COMM 260	3	Introduction to Public Relations	
COMM 270	3	Introduction to Advertising	

Major Component - 33 credits

Course	Credits	Title	Prerequisites
COMM 206	3	Screenwriting	DITE 105
COMM 199	3	Introduction to Production in Different Media	COMM 106
COMM 201	3	Video Production I	COMM 199, COMM 206
COMM 106	3	Graphic Design for Communications	DITE 105
COMM 202	3	Audio Production I	COMM 199, COMM 206
COMM 302	3	Audio Production II	COMM 202
COMM 301	3	Video Production II	COMM 201, COMM 215
COMM 420	3	Production and Post-Production of Digital Video	COMM 201
COMM 215	3	Digital Photography	COMM 106
COMM 450	3	Supervised Practicum	24 major credits
COMM 404	3	Final Project	COMM 301, COMM 302

Free Electives - 6 credits

Course	Credits	Title	Prerequisites
Free Elective	3		
Free Elective	3		

Important Notes:

1. * All students will be enrolled according to the results of the placement test or results of the College Board.
2. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
3. Subject to change.

Bachelor of Arts in Communications major in Media Management

Program's description

Our programs focus learning on technological knowledge, as well as critical thinking, social responsibility and creativity. We believe that a communicator of excellence must have a multidisciplinary vision, civic commitment and the necessary sensibility to be an agent of social change.

Admission GPA: 2.25

Graduation GPA: 2.00

Curricular Content

General Education Component - 36 credits

Course	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
MAGS 120 (I)	3	Introduction to Algebra	
ENGS 153	3	Fundamentals of Speaking, Reading and Writing English II	ENGS 152*
HIGS 201	3	Puerto Rico History and Culture	
HUGS 101	3	World Culture I	
SPGS 250	3	Writing Techniques	SPGS 152*
SOGS 201	3	The Human Being and Social Consciousness	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 250
SOGS 202	3	State-Government and the Human Being	SOGS 201
HUGS 102	3	World Culture II	HUGS 101
SCGS 200	3	Science, Technology and Society	

Core Component- 48 credits

Course	Credits	Title	Prerequisites
SPAN 240	3	Literature and Diversity	SPGS 250
SPAN 275	3	Advanced Writing in Spanish	SPGS 250
ENGL 250	3	Fundamentals of Public Speaking	ENGS 152
ENGL 275	3	Writing for the Professional World	ENGS 152
SOSC 250	3	Statistical Methods Applied to Social Sciences	MAGS 120 (I)
PHIL 103	3	Principles of Reasoning	
ECON 125	3	Analysis and Interpretation of Economics Reports	
DITE 105	3	Digital Information Technology	
SOSC 258	3	Investigation Techniques in Social Sciences	SOSC 250
MARK 134	3	Introduction to Marketing	
COMM 101	3	Communication Theory	
COMM 102	3	Introduction to Mass Media	
COMM 211	3	Legal and Ethical Aspects in Communications	
COMM 212	3	Development and Management of Media Enterprises	MARK 134
COMM 260	3	Introduction to Public Relations	
COMM 270	3	Introduction to Advertising	

Major Component - 18 credits

Course	Credits	Title	Prerequisites
COMU 308	3	Mass Media Analysis and Management	COMM 101
COMU 309	3	Entrepreneurial development in the Mass Media	COMM 101
COMU 401	3	Professional Practice Workshop (internship)	COMM 101, 211, 212, SPAN 275
COMU 404	3	Final Project	COMU 401
COMU 410	3	Strategies and Marketing of Mass Media Companies	COMM 101, COMM 211
MARK 206	3	Consumer Behavior	MARK 134

Free Electives - 21 credits

Course	Credits	Title	Prerequisites
Free Elective	21		

Important Notes:

- * All students will be enrolled according to the results of the placement test or results of the College Board.
- New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
- Subject to change.

DEPARTMENT OF PSYCHOLOGY

Bachelor in Social Sciences major in Psychology

Program's description

This program prepares you to identify and offer support in the management of mental health problems at the individual, family and social level. It will stimulate your critical and investigative capacity and you will be able to work as a PsychoSocial Technician, Psychologist Assistant and Mental Health Technician, among others.

Admission GPA: 2.00 (See admission requirements for accelerated adult program.)

Graduation GPA: 2.00

Curricular Content

General Education Component - 36 credits

Course	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
SPGS 250	3	Writing Techniques	SPGS 152
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
ENGS 153	3	Fundamentals of Speaking, Reading and Writing English II	ENGS 152
SCGS 200	3	Science, Technology and Society	
MAGS 120 (I)	3	Introduction to Algebra	
HUGS 101	3	World Culture I	
HUGS 102	3	World Culture II	HUGS 101
HIGS 201	3	Puerto Rico History and Culture	
SOGS 201	3	The Human Being and Social Consciousness	
SOGS 202	3	State-Government and the Human Being	SOGS 201
INGS 201	3	Introduction to Information Literacy and Research	SPGS 250

Core Component– 24 credits

Course	Credits	Title	Prerequisites
ECON 123	3	Economic Principles and Problems	
SOCI 203	3	Elementary Principles of Sociology	
POSC 203	3	Introduction to the Study of Political Sciences	
SOSC 250	3	Statistical Methods Applied to Social Sciences	MAGS 120 (I)
STAT 301	3	Element of Statistics II	
SOSC 258	3	Investigation Techniques in Social Sciences	SOSC 250
BIOL 103	3	Biology for Health Sciences	
SPAN 275	3	Advanced Writing in Spanish	SPGS 250

Major Component - 42 credits

Course	Credits	Title	Prerequisites
PSYC 121	3	Introduction to Psychology I	
PSYC 122	3	Introduction to Psychology II	PSYC 121
PSYC 228	3	Psychology of Diversity	PSYC 121
PSYC 321	3	Personality Theories	PSYC 121
PSYC 350	3	Principles of Psychopathology	PSYC 123 o PSYC 121
PSYC 225	3	Social Psychology	PSYC 123 o PSYC 121
PSYC 423	3	Physiological Psychology	BIOL 103, PSYC 121
PSYC 226	3	Developmental Psychology	PSYC 121
PSYC 411	3	Experimental Psychology	SOSC 258
PSYC 343	3	Learning Theories	PSYC 121
PSYC 430	3	History and Systems of Psychology	PSYC 121
PSYC 415	3	Cognitive Neuropsychology	PSYC 423
PSYC 330	3	Principles of Psychological Measurement	PSYC 121, STAT 301
PSYC 450	3	Practicum/Integration Seminar in Psychology	30 major credits

Directed Electives - 9 credits

PSYC 417	3	Health Psychology	PSYC 121
PSYC 210	3	Sexual Psychology	PSYC 121
PSYC 355	3	Industrial/ Organizational Psychology	PSYC 121
PSYC 420**	3	Educational Psychology	PSYC 121

Course	Credits	Title	Prerequisites
PSYC 327	3	Psychology of the Elderly	PSYC 121
PSYC 431	3	Crisis Intervention and Disaster Management	PSYC 350
PSYC 432	3	Introduction to Forensic Psychology	PSYC 121 or PSYC 123
PSYC 421	3	Experimental Social Psychology	PSYC 411
PSYC 418	3	Introduction to Ethical Thinking	PSYC 121
PSYC 307	3	Group Dynamics	PSYC 121
PSYC 412	3	Introduction to Couple and Families Dynamics	PSYC 121
PSYC 323	3	Community Psychology	PSYC 121
PSYC 353	3	Psychology and Cinema	PSYC 121
PSYC 408	3	Introduction to Animal Assisted Interventions	PSYC 121
PSYC 425	3	Behavior Modification	PSYC 121
PSYC 222	3	Adolescent Psychology	PSYC 121
PSYC 409	3	Introduction to Human and Animal Interaction	PSYC 121

Free Electives - 9 credits

Course	Credits	Title	Prerequisites
Free Elective	3		
Free Elective	3		
Free Elective	3		

Important Notes:

1. *All students will be enrolled according to the results of the placement test or results of the College Board.
2. **Educational Psychology is a prerequisite for admission to the master's degree in School and Child Psychology at UAGM Carolina.
3. The student must take three classes of electives of concentration in Psychology.
4. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
5. Subject to change.

DEPARTMENT OF

Bachelor in Social Work

Program's description

The Social Work Program promotes an integral formation of the Student's through the curriculum in order to achieve the professional competencies for the generalist practitioner. These competencies will foster the development of knowledge, skills and values with a focus in professional identity, theoretical and methodological formation, critical thinking, human rights, diversity, and gender equality, learning through service, an interdisciplinary approach and the use of technology. These dimensions and competencies are practiced through actions with individuals, families, communities and organizations. The curricula of the program foster the readiness of the student for the field education in diverse contexts, with special emphasis in those settings where there may be conditions of discrimination, vulnerability, oppression, poverty and exclusion. That is why the last part of the curriculum is one year of field practice in generalist social work. These experiences will provide the student with the integration of all the developed competencies, as well as the opportunity to serve within a social context in need.

Admission GPA: 2.00 (See admission requirements for accelerated adult program.)

Graduation GPA: 2.50

Curricular Content

General Education Component - 36 credits

Course	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
MAGS 120 (I)	3	Introduction to Algebra	
ENGS 153	3	Fundamentals of Speaking, Reading and Writing English II	ENGS 152*
SCGS 200	3	Science, Technology and Society	
HIGS 201	3	Puerto Rico History and Culture	
HUGS 101	3	World Culture I	
SPGS 250	3	Writing Techniques	SPGS 152*
SOGS 201	3	The Human Being and Social Consciousness	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 250
SOGS 202	3	State-Government and the Human Being	SOGS 201
HUGS 102	3	World Culture II	HUGS 101

Core Component - (27) credits

Course	Credits	Title	Prerequisites
PSYC 123	3	General Psychology	
PSYC 225	3	Social Psychology	PSYC 123 or PSYC 121
ECON 123	3	Economic Principles and Problems	
SOSC 250	3	Statistical Methods Applied to Social Sciences	MAGS 120 (I)
GEOG 202	3	Human Geography	
SOCI 358	3	Social Problems of Puerto Rico	
POSC 380	3	Constitutional Law	
SPAN 275	3	Advanced Writing in Spanish	SPGS 250
BIOL 115	3	Introduction to Human Biology	

Major Component - (53) credits

Course	Credits	Title	Prerequisites
SOWO 200	3	Introduction to Social Work	
SOWO 210	3	Social Work and Human Rights	
SOWO 211	3	Human Behavior and Social Environment I	SOWO 200
SOWO 212	3	Human Behavior and Social Environment II	SOWO 200, SOWO 211, Corequisite SOWO 311

Course	Credits	Title	Prerequisites
SOWO 303	3	Social Politics	SOWO 212
SOWO 311	3	Social Work Methodology I	SOWO 200, SOWO 211 corequisite with SOWO 212
SOWO 312	3	Social Work Methodology II: Individuals and Family	SOWO 212, SOWO 311 corequisite SOWO 313
SOWO 313	3	Interview and Documentation in Social Work	SOWO 212, SOWO 311 corequisite SOWO 312
SOWO 314	3	Group Intervention Methodology	SOWO 312
SOWO 315	3	Community Intervention Methodology	SOWO 312
SOWO 338	3	Research in Social Work	SOWO 212, SOSC 250
SOWO 328	3	Social Gerontology	SOWO 312
SOWO 345	3	Diversity, Equity, and Inclusion for Social Work Practice	SOWO 314, SOWO 315
SOWO 441	3	Practicum Seminar I	SOWO 311, SOWO 312, SOWO 313, SOWO 314, SOWO 315, corequisite SOWO 451
SOWO 442	3	Practicum Seminar II	SOWO 303, SOWO 338, SOWO 441 corequisite SOWO 452
SOWO 451	4	Supervised Practice I	SOWO 311, SOWO 312, SOWO 313, SOWO 314, SOWO 315 corequisite SOWO 441
SOWO 452	4	Supervised Practice II	SOWO 303, SOWO 338, SOWO 451 corequisite SOWO 442
Directed Electives - (6) credits			
SOWO 294	3	Social Work and Environmental Issues	SOWO 210
SOWO 296	3	Social Work Health Aide	
SOWO 430	3	Social Work Gender Perspectives	SOWO 210
SOWO 495	3	Interventions for Children	SOWO 312
SOWO 488	3	Non-Governmental Aspects	
SOWO 405	3	Interventions with LGBTQI+ and Gender Diverse Populations	SOWO 312

Important Notes:

1. * All students will be enrolled according to the results of the placement test or results of the College Board.
2. Practice requirements: minimum of 90 approved credits, approved concentration course with a minimum of C and general concentration average of 2.50 or more.
3. Supervised Practice Courses are approved with A or B.
4. Second-year students and above must obtain an academic evaluation with the program coordinator before completing the enrollment process.
5. Students who enroll in courses from other academic programs must meet the corresponding prerequisites.
6. Students transferred from other university institutions must comply with the residency policy at Ana G. Méndez University.
7. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
8. Program accredited by the Council on Social Work Education (CSWE).
9. Subject to change.

ENGINEERING, DESIGN, AND ARCHITECTURE ACADEMIC DIVISION

DEPARTMENT OF ENGINEERING

Associate Degree in Networking and Computer Technology

Program's description

The program focuses in areas of installation, estimating and maintenance of new and existing computerized systems and network infrastructure. Graduates will also have the necessary educational background to continue studies toward a Bachelor's Degree in Computer Engineering.

Admission GPA: 2.00

Graduation GPA: 2.00

Curricular Content

General Education Component - 21 credits			
Course	Credits	Title	Prerequisites
MATH 121+	3	Intermediate Algebra	MAGS 120 (I) or placement test
INGS 201	3	Introduction to Information Literacy and Research	SPGS 152
ENGS 152*	3	Fundamentals of Reading and Writing	
SPGS 152*	3	Fundamentals of Reading and Writing	
HUGS 101	3	World Culture I	
ENGS 153	3	Fundamentals of Speaking, Reading and Writing II	ENGS 152
SPGS 250	3	Writing Techniques	SPGS 152
Core Component - 11 credits			
Course	Credits	Title	Prerequisites
ECTE 122	3	Introduction to Computer Programming	Co – req MATH 152 or MATH 152 approved
MATH 151+	4	Precalculus I	MATH 121 or minimum of 600 points in CEEB and placement test
MATH 152+	4	Precalculus II	MATH 151
Major Component - 19 credits			
Course	Credits	Title	Prerequisites
EETE 223	3	Foundations of Computer Electronics	Co-req MATH 121 or MATH 121 approved
EETE 223L	1	Laboratory of Foundations of Computer Electronics	EETE 223 (Coreq.)
CTEC 220	3	Fundamentals of Computers, Peripherals and Operating Systems	EETE 223
CTEC 220L	1	Lab. of Fund. of Computers, Peripherals and Operating Systems	Co-req. CTEC 220
TCOM 335	3	Principles of Telecommunications and Networking	EETE 223
TCOM 335L	1	Laboratory of Principles of Telecommunications and Networking	Co-req. TCOM 335
TCOM 350	3	Fundamentals of Networking Infrastructure Management	TCOM 335
TCOM 350L	1	Laboratory of Fundamentals of Networking Infrastructure Management	Co-req. TCOM 350
CTEC 230	3	Fundamentals of Intermediate Programming	MATH 152, ECTE 122
Electives - 4 credits			
Course	Credits	Title	Prerequisites
MATH 221	4	Calculus I	MATH 152
EETE 225	4	Fundamentals of Microprocessors	EETE 223, EETE 223L

Important Notes:

- *All students will be enrolled according to the results of the placement test or results of the College Board.
- New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
- Subject to change.

Associate Degree in Mechanical Engineering Technology

Program's description

The program emphasizes the analysis, installation, estimating, troubleshooting, and maintenance of new and existing mechanical systems. Graduates will also have the necessary educational background to continue studies towards a bachelor's degree in mechanical engineering.

Admission GPA: 2.00

Graduation GPA: 2.00

Curricular Content

General Education Component - 21 credits

Course	Credits	Title	Prerequisites
MATH 121+	3	Intermediate Algebra	MAGS 120 (I) or placement test
INGS 201	3	Introduction to Information Literacy and Research	SPGS 152
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing I	
SPGS 152*	3	Fundamentals of Reading and Writing	
HUGS 101	3	World Culture I	
ENGS 153	3	Fundamentals of Speaking, Reading and Writing II	ENGS 152
SPGS 250	3	Writing Techniques	SPGS 152

Core Component - 14 credits

Course	Credits	Title	Prerequisites
ENGI 161	3	Engineering Technology Graphics	Co-req. MATH 151 or approved
ECTE 122	3	Introduction to Computer Programming	MATH 152+ Co-req. or superior
MATH 151+	4	Pre-Calculus I	MATH 121 or minimum of 600 points on CEEB and placement test.
MATH 152+	4	Pre-Calculus II	MATH 151+

Major Component - 13 credits

Course	Credits	Title	Prerequisites
METE 233	3	Fundamentals of Refrigeration and Air Conditioning	Co-req. MATH 121 or approved
METE 233L	1	Lab of Fundamentals of Refrigeration and Air Conditioning	Co-req. METE 233
METE 235	3	Fundamentals of Properties of Materials	Co-req. MATH 151+ or approved
METE 235L	1	Lab of Fundamentals of Properties of Materials	Co-req. METE 235
METE 245	3	Fundamentals of Manufacturing Processes Technology	METE 235, METE 235L
METE 245L	1	Lab of Fundamentals of Manufacturing Processes Technology	Co-req. METE 245
METE 248	1	Principles of Welding	METE 235, METE 235L

Elective Course - 4 credits

Course	Credits	Title	Prerequisites
MATH 221+	4	Calculus I	MATH 152+
METE 250	4	Principles of Pneumatics and Hydraulics	MATH 151+

Important Notes:

- *Students will be enrolled according to their College Board results or placement test.
- +Laboratory course.
- Engineering technology competencies in mathematics start at Intermediate Algebra level, and competencies in science require an ability to identify, formulate, and solve engineering problems by applying principles of Engineering, Science, and Mathematics. These exceed compliance levels of the COMPETENT competency level for both quantitative and scientific reasoning.
- New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
- Subject to change.

Associate Degree in Quality Control Engineering Technology

Program's description

The program focuses on areas of quality assurance for industrial or service environments. Graduates will also have the necessary educational background to continue studies towards a bachelor's degree in Industrial and Management Engineering.

Admission GPA: 2.00

Graduation GPA: 2.00

Curricular Content

General Education Component - 24 credits

Course	Credits	Title	Prerequisites
MATH 121+	3	Intermediate Algebra	MAGS 120 (I) or placement test
INGS 201	3	Introduction to Information Literacy and Research	SPGS 152
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing I	
SPGS 152*	3	Fundamentals of Reading and Writing	
HUGS 101	3	World Culture I	
SOGS 201	3	The Individual: Dimension and Social Conscience	
ENGS 153	3	Fundamentals of Speaking, Reading and Writing II	ENGS 152
SPGS 250	3	Writing Techniques	

Core Component - 11 credits

Course	Credits	Title	Prerequisites
ECTE 122	3	Introduction to Computer Programming	Co req. MATH 152
MATH 151+	4	Precalculus I	MATH 121 or minimum of 600 points on CEEB and placement test.
MATH 152+	4	Precalculus II	MATH 151

Major Component - 13 credits

Course	Credits	Title	Prerequisites
QETE 240	3	Quality Management Principles and Improvement Tools	MATH 121 or approval
QETE245	3	Fundamentals of Statistical Process Control/Metrology	QETE 240
QETE 245L	1	Laboratory of Fundamentals of Statistical Process Control/Metrology	
QETE 250	3	Introduction to Technical Engineering Management	MATH 152
QETE 255	3	Fundamentals of Lean Manufacturing-Six Sigma	QETE 245

Elective Course - 4 credits

Course	Credits	Title	Prerequisites
MATH 221+	4	Calculus I	MATH 152
QETE 260	4	Principles of Industrial Regulations and Validations	QETE 240

Important Notes:

- * Students will be enrolled according to their College Board results or placement test.
- +Laboratory course.
- Engineering technology competencies in mathematics start at Intermediate Algebra level, and competencies in science require an ability to identify, formulate, and solve engineering problems by applying principles of Engineering, Science, and Mathematics. These exceed compliance levels of the COMPETENT competency level for both quantitative and scientific reasoning.
- New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
- Subject to change.

Associate Degree in Electronic Engineering Technology

Program's description

The program focuses on major areas of computer, instrumentation and communication systems. Graduates will also have the necessary educational background to continue studies towards a bachelor's degree of Science in Electrical Engineering. (Gurabo)

Admission GPA: 2.00

Graduation GPA: 2.00

Curricular Content

General Education Component - 24 credits

Course	Credits	Title	Prerequisites
ENGS 152*	3	Fundamentals of Reading and Writing	
SPSGS 152*	3	Fundamentals of Reading and Writing	
HUGS 101	3	World Culture I	
SOGS 201	3	The Human Being and Social Consciousness	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 152
SPGS 250	3	Writing Techniques	SPGS 152
ENGS 153	3	Fundamentals of Speaking, Reading and Writing II	ENGS 152
MATH 121*	3	Intermediate Algebra	MAGS 120 (I) or placement test

Core Component - 11 credits

Course	Credits	Title	Prerequisites
MATH 151+	4	Pre-Calculus I	MATH 121 or minimum of 600 points on CEEB and placement test.
MATH 152+	4	Pre-Calculus II	MATH 151
ECTE 122	3	Introduction to Computer Programming	Co-req or approved MATH 152

Major Component - 19 credits

Course	Credits	Title	Prerequisites
EETE 220	3	Introduction to DC/AC Circuits	Co – req or approved MATH 121
EETE 220L	1	Introduction to DC/AC Circuits Laboratory	Co – req EETE 220
EETE 221	3	Introduction to Electronics	EETE 220
EETE 225	3	Introduction to Embedded Systems	EETE 220
EETE 225L	1	Introduction to Embedded Systems Laboratory	Co-Req EETE 225
EETE 230	3	Communications Electronics	EETE 221
EETE 230L	1	Communications Electronics Laboratory	Co-Req EETE 230
EETE 250	3	Fundamentals of Electronic Instrumentation & Calibration	EETE 220, EETE 220L
EETE 260	1	Review for License Examination of Electronic Technology	Director's Approval

Directed Electives - 4 credits

Course	Credits	Title	Prerequisites
MATH 221+	4	Calculus I	MATH 152
CTEC 222	4	Principles of Computers, Peripherals and Operating Systems	EETE 225

Important Notes:

- *Students will be enrolled according to their College Board results or placement test.
- +Laboratory course.
- Engineering technology competencies in mathematics start at Intermediate Algebra level, and competencies in science require an ability to identify, formulate, and solve engineering problems by applying principles of Engineering, Science, and Mathematics. These exceed compliance levels of the COMPETENT competency level for both quantitative and scientific reasoning.
- New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
- Developmental courses to develop academic skills for students entering with some deficiency: MAGS 120 (I) Introductory Algebra.
- Subject to change.

Associate Degree in Science in Electronic Engineering Technology

Program's description

This academic program prepares individuals to become technicians who design, build, install, test, troubleshoot, repair, and modify developmental and production electronic components, equipment, and systems such as industrial/computer controls, manufacturing systems, communications systems, and power electronic systems. The program is designed to prepare the individual to become a competent electronic technician capable of working and communicating with engineers, scientists, and production personnel. Their work requires the application of scientific and mathematical theory as well as specialized knowledge and skills in some aspect of technology. (Carolina).

Admission GPA: 2.00

Graduation GPA: 2.00

Program Educational Objectives

Graduates of the program are expected to attain the following objectives:

1. Apply their knowledge in math, science, and engineering technology to solve technical problems related to electronic systems (electricity, analog and digital circuits, electronic communication, and microprocessor / embedded systems).
2. Manage, interpret, and communicate technical and non-technical documents in cross functional teams.
3. Apply ethical principles and show respect for diversity and culture.
4. Recognize the importance of continually improving their knowledge through continuing education and formal studies.

Student Outcomes for the Program

1. An ability to apply knowledge, techniques, skills and modern tools of mathematics, science, engineering, and technology to solve well-defined engineering problems appropriate to the discipline.
2. An ability to design solutions for well-defined technical problems and assist with the engineering design of systems, components, or processes appropriate to the discipline.
3. An ability to apply written, oral, and graphical communication in well-defined technical and non-technical environments; and an ability to identify and use appropriate technical literature.
4. An ability to conduct standard tests, measurements, and experiments and to analyze and interpret the results; and
5. An ability to function effectively as a member of a technical team.

Curricular Content

General Education Component - 15 credits

Course	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
ENGS 152*	3	Fundamentals of Reading and Writing	
MAGS 120 (I)	3	Introductory Algebra	
SOGS 201 or	3	World Culture I or	
HUGS 101		The Human Being and Social Consciousness	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 152

Core Component - 23 credits

Course	Credits	Title	Prerequisites
MATH 121+	3	Intermediate Algebra	MAGS 120 (I) or placement test
MATH 151+	4	Precalculus I	MATH 121 or minimum of 600 points on CEEB and placement test.
MATH 152+	4	Precalculus II	MATH 151
ENGI 200	3	Technology, Engineering and Industrial Development	
PHSC 228+	3	Engineering and Aeronautic Physics	MAGS 120 (I)
ENGI 250	3	Engineering Economics	MATH 151
ENGI 160	3	Engineering Graphics	

Major Component - 17 credits

Course	Credits	Title	Prerequisites
EETE 220	3	Introduction to DC/AC Circuits	Co-Req MATH 121
EETE 220L	1	Introduction to DC/AC Circuits Laboratory	Co-req. EETE 220
EETE 221	3	Introduction to Electronics (IoT)	EETE 220
EETE 225	3	Introduction to Embedded Systems	EETE 220
EETE 225L	1	Lab Introduction to Embedded Systems	Co-Req EETE 225
EETE 230	3	Communications Electronics	EETE 221
EETE 230L	1	Lab Communications Electronics	Co-Req EETE 230
ETAP 300	1	Engineering Technology Application Project	Director Approval
EETE 260	1	Electronic Technician License Review	Director Approval

Important Notes:

1. *Students will be enrolled according to their College Board results or placement test.
2. + Includes laboratory.
3. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
4. Program accredited by ABET at Carolina Campus.
5. Subject to change.

Associate Degree in Science in Engineering Technology in Avionics

Program's description

The Avionics program is an Associate of Science Degree in Engineering Technology from a technical and practical perspective that trains high-quality professional technicians with great domain expertise, appropriate manual skills, and effective communication skills. This degree aims to develop the student's capacity to implement a selection of fundamental concepts of Science, Mathematics, Computers, General Engineering, and the expertise of Avionics. The program incorporates demonstration activities and workshops related to the repair and maintenance of navigation equipment, radio communications, radar systems, and other instruments and computers that control the aircraft electronic systems within dynamic industrial or technical services.

Admission GPA: 2.00

Graduation GPA: 2.00

Program Educational Objectives

Graduates of the program are expected to attain the following objectives:

1. Apply their knowledge in math, science, and engineering technology to solve technical problems related to aircraft electronic systems (radar, communications, navigation, and pulse systems).
2. Manage, interpret, and communicate technical and non-technical documents in cross functional teams.
3. Apply ethical principles and show respect for diversity and culture.
4. Recognize the importance of continually improving their knowledge through continuing education and formal studies.

Student Outcomes for the Program

1. An ability to apply knowledge, techniques, skills and modern tools of mathematics, science, engineering, and technology to solve well-defined engineering problems appropriate to the discipline.
2. An ability to design solutions for well-defined technical problems and assist with the engineering design of systems, components, or processes appropriate to the discipline.
3. An ability to apply written, oral, and graphical communication in well-defined technical and non-technical environments; and an ability to identify and use appropriate technical literature.
4. An ability to conduct standard tests, measurements, and experiments and to analyze and interpret the results; and
5. An ability to function effectively as a member of a technical team.

Curricular Content

General Education Component - 15 credits			
Course	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
ENGS 152*	3	Fundamentals of Reading and Writing	
MAGS 120 (I)	3	Introductory Algebra	
HUGS 101 or	3	World Culture I or	
SOGS 201		The Human Being and Social Consciousness	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 152
Core Component - 23 credits			
Course	Credits	Title	Prerequisites
MATH 121	3	Intermediate Algebra	MAGS 120 (I) or placement test
MATH 151+	4	Precalculus I	MATH 121 or minimum of 600 points in CEEB and placement test
MATH 152+	4	Precalculus II	MATH 151
ENGI 200	3	Technology, Engineering, and Industrial Development	
ENGI 160	3	Engineering Graphics	
ENGI 250	3	Engineering Economics	MATH 151
PHSC 228+ ⁵	3	Engineering and Aeronautical Physics	MAGS 120 (I)

Major Component - 21 credits			
Course	Credits	Title	Prerequisites
EETE 220	3	Introduction to DC/AC Circuits	Co-req. MATH 121
EETE 220L	1	Introduction to DC/AC Circuits Laboratory	Co-req. EETE 220
EETE 221+	3	Introduction to Electronics	EETE 220
AETP 202+	3	Aircraft Digital Electronics	EETE 220
AETP 203+	3	Aircraft Communication Systems	EETE 220
AETP 204+	3	Aircraft Navigation Systems	Co-req. AETP 202
AETP 207	1	FCC License Review	Director Approval
AETP 206+	3	Fundamentals Pulse and Radar System	AETP 203
ETAP 300	1	Engineering Technology Application Project	Director Approval

Important Notes:

1. * Students will be enrolled according to their College Board results or placement test.
2. + Includes laboratory
3. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
4. The minimum passing grade for core and major courses component is C.
5. For students interested in continuing studies at the bachelor's degree level, it is recommended to take the PHSC 215 Physics for Engineers I instead of PHSC 228 Engineering and Aeronautical Physics.
6. Program accredited by ABET at Carolina Campus.
7. Subject to change.

Associate Degree in Aviation Science in Professional Pilot Technology

Program's description

The Professional Pilot Technology program is an associate degree certified in Part 141 by the Federal Aviation Administration (FAA) as a "Ground Pilot School", which aims to train professionals in the field of Aviation. In this degree, you will develop skills and knowledge that will enable you to face the challenges and theoretical exams before the FAA, and obtain your "Student Pilot" license, prior to flying an aircraft. At the same time, we promote the necessary skills to enroll in flight training with the accompaniment of our Chief Instructor, who will support you throughout your process of obtaining the Private Pilot, Instrument Pilot and Commercial Pilot licenses, in cooperation with the flight academy "Isla Grande Flying School", according to an agreement with UAGM Recinto de +. In addition, you gain expert knowledge related to radio communications, navigation systems and procedures, airline safety and traffic regulations, and government rules and regulations regarding the piloting of aircraft.

Admission GPA: 2.50

Graduation GPA: 2.00

Curricular Content

General Education Component - 15 credits

Course	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
ENG 152*	3	Fundamentals of Reading and Writing	
MAGS 120 (I)	3	Introductory Algebra	
HUGS 101 or	3	World Culture I or	
SOGS 201		The Human Being and Social Consciousness	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 152

Core Component - 24 credits

Course	Credits	Title	Prerequisites
ASCT 100	3	Aviation Communication	
ASCT 101	3	Aviation Weather	
ASCT 102	3	Aircraft Systems	
ASCT 103	3	Physiology and Psychology of Flight	
ASCT 105	3	Aviation Safety, Law, and Regulations	
ASCT 106	3	Airport Management	
MATH 201	3	Basics Statistics	MAGS 120 (I)
PHSC 228+	3	Engineering and Aeronautical Physics	MAGS 120 (I)

Major Component - 18 credits

Course	Credits	Title	Prerequisites
ATPP 200	3	Private Pilot Ground School	Director Approval
ATPP 211	3	Private Pilot Flight Practice	ATPP 200
ATPP 204	3	Instrument Pilot Ground School	ATPP 200, ATPP 211, Director Approval
ATPP 212	3	Instrument Pilot Flight Practice	ATPP 204, ATPP 211
ATPP 207	3	Commercial Pilot Ground School	ATPP 204, Director Approval
ATPP 213	3	Commercial Pilot Flight Practice	ATPP 212, ATPP 207 coreq.

Important Notes:

- * Students will be enrolled according to their College Board results or placement test.
- +Includes laboratory.
- All students must meet with the program director and sign the student handbook.
- The student must obtain a medical certificate from a professional authorized by the FAA.
- The flight hours will be provided by a provider contracted and authorized by the FAA through 14 CFR Part 141.
- New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
- Core Component Courses must be passed with a minimum grade of C.
- Ground courses must be passed with a minimum grade of B: ATPP 200, ATPP 204 y ATPP 207.
- Subject to change.

Associate Degree in Electrical Technology and Renewable Energy

Program's description

The program focuses on the major areas of Electrical Technology and Renewable Energy. Graduates will also have the necessary educational background to continue studies towards an Associate Degree in Electrical Technology and Renewable Energy.

Admission GPA: 2.00

Graduation GPA: 2.00

Curricular Content

General Education Component - 24 credits

Course	Credits	Title	Prerequisites
MAGS 120 (I)	3	Introductory Algebra	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 152
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing I	
SPGS 152*	3	Fundamentals of Reading and Writing	
SOGS 201	3	The Individual: Dimension and Social Conscience	
HUGS 101	3	World Culture I	
ENGS 153	3	Fundamentals of Speaking, Reading, and Writing II	ENGS 152
SPGS 250	3	Writing Techniques	SPGS 152

Core Component - 6 credits

Course	Credits	Title	Prerequisites
MATH 121+	3	Intermediate Algebra	MAGS 120 (I) or placement test
ETRE 165	3	Fundamentals of Renewable Energy	

Major Component - 28 credits

Course	Credits	Title	Prerequisites
ETRE 160	3	Principles of Electrical Circuits and Power	Co-req. MAGS 120 (I)
ETRE 160L	1	Laboratory of Principles of Electrical Circuits and Power	Co-req. ETRE 160
ETRE 170	3	Introduction to Electrical Installations and NEC	ETRE 160, ETRE 160L
ETRE 170L	1	Laboratory of Introduction to Electrical Installations and NEC	Co-req. ETRE 170
ETRE 173	1	Review for License Examination of Electrician Assistant	Co-req ETRE 170, ETRE 170L, ETRE 175, ETRE 175L
ETRE 175	3	Electrical Machinery	ETRE 160, ETRE 160L
ETRE 175L	1	Laboratory of Electrical Machinery	Co-req. ETRE 175
ETRE 180	3	Fundamentals of Photovoltaic and Wind Power System	ETRE 160, ETRE 165
ETRE 180L	1	Laboratory of Fundamentals of Photovoltaic and Wind Power System	Co-req. ETRE 180
ETRE 180 AL	1	Laboratory of Photovoltaic and Wind Power System Installations	ETRE 180, ETRE 180L
ETRE 260	3	Electrical Installations	ETRE 170, ETRE 170L
ETRE 265	3	Principles of Electrical Controls and PLC	ETRE 175, ETRE 175L
ETRE 265L	1	Laboratory of Principles of Electrical Controls and PLC	Co-req. ETRE 265
ETRE 280	3	Review for License Examination of Electrician	All courses ETRE Approved ETRE 260, ETRE 265, ETRE 265L, ETRE 180A, Co-req. or Approved

Elective Course - 4 credits

Course	Credits	Title	Prerequisites
MATH 151+	4	Pre-Calculus I	MATH 121
ETRE 270	4	Transmission and Distribution System	ETRE 260

Important Notes:

1. Graduation GPA 2.00
2. Classification of Instructional Programs (CIP CODE):46.0302 Electrician.
3. In order to practice the profession, it is required that the graduate take and pass the exam offered by the Board of Examiners of Expert Electricians of Puerto Rico.

4. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
5. Subject to change.

Associate Degree in Refrigeration and Air Conditioning Technology with Energy Management

Program's description

This program offers students the theoretical knowledge and practical skills needed to succeed in the changing world of technology. The two-year curriculum prepares the student in residential, commercial and Industrial refrigeration and air conditioning integrating the fundamental concepts of energy management. It also develops knowledge and skills in data analysis, problem solving and effective communication in English and Spanish. Graduates will have the opportunity to continue studies in the Bachelor of Science in Mechanical Engineering. Graduated student may take the exam offered by the Board of Examiners for technicians in refrigeration and air conditioning of the Government of Puerto Rico once completed its program hours and complied with all the requirements of law.

Admission GPA: 2.00

Graduation GPA: 2.00

Curricular Content

General Education Component - 21 credits

Course	Credits	Title	Prerequisites
MAGS 120 (I)	3	Introduction to Algebra	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 152
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing I	
SPGS 152*	3	Fundamentals of Reading and Writing	
SOGS 201	3	The Human Being and Social Consciousness	
ENGS 153	3	Fundamentals of Oral Communication, Reading and Writing II	ENGS 152
SPGS 250	3	Writing Techniques	SPGS 152

Core Component - 9 credits

Course	Credits	Title	Prerequisites
MATH 121+	3	Intermediate Algebra	MAGS 120 (I) or placement test
EMTE 105	3	Fundamentals of Energy Management	
EMTE 110	3	Energy Management in Air Conditioning	EMTE 105

Major Component - 27 credits

Course	Credits	Title	Prerequisites
RAEM 115	3	Fundamentals of Refrigeration and Air Conditioning	Co-req. MAGS 120(I)
RAEM 115L	1	Lab of Fundamentals of Refrigeration and Air Conditioning	Co-req. RAEM 115
RAEM 210	3	Principles of Residential Refrigeration and Air Conditioning	RAEM 115, RAEM 115L, ETRA 160, ETRA 160L
RAEM 210L	1	Lab of Principles of Residential Refrigeration and Air Conditioning	Co-req. RAEM 210
RAEM 220	3	Principles of Commercial and Industrial Air Conditioning	RAEM 115, RAEM 115L, ETRA 160, ETRA 160L
RAEM 220L	1	Lab of Principles of Commercial and Industrial Air Conditioning	Co-req. RAEM 220
RAEM 240	2	Fundamentals of Automobile A/C	RAEM 115, RAEM 115L, ETRA 160, ETRA 160L
RAEM 250	4	Professional Seminar	Have passed all the courses with the RAEM Code, EMTE ETRA and MATH from previous semesters -Co req. RAEM 240
ETRA 160	3	Fundamentals of Electric Circuits	Co-req. MATH 120
ETRA 160L	1	Lab of Fundamentals of Electric Circuits	Co-req. ETRA 160
ETRA 190	4	Fundamentals of Electrical Systems and Controls for Refrigeration and Air Conditioning	ETRA 160, ETRA 160L
ETRA 190L	1	Lab of Fundamentals of Electrical Systems and Controls for Refrigeration and Air Conditioning	Co-req. ETRA 190

Important Notes:

1. * Students will be enrolled according to their College Board results or placement test.
2. +Laboratory course
3. Engineering technology competencies in mathematics start at Intermediate Algebra level, and competencies in science require an ability to identify, formulate, and solve engineering problems by applying principles of Engineering, Science, and Mathematics. These exceed compliance levels of the COMPETENT competency level for both quantitative and scientific reasoning.
4. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
5. Subject to change.

Associate Degree in Sciences in Computer Network Engineering Technology of Computer Devices or Networking

Program's description

The Networking Engineering Technology curriculum prepares individuals to become engineering technicians who design, install, test, troubleshoot, repair, and modify data communications networks systems such as local area computer networks, wide area computer networks and industrial devices networks within an automation system. The curriculum includes the CISCO Academy courses that will prepare the student for the Cisco Certified Network Associates CCNA professional certification. The graduates from this program will be capable of working and communicating with engineers, scientists, and production personnel. Their work requires the application of scientific and mathematical theory as well as specialized knowledge and skills in some aspect of networks technologies.

Admission GPA: 2.00

Graduation GPA: 2.00

Curricular Content

General Education Component - 15 credits

Course	Credits	Title	Prerequisites
ENGS 152*	3	Fundamentals of Reading and Writing	
SPSGS 152*	3	Fundamentals of Reading and Writing	
HUGS 101 or	3	World Culture I	
SOGS 201		The Human Being and Social Consciousness	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 152
MAGS 120 (I)	3	Introductory Algebra	Placement test

Core Component - 20 credits

Course	Credits	Title	Prerequisites
MATH 121	3	Intermediate Algebra	MAGS 120 (I)
MATH 151+	4	Precalculus I	MATH 121
MATH 152+	4	Pre-Calculus II	MATH 151
ENGI 250	3	Engineering Economics	MATH 151
ENGI 200	3	Technology, Engineering, and Industrial Development	
ENGI 160	3	Engineering Graphics	

Major Component - 28 credits

Course	Credits	Title	Prerequisites
EETP 202+	3	Circuit Analysis I (DC)	MAGS 120 (I)
EETP 203+	4	Circuit Analysis II (AC)	EETP 202
NETP 202+	3	Networking Basics – CCNA 1	
NETP 203+	4	Routers and Routing Basics – CCNA 2	NETP 202+
NETP 204+	4	Switching & Internet Routing – CCNA III	NETP 203+
NETP 205+	3	WAN Technologies – CCNA 4	NETP 204+
NETP 208+	3	Computer and Networks Operating System	
NETP 209+	3	Network Security	
ETAP 300	1	Engineering Technology Application Project	NETP 209+ - Co.

Important Notes:

1. Students will be enrolled according to their College Board results or placement test.
2. +Laboratory course.
3. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
4. Subject to change.

Articulated Transfer Program in Engineering to Gurabo Campus

Program's description

The main purpose of the engineering transfer program is to introduce the fundamental concepts to prepare students in the first two years of the degree to later facilitate their transfer to one of the five engineering baccalaureates available at the Gurabo campus. The student will have the opportunity to select elective courses that will direct him towards the specific career that he wishes to complete in any of the following areas: mechanical, civil, electrical, computer and industrial engineering and management. The focus of this program is to offer the courses of the general component and natural sciences and advanced mathematics, such as calculus, chemistry, and physics. Provides elective courses that lead students to the career of their choice within the field of engineering.

Admission GPA: 2.00

Curricular Content

General Education Component - 37 credits

Course	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
SPGS 250	3	Writing Techniques	SPGS 152*
ENGS 152*	3	Fundamentals of Speaking, Reading, and Writing I	
ENGS 153	3	Fundamentals of Speaking, Reading, and Writing II	ENGS 152*
MATH 152+	4	Pre-Calculus II	Placement test or MATH 151+
SCGS 200	3	Science, Technology, and Society	
HIGS 201	3	Puerto Rico History and Culture	
HUGS 101	3	World Culture I	
HUGS 102	3	World Culture II	HUGS 101
SOGS 201	3	The Human Being and Social Consciousness	
SOGS 202	3	Questioning Politics & Economics	SOGS 201
INGS 201	3	Introduction to Information Literacy and Research	SPGS 250

Core Component - 22 credits

Course	Credits	Title	Prerequisites
CHEM 203+	4	General Chemistry I	Co req. MATH 151
ENGI 122	3	Introduction to Computer Programming	MATH 152
PHSC 215+	4	Physics for Engineering I	MATH 221
MATH 221+	4	Calculus I	MATH 152
MATH 222+	4	Calculus II	MATH 221
MATH 395	3	Differential Equations	MATH 222

Major Component - 7 credits

Course	Credits	Title	Prerequisites
ENGI 223	3	Intermediate Programming	ENGI 122, MATH 221
ENGI 233	3	Statics	PHSC 215+
IMEN 390	3	Probability for Engineers	MATH 221
CPEN 358+	4	Object-Oriented Programming	ENGI 122
PHSC 216+	4	General Physics II with Calculus	PHSC 215+

Important Notes:

- * Students will be enrolled according to their College Board results or placement test. In the case of mathematics, the student must have a score of 700 or more on the College Board test to be enrolled directly in the Precalculus II course, MATH 152.
- + Laboratory course.
- Minimum general average to transfer to engineering programs at UAGM-Gurabo is 2.00 and have passed the courses of the core component and the directed engineering electives with a minimum of C.
- Students transferred from other university institutions must comply with the rules of residence and academic progress at UAGM. If applicable, the results of the College Board or placement tests will be used to enroll in initial courses in Spanish, English and mathematics.
- Subject to changes.

Bachelor of Science in Civil Engineering

Program's description

Most of the infrastructure surrounding you is provided by the work performed by civil engineers. All the buildings, highways, bridges, drainages, channels, water, and wastewater systems are designed, built, maintained, and improved by civil engineers. Civil engineers use science and mathematics to solve engineering problems in several areas such as: Geotechnical, Structural, Transportation, Water Resources, Environmental, Materials, Project Management and Surveying.

Admission GPA: 2.00

Graduation GPA: 2.00

Program Educational Objectives

A few years after graduation, our graduates will be able to:

1. Undertake civil engineering design projects, perform operations and maintenance activities, giving due consideration to different alternatives, their safety, sustainability and costs, and the needs of stakeholders, while complying with ethical standards in such a way that they become honorable members of our profession.
2. Communicate effectively their ideas with supervisors, associates, clients and the general public, demonstrating their expertise verbally and in writing, in both English and Spanish.
3. Embrace the need to keep updated in their profession and have the tools and motivation to continue their professional development.

Student Outcomes for the Program

1. An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
2. An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
3. An ability to communicate effectively with a range of audiences.
4. An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.
5. An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
6. An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.
7. An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Curricular Content

General Education Component - 37 credits

Course	Credits	Title	Prerequisites
ENGS 152*	3	Fundamentals of Speaking, Reading, and Writing I	
ENGS 153	3	Fundamentals of Speaking, Reading, and Writing II	ENGS 152*
SPGS 152*	3	Fundamentals of Reading and Writing	
SPGS 250	3	Writing Techniques	SPGS 152*
HUGS 101	3	World Culture I	
HUGS 102	3	World Culture II	HUGS 101
INGS 201	3	Introduction to Information Literacy and Research	SPGS 250
HIGS 201	3	Puerto Rico History and Culture	
SOGS 201	3	The Human Being and Social Consciousness	
SOGS 202	3	Questioning Politics & Economics	SOGS 201
MATH 152+	4	Pre-Calculus II	Placement test or MATH 151+
SCGS 200	3	Science, Technology, and Society	

Core Component - 45 credits

Course	Credits	Title	Prerequisites
ENGI 160	3	Engineering Graphics	MATH 152+
ENGI 122	3	Introduction to Computer Programming	MATH 152+
ENGI 233	3	Statics	PHSC 215+
ENGI 318	3	Strength of Materials	ENGI 233
ENGI 280	3	Data Analysis	MATH 221+
MATH 221+	4	Calculus I	MATH 152+
MATH 222+	4	Calculus II	MATH 221+
MATH 223+	4	Calculus III	MATH 222+
MATH 395	3	Differential Equations	MATH 222+
CHEM 203+	4	General Chemistry I	Co req. MATH 151
PHSC 215+	4	Physics for Engineering I	MATH 221+
PHSC 216+	4	Physics for Engineering II	PHSC 215+
BIOL 103	3	Biology for Health Sciences	

Major Component - 40 credits

Course	Credits	Title	Prerequisites
CIEI 411	3	Principles of Surveying for Engineers	MATH 152+
CIEI 420	2	Civil Engineering Materials	CHEM 203+, PHSC 215+
CIEI 420L	1	Civil Engineering Materials Laboratory	Co-req. CIEI 420
CIEI 430	3	Structural Analysis I	ENGI 318
CIEI 432	3	Reinforced Concrete Design	CIEI 420, CIEI 430
CIEI 434	3	Structural Steel Design	CIEI 420, CIEI 430
CIEI 440	2	Introduction to Geotechnical Engineering	ENGI 318
CIEI 440L	1	Introduction to Geotechnical Engineering Laboratory	Co-req. CIEI 440
CIEI 444	3	Foundation Engineering	CIEI 440
CIEI 450	3	Hydrology & Hydraulics	PHSC 215+
CIEI 465	3	Water and Wastewater Engineering	CIEI 411
CIEI 462	1	Environmental Engineering and Water Resources Laboratory	CHEM 203+, MATH 152+
CIEI 470	3	Construction Project Management	Placement exam or MATH 151+
CIEI 480	3	Transportation and Traffic Engineering	ENGI 280
CIEI 484	3	Highway Engineering	CIEI 411
CIEI 490	3	Civil Engineering Design Project	Chairperson's permission

Electives - 9 credits

Course	Credits	Title	Prerequisites
CIEI 337	3	Construction Drawings and Details	PHSC 215+
CIEI 403	3	Special Topics: Structures and Geotechnics	ENGI 233
CIEI 406	3	Special Topics: Environmental and Water Resources	CIEI 465
CIEI 407	3	Special Topics: Construction Management	CIEI 470
CIEI 408	3	Special Topics: Transportation	CIEI 480

Course	Credits	Title	Prerequisites
CIE 431	3	Structural Analysis II	CIE 430
CIE 436	3	Design of Wood Structures	CIE 430
CIE 461	3	Introduction to Environmental Engineering for CE	CHEM 203+, MATH 152+
CIE 474	3	Construction Cost Estimates	CIE 470
CIE 498	3	Undergraduate Research I	ENGI 280, Chairperson's Permission
CIE 499	3	Undergraduate Research II	CIE 498, Chairperson's permission and literature review (if changing topic)

Important Notes:

1. * Students will be enrolled according to their College Board results or placement test.
2. + Laboratory course.
3. The General Education component of all bachelor's degrees in engineering is different from other programs because of the Engineering Accreditation Commission of ABET requirements. Engineering competencies in mathematics start at Calculus level, and competencies in science require an ability to identify, formulate, and solve complex engineering problems by applying principles of Engineering, Science, and Mathematics (ABET's Student Outcome 1). Also, they need to be able to develop and conduct appropriate experimentation, analyze, and interpret data, and use engineering judgment to draw conclusions (ABET's Student Outcome 6). These exceed compliance levels of the COMPETENT competency level for both quantitative and scientific reasoning.
4. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
5. Developmental courses to develop academic skills for students entering with some deficiency: MATH 121 Intermediate Algebra (3 credits) and MATH 151 Pre-Calculus (4 credits).
6. Minimum grade required: All courses in the program must be passed with a minimum grade of C.
7. Program accredited by ABET at Gurabo Campus.
8. Subject to change.

Bachelor of Science in Electrical Engineering

Program's description

The Electrical Engineering Program offers students an exciting curriculum covering diverse areas including power, electronics, computers, controls, communications, and signal processing.

Admission GPA: 2.00

Graduation GPA: 2.00

Program Educational Objectives

A few years after graduation, our graduates will be able to:

1. To apply the principles of the profession to improve the human condition.
2. To be able to gain entrance to a graduate program in electrical engineering or related disciplines.
3. To become leaders in their profession by assuming increasing responsibility within their organizations, serving as role models for their peers, and being effective change agents for the benefit of the organizations that they represent.
4. To demonstrate attainment of professional and technical maturity.

Student Outcomes for the Program

1. An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
2. An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
3. An ability to communicate effectively with a range of audiences.
4. An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.
5. An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
6. An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.
7. An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.
8. Knowledge of probability and statistics, including appropriate electrical engineering applications.
9. Knowledge of advanced mathematics, including differential equations, linear algebra, complex variables, and discrete mathematics.
10. An ability to analyze and design complex electrical and electronic devices, software, and systems containing hardware and software components

Curricular Content

General Education Component - 37 credits

Course	Credits	Title	Prerequisites
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
ENGS 153	3	Fundamentals of Speaking, Reading and Writing English II	ENGS 152*
HIGS 201	3	Puerto Rico History and Culture	
HUGS 101	3	World Culture I	
HUGS 102	3	World Culture II	HUGS 101
INGS 201	3	Introduction to Information Literacy and Research	SPGS 250
SOGS 201	3	The Human Being and Social Consciousness	
SOGS 202	3	State-Government and the Human Being	SOGS 201
SPGS 152*	3	Fundamentals of Reading and Writing	
SPGS 250	3	Writing Techniques	SPGS 152
SCGS 200	3	Science, Technology and Society	
MATH 152+*	4	Precalculus II	

Core Component- 36 credits

Course	Credits	Title	Prerequisites
CHEM 203+	4	General Chemistry I	Co req. MATH 151
ENGI 122	3	Introduction to Computer Programming	MATH 152+
ENGI 223	3	Intermediate Programming	ENGI 122/MATH 221+
ENGI 398	3	Engineering Mathematics	MATH 222+/ENGI 122
MATH 221+	4	Calculus I	MATH 152+
MATH 222+	4	Calculus II	MATH 221+
MATH 223+	4	Calculus III	MATH 222+
MATH 395	3	Differential Equations	MATH 222+
PHSC 215+	4	Physics for Engineering I	MATH 221+
PHSC 216+	4	Physics for Engineering II	PHSC 215+

Major Component - 49 credits

Course	Credits	Title	Prerequisites
ELEN 301	3	Electrical Networks I	PHSC 215+
ELEN 302	1	Electrical Networks I Laboratory	PHSC 215+
ELEN 311	3	Electrical Networks II	ELEN 301, ELEN 302, MATH 395
ELEN 312	3	Digital Logic Design I	ELEN 301, ENGI 122
ELEN 313	1	Digital Logic Design I Laboratory	ELEN 302, ENGI 122
ELEN 330	3	Electronics I	ELEN 301, ELEN 302
ELEN 332	1	Electronics I Laboratory	ELEN 302
ELEN 360	3	Random Signals and Systems	MATH 222+, ELEN 301
ELEN 370	3	Electromagnetics	ELEN 301, PHSC 216+, MATH 223
ELEN 415	3	Signals, Systems, and Control	ELEN 301, MATH 395, ENGI 398
ELEN 417	1	Systems Laboratory	ELEN 415
ELEN 421	1	Electromechanical Energy Conversion Laboratory	ELEN 302
ELEN 422	3	Electrical Machines	ELEN 311
ELEN 431	3	Electronics II	ELEN 330
ELEN 433	1	Electronics II Laboratory	ELEN 332
ELEN 442	3	Microprocessors I	ELEN 312
ELEN 447	1	Microprocessors Laboratory	ELEN 313
ELEN 474	3	Communication Systems I	ELEN 360, ELEN 415
ELEN 480	3	Power System Analysis I	ELEN 311
ELEN 491	3	Electrical Engineering Design Concepts	ELEN 311, ELEN 312, ELEN 330
ELEN 492	3	Major Design Experience	ELEN 422, ELEN 431, ELEN 433, ELEN 442, ELEN 491/Last semester status

Directed Electives - 9 credits

Course	Credits	Title	Prerequisites
COMP xxx or CPEN xxx	3	Any COMP or CPEN course from the BS in Computer Engineering	As required by the Computer Engineering Program
ECEN 400	3	Survey of Electrical and Computer Engineering Topics	Next to last semester status
ELEN 430	3	Digital Electronics	ELEN 330
ELEN 434	3	Instrumentation	ELEN 431, ELEN 433
ELEN 436	3	Power Electronics	ELEN 330
ELEN 441	3	Digital Logic Design II	ELEN 312, ELEN 330
ELEN 443	3	Microprocessors II	ELEN 442
ELEN 460	3	Digital Signal Processing	ELEN 415
ELEN 472	3	Antennas and Transmission Lines	ELEN 370
ELEN 475	3	Communication Systems II	ELEN 474
ELEN 478	3	RF Design	ELEN 431, ELEN 474
ELEN 481	3	Power System Analysis II	ELEN 480
ELEN 484	3	Power Transmission and Distribution	ELEN 480
ELEN 488	3	Power System Reliability	ELEN 480
ELEN 497	3	Special Topics	ECE Head's permission
ELEN 498	3	Undergraduate Research I	ECE Head's permission
ELEN 499	3	Undergraduate Research II	ELEN 498, ECE Head's permission
ENGY 103	1	Electrical Energy: Basic Concepts	
ENGY 203	1	Fundamentals of Electrical Energy Systems	ENGY 103, Co-req.
ENGY 303	1	Energy and Electrical Power Systems	ENGY 203, Co-req.
ELEN 502	3	Advanced Linear Systems	ELEN 415 or instructor consent
ELEN 503	3	Solid State Electronics	ELEN 431 or instructor consent
ELEN 505	3	Probability and Random Processes	ELEN 360 or instructor consent
ELEN 510	3	Advanced Power System Analysis	ELEN 480 or instructor consent
ELEN 511	3	Power System Dynamics and Control	ELEN 480 or instructor consent
ELEN 520	3	Digital Control Systems	ELEN 415 or instructor consent
ELEN 550	3	Digital Filters	ELEN 415 or instructor consent
CPEN 502	3	Advance Analysis & Design of Algorithms	COMP 315 or instructor consent
CPEN 503	3	Computer and Network Security	CPEN 481 or instructor consent
CPEN 504	3	Advanced Computer Architectures	CPEN 444 or instructor consent
CPEN 505	3	Database Management Systems	CPEN 455 or instructor consent
CPEN 511	3	Distributed Systems	CPEN 444, CPEN 452 or instructor's consent
CPEN 520	3	Numerical Optimization	COMP 411 or instructor consent
CPEN 550	3	Operating Systems Programming	CPEN 452 or instructor consent

Directed Electives - 9 credits

Course	Credits	Title	Prerequisites
CPEN 552	3	Computer Graphics	ENGI 223 or instructor consent
CPEN 640	3	Embedded Systems	ELEN 442 or instructor consent
Non-Departmental and Non-Engineering Electives			
ENGI 210	3	Engineering Economy	Co-req. MATH 221+
ENTR 360	3	Entrepreneurship	Dean's permission
ENTR 401	3	Identification and Evaluation of Entrepreneurial Opportunities	Dean's permission
IMEN 341	3	Accounting and Finance for Engineers	Co-req. MATH 221+
IMEN 406	3	Operations Research	MATH 350 or IME Head's permission
TCOM 503	3	Introduction to TCP/IP	
TCOM 513	3	IT Project Management	
TCOM 521	3	Introduction to Networking	

Course	Credits	Title	Prerequisites
Cybersecurity Option (select a minimum of 9 credits from this list if pursuing this option.)			
CYBR 501	3	Network Security I	Fourth year status
CYBR 502	3	Computer Security I	Fourth year status
CYBR 521	3	Network Security II	CYBR 501
CYBR 522	3	Computer Security II	CYBR 502
CYBR 600	3	Cyber Forensics	CYBR 502

Quality Assurance and Experimental Design Option (Select a minimum of 9 credits from this list if pursuing this option.)

IMEN 205	3	Principles of Engineering Management	MATH 152+
IMEN 395	3	Inferential Statistics for Engineers	IMEN 390 or ELEN 360
IMEN 402	3	Work Measurement	IMEN 390 or ELEN 360
IMEN 405	3	Statistical Quality Control	IMEN 390, IMEN 395 Co-req.
IMEN 416	3	Design of Industrial Experiments	IMEN 395

Engineering Management Option (select a minimum of 9 credits from this list if pursuing this option. These courses count toward the MS degree in Engineering Management)

IMEN 510	3	Engineering Management	Fourth year status
IMEN 551*	3	Advanced Engineering Project Management*	Fourth year status
IMEN 610	3	Statistics for Decision Modeling	Fourth year status
IMEN 620	3	Advanced Enterprise Continuous Improvement	Fourth year status
IMEN 630	3	Supply Chain Management for Engineers	Fourth year status
IMEN 635	3	Logistics Methods and Strategies	Fourth year status
IMEN 640	3	Design and Operation of Logistics Networks	IMEN 635
IMEN 645	3	Analytics for Decision Making	IMEN 610

**TCOM 513 information Technology Project Management may be used as a substitute for IMEN 551*

Entrepreneurship and Innovation Option (including ELEN 492, select from the list below until a minimum of 12 credits is completed)

INNO 300	3	Sustainable Innovation or ENTR 360	Third year status
INNO 303	3	Product Development, Prototyping and Idea Validation or ENTR 401	INNO 300
INNO 400	0	Startup Internship	School's permission
MANA 204	3	Mercantile Law and Corporate Ethics or IMEN 341	

**Students pursuing the option in Entrepreneurship and Innovation must take at least one course of the sequence outside the School of Engineering as an elective course*

Important Notes:

- * Students will be enrolled according to their College Board results or placement test.
- + Includes laboratory.
- The mathematics requirement for engineering starts at Calculus level, and competencies in science require an ability to identify, formulate, and solve complex engineering problems by applying principles of Engineering, Science, and Mathematics (ABET's Student Outcome 1). Also, they need to be able to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgement to draw conclusions (ABET's Student Outcome 6). These exceed compliance levels of the COMPETENT competency level for both quantitative and scientific reasoning required by the institution.
- New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) the week before classes begin. Late registration students must complete this seminar during the academic semester.
- Developmental courses to develop academic skills for students entering with some deficiency: MATH 121 Intermediate Algebra (3 credits) and MATH 151 Pre-Calculus (4 credits).
- Minimum grade required: All courses in the program must be passed with a minimum grade of C.
- Program accredited by ABET at Gurabo Campus.
- Subject to change.

Bachelor of Science in Computer Engineering

Program's description

The Computer Engineering Program provides students with a rigorous academic preparation on the principles of hardware and software design and their interfacing for building complex computer applications.

Admission GPA: 2.00

Graduation GPA: 2.00

Program Educational Objectives

A few years after graduation, our graduates will be able to:

1. To apply the principles of the profession to improve the human condition.
2. To be able to gain entrance to a graduate program in computer engineering or related disciplines.
3. To become leaders in their profession by assuming increasing responsibility within their organizations, serving as role models for their peers, and being effective change agents for the benefit of the organizations that they represent.
4. To demonstrate attainment of professional and technical maturity.

Student Outcomes for the Program

1. An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
2. An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
3. An ability to communicate effectively with a range of audiences.
4. An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.
5. An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
6. An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.
7. An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.
8. Knowledge of probability and statistics, including appropriate computer engineering applications.
9. Knowledge of advanced mathematics, including differential equations, linear algebra, complex variables, and discrete mathematics.
10. An ability to analyze and design complex electrical and electronic devices, software, and systems containing hardware and software components

Curricular Content

General Education Component - 37 credits

Course	Credits	Title	Prerequisites
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
ENGS 153	3	Fundamentals of Speaking, Reading and Writing English II	ENGS 152*
HIGS 201	3	Puerto Rico History and Culture	
HUGS 101	3	World Culture I	
HUGS 102	3	World Culture II	HUGS 101
INGS 201	3	Introduction to Information Literacy and Research	SPGS 250
SOGS 201	3	The Human Being and Social Consciousness	
SOGS 202	3	State-Government and the Human Being	SOGS 201
SPGS 152*	3	Fundamentals of Reading and Writing	
SPGS 250	3	Writing Techniques	SPGS 152*
SCGS 200	3	Science, Technology and Society	
MATH 152+	4	Pre-Calculus II	

Core Component- 34 credits

Course	Credits	Title	Prerequisites
CHEM 203+	4	General Chemistry I	Co req. MATH 151
COMP 311	3	Discrete Mathematics for Engineers	ENGI 223
COMP 411	3	Numerical Methods with Programming	COMP 311
ENGI 122	3	Introduction to Computer Programming	MATH 152
ENGI 223	3	Intermediate Programming	ENGI 122/MATH 221+
ENGI 398	3	Engineering Mathematics	MATH 222+/ENGI 122
MATH 221+	4	Calculus I	MATH 152+
MATH 222+	4	Calculus II	MATH 221+
MATH 395	3	Differential Equations	MATH 222+
PHSC 215+	4	Physics for Engineering I	MATH 221+

*This course supersedes the General Education requirement set by the institution.

Major Component - 51 credits

Course	Credits	Title	Prerequisites
COMP 315	3	Analysis and Design of Data Structures and Algorithms	CPEN 358, ENGI 223
COMP 315L	1	Analysis and Design of Data Structures and Algorithms Laboratory	CPEN 358, ENGI 223
CPEN 358	3	Object Oriented Programming	ENGI 122
CPEN 358L	1	Object Oriented Programming Laboratory	ENGI 122
CPEN 410	3	Mobile Web and Internet Programming	CPEN 455
CPEN 425	3	Software Engineering	CPEN 455
CPEN 444	3	Computer Architecture and Organization	ELEN 312
CPEN 452	3	Operating Systems	COMP 315
CPEN 455	3	Introduction to Databases	COMP 315
CPEN 481	3	Telecommunication Networks and Security	ELEN 312
CPEN 491	3	Senior Design Project I	CPEN 425, ELEN 330
CPEN 492	3	Senior Design Project II	CPEN 452, CPEN 491, ELEN 442, las semester status
ELEN 301	3	Electrical Networks I	PHSC 215+
ELEN 302	1	Electrical Networks I Laboratory	PHSC 215+
ELEN 312	3	Digital Logic Design I	ELEN 301, ENGI 122
ELEN 313	1	Digital Logic Design I Laboratory	ELEN 302, ENGI 122
ELEN 330	3	Electronics I	ELEN 301, ELEN 302
ELEN 332	1	Electronics I Laboratory	ELEN 302
ELEN 360	3	Random Signals and Systems	MATH 222+, ELEN 301
ELEN 442	3	Microprocessors I	ELEN 312
ELEN 447	1	Microprocessors Laboratory	ELEN 313

Directed Electives - 9 credits

Course	Credits	Title	Prerequisites
ELEN xxx or ENGI xxx	3	Any ELEN or ENGI course from the BS in Electrical Engineering	As required by the Electric Engineering Program
CPEN 456	3	Database Management Systems	CPEN 455
CPEN 457	3	Programming Languages	COMP 315
CPEN 458	3	Introduction to Computers	CPEN 452
CPEN 459	3	Artificial Intelligence	ENGI 223
CPEN 478	3	Distributed Systems	CPEN 444, CPEN 452
CPEN 488	3	Advanced Computer Architectures	CPEN 444
CPEN 497	3	Special Topics	ECE Head's permission
ECEN 400	3	Survey of Electrical and Computer Engineering Topics	Next to last semester status
ENGY 103	1	Electrical Energy: Basic Concepts	
ENGY 203	1	Fundamentals of Electrical Energy Systems	Co-req. ENGY 103
ENGY 303	1	Energy and Electrical Power Systems	Co-req. ENGY 203
CPEN 502	3	Advanced Analysis & Design of Algorithms	COMP 315 or instructor consent
CPEN 503	3	Computer and Network Security	CPEN 481 or instructor consent
CPEN 504	3	Advanced Computer Architectures	CPEN 444 or instructor consent
CPEN 505	3	Database Management Systems	CPEN 455 or instructor consent
CPEN 511	3	Distributed Systems	CPEN 444, CPEN 452 or instructor consent
CPEN 520	3	Numerical Optimization	COMP 411 or instructor consent
CPEN 550	3	Operating Systems Programming	CPEN 452 or instructor consent
CPEN 552	1	Computer Graphics	ENGI 223 or instructor consent
CPEN 640	3	Embedded Systems	ELEN 442 or instructor consent
ELEN 502	3	Advanced Linear Systems	ELEN 415 or instructor consent
ELEN 503	3	Solid State Electronics	ELEN 431 or instructor consent
ELEN 505	3	Probability and Random Processes	ELEN 360 or instructor consent
ELEN 510	3	Advanced Power System Analysis	ELEN 480 or instructor consent
ELEN 511	3	Power System Dynamics and Control	ELEN 480 or instructor consent
ELEN 520	3	Digital Control Systems	ELEN 415 or instructor consent
ELEN 550	3	Digital Filters	ELEN 415 or instructor consent
Non-Departmental and Non-Engineering Electives			
ENGI 210	3	Engineering Economy	Co-req. MATH 221+
ENTR 360	3	Entrepreneurship	Dean's permission
ENTR 401	3	Identification and Evaluation of Entrepreneurial Opportunities	Dean's permission
IMEN 341	3	Accounting and Finance for Engineers	Co-req. MATH 221+
IMEN 406	3	Operations Research	MATH 350 or IME Head's permission
TCOM 503	3	Introduction to TCP/IP	

Course	Credits	Title	Prerequisites
TCOM 513	3	IT Project Management	
TCOM 521	3	Introduction to Networking	
Cybersecurity Option (select a minimum of 9 credits from this list if pursuing this option.)			
CYBR 501	3	Network Security I	Fourth year status
CYBR 502	3	Computer Security I	Fourth year status
CYBR 521	3	Network Security II	CYBR 501
CYBR 522	3	Computer Security II	CYBR 502
CYBR 600	3	Cyber Forensics	CYBR 502

Course	Credits	Title	Prerequisites
Quality Assurance and Experimental Design Option (Select a minimum of 9 credits from this list if pursuing this option.)			
IMEN 205	3	Principles of Engineering Management	MATH 152+
IMEN 395	3	Inferential Statistics for Engineers	IMEN 390 or ELEN 360
IMEN 402	3	Work Measurement	IMEN 390 or ELEN 360
IMEN 405	3	Statistical Quality Control	IMEN 390, IMEN 395 Co-req.
IMEN 416	3	Design of Industrial Experiments	IMEN 395

Course	Credits	Title	Prerequisites
Engineering Management Option (select a minimum of 9 credits from this list if pursuing this option. These courses count toward the MS degree in Engineering Management)			
IMEN 510	3	Engineering Management	Fourth year status
IMEN 551*	3	Advanced Engineering Project Management*	Fourth year status
IMEN 610	3	Statistics for Decision Modeling	Fourth year status
IMEN 620	3	Advanced Enterprise Continuous Improvement	Fourth year status
IMEN 630	3	Supply Chain Management for Engineers	Fourth year status
IMEN 635	3	Logistics Methods and Strategies	Fourth year status
IMEN 640	3	Design and Operation of Logistics Networks	IMEN 635

Course	Credits	Title	Prerequisites
IMEN 645	3	Analytics for Decision Making	IMEN 610

**TCOM 513 information Technology Project Management may be used as a substitute for IMEN 551*

Entrepreneurship and Innovation option (including ELEN 492, select from the list below until a minimum of 12 credits is completed)

INNO 300	3	Sustainable Innovation or ENTR 360	Third year status
INNO 303	3	Product Development, Prototyping and Idea Validation or ENTR 401	INNO 300
INNO 400	0	Startup Internship	School's permission
MANA 204	3	Mercantile Law and Corporate Ethics or IMEN 341	

**Students pursuing the option in Entrepreneurship and Innovation must take at least one course of the sequence outside the School of Engineering as an elective course*

Important Notes:

1. + Includes laboratory.
2. The mathematics requirement for engineering starts at Calculus level, and competencies in science require an ability to identify, formulate, and solve complex engineering problems by applying principles of Engineering, Science, and Mathematics (ABET's Student Outcome 1). Also, they need to be able to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgement to draw conclusions (ABET's Student Outcome 6). These exceed compliance levels of the COMPETENT competency level for both quantitative and scientific reasoning required by the institution.
3. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) the week before classes begin. Late registration students must complete this seminar during the academic semester.
4. Developmental courses to develop academic skills for students entering with some deficiency: MATH 121 Intermediate Algebra (3 credits) and MATH 151 Precalculus (4 credits).
5. Minimum grade required: All courses in the program must be passed with a minimum grade of C.
6. Program accredited by ABET at Gurabo Campus.
7. Subject to change.

Bachelor of Science major in Industrial and Management Engineering

Program's description

Industrial Engineering encompasses activities in quality, production, operations research, simulation, facilities layout, work system design, work measurement, safety and ergonomics, economic and cost analysis. An industrial engineer acquires the capacity to design, develop, implement, and improve integrated systems that include people, materials, information, equipment, technology, and energy. It applies knowledge from mathematics, science, computers, accounting, algorithms, and graphics to solve problems involving efficiency, effectiveness or productivity. In terms of Management, a graduate of this program develops an understanding of the engineering relationships between the management tasks of planning, organizing, leading, controlling, and the human element in production and service organizations. Essential professional skills, such as communication, teamwork and interpersonal relations are practiced throughout this program.

Admission GPA: 2.00

Graduation GPA: 2.00

Program Educational Objectives

Within one-to-four years following graduation:

1. Graduates will gain technical and professional experience in IME, or allied disciplines, via successful employment, self-employment, or pursue graduate studies.
2. Graduates will perform IME related functions, improve, design, redesign, or manage enterprises (i.e., products, activities, business processes in industrial or service settings) with a systems perspective.

Five years after graduation and beyond, and by further developing their engineering and management skills, IME graduates:

3. Graduates will advance in their professional careers and progressively assume greater leadership, technical, or managerial roles in their organizations.

Student Outcomes for the Program

1. An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
2. An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
3. An ability to communicate effectively with a range of audiences.
4. An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.
5. An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
6. An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.
7. An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Curricular Content

General Education Component - 37 credits

Course	Credits	Title	Prerequisites
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing I	
ENGS 153	3	Fundamentals of Speaking, Reading and Writing II	ENGS 152*
SPGS 152*	3	Fundamentals of Reading and Writing	
SPGS 250	3	Writing Techniques	SPGS 152*
HUGS 101	3	World Culture I	
HUGS 102	3	World Culture II	HUGS 101
INGS 201	3	Introduction to Information Literacy and Research	SPGS 250
HIGS 201	3	Puerto Rico History and Culture	
SOGS 201	3	The Human Being and Social Consciousness	
SOGS 202	3	Questioning Politics & Economics	SOGS 201
MATH 152+*	4	Pre-Calculus II	Placement test or MATH 151+
SCGS 200	3	Science, Technology, and Society	

Core Component - 41 credits

Course	Credits	Title	Prerequisites
CHEM 203+	4	General Chemistry I	Co req. MATH 151
MATH 221+	4	Calculus I	MATH 152+
MATH 222+	4	Calculus II	MATH 221+
MATH 350	3	Linear Algebra	MATH 221+
MATH 395	3	Differential Equations	MATH 222+
ENGI 122	3	Introduction to Computer Programming	MATH 152+
ENGI 210	3	Engineering Economy	MATH 221+ Co-req.
PHSC 215+	4	Physics for Engineering I	MATH 221+
PHSC 216+	4	Physics for Engineering II	PHSC 215+
ELEN 301	3	Electrical Networks I	PHSC 215+
ENGI 233	3	Statics	PHSC 215+
IMEN 390	3	Probability for Engineers	MATH 221+

Major Component - 48 credits

Course	Credits	Title	Prerequisites
IMEN 205	3	Principles of Engineering Management	MATH 152+
IMEN 341	3	Accounting and Finance for Engineers	MATH 221+ Co-req.
ACCO 203	3	Cost Accounting	IMEN 341
IMEN 395	3	Inferential Statistics for Engineers	IMEN 390
IMEN 402	3	Work Measurement	IMEN 390
IMEN 403	3	Work System Design	IMEN 402
IMEN 405	3	Statistical Quality Control	IMEN 390
IMEN 406	3	Operations Research	MATH 350
IMEN 407	3	Production Planning and Control	ENGI 210
IMEN 408	3	Facilities Planning	IMEN 402, IMEN 406
IMEN 409	3	Design Project	Last semester status and permission from Department Director
IMEN 411	3	Systems Analysis and Design	ENGI 122, IMEN 402
IMEN 413	3	Probabilistic Models in Operations Research	MATH 395, MATH 350, IMEN 390
IMEN 414	3	Systems Simulation	ENGI 122, IMEN 395, IMEN 402
IMEN 421	3	Engineering Project Management	ENGI 210, IMEN 390
IMEN 425	3	Enterprise Continuous Improvement	IMEN 402

IMEN Electives - 6 credits

Course	Credits	Title	Prerequisites
IMEN 404	3	Industrial Safety & Health Management	IMEN 402
IMEN 416	3	Design of Industrial Experiments	IMEN 395
IMEN 495	1	Special Topics	Department Director permission
IMEN 496	2	Special Topics	Department Director permission
IMEN 497	3	Special Topics	Department Director permission
IMEN 498	3	Undergraduate Research I	Department Director permission
IMEN 499	3	Undergraduate Research II	Department Director permission, IMEN 498

Course	Credits	Title	Prerequisites
IMEN 510	3	Engineering Management	Last year status
IMEN 551 or TCOM 513	3	Advanced Engineering Project Management or Information Technology Project Management	Last year status
IMEN 610	3	Statistic for Decision Modeling	Last year status
IMEN 620	3	Advanced Enterprise Continuous Improvement	Last year status
IMEN 630	3	Supply Chain Management for Engineers	Last year status
IMEN 635	3	Logistics Methods and Strategies	Last year status
IMEN 640	3	Design and Operation of Logistics Networks	Last year status

Important Notes:

1. *Students will be enrolled according to their College Board results or placement test.
2. + Laboratory course.
3. The General Education component of all bachelor's degrees in engineering is different from other programs because of the Engineering Accreditation Commission of ABET requirements. Engineering competencies in mathematics starts at Calculus level, and competencies in science require an ability to identify, formulate, and solve complex engineering problems by applying principles of Engineering, Science, and Mathematics (ABET's Student Outcome 1). Also, they need to be able to develop and conduct appropriate experimentation, analyze, and interpret data, and use engineering judgment to draw conclusions (ABET's Student Outcome 6). These exceed compliance levels of the COMPETENT competency level for both quantitative and scientific reasoning.
4. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
5. Developmental courses to develop academic skills for students entering with some deficiency: MATH 121 Intermediate Algebra (3 credits) and MATH 151 Precalculus (4 credits).
6. Minimum grade required: All courses in the program must be passed with a minimum grade of C.
7. Program accredited by ABET at Gurabo Campus.
8. Subject to change.

Bachelor of Science in Mechanical Engineering

Program's description

Mechanical engineers apply physical principles in the creation of useful devices, objects, and machines. They design and develop everything that you may think of as a machine: from supersonic jets, to automobiles, to bicycles to toasters. The designs are analyzed using mathematics and physical principles of motion, energy, and force to ensure that the product functions reliably. In many cases the analyses are performed using impressive and exciting state-of-the-art computer aided design (CAD) software. Mechanical engineers also strive to create designs that can be manufactured at a competitive cost. Maintenance of the product after design and fabrication is also of concern to mechanical engineers. Practically every product or service in modern life has been touched in some way by a mechanical engineer. This makes mechanical engineering one of the oldest, one of the broadest, and one of the most exciting engineering disciplines.

Admission GPA: 2.00

Graduation GPA: 2.00

Goals of the Mechanical Engineering Program

Note: Goal 1 represents the Program Educational Objectives as defined by ABET, that is, "broad statements that describe what graduates are expected to achieve within a few years after graduation". Goals 2 through 5 are not considered within the ABET definition of Program Educational Objectives; these are general goals that convey additional program endeavors.

1. (ABET Program Educational Objectives) To provide a thorough education in the fundamentals of mechanical engineering, including thermal, fluid, and mechanical systems, in order to sustain an excellent and accredited undergraduate program with the following expectations for our students, within a few years after graduation:
 - a. to be gainfully employed in mechanical engineering (or related disciplines) or in good academic standing in a program of graduate studies in a variety of fields, including mechanical engineering;
 - b. to be engaged in activities that promote their professional development;
 - c. to participate in organizations that serve their profession.
2. To search for, develop, and use the most effective teaching/learning methodologies that deliver graduates with the attitude and ability to apply practical knowledge in the workplace.
3. To promote scholarly research activities between students and faculty, and to gradually transition from a teaching to a teaching-and-research program.
4. To encourage enrichment of the educational experience through participation in student chapters of professional societies, special student projects, and industry internships.
5. To review, assess and improve the program on a continuous basis

Student Outcomes for the Program

1. An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
2. An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
3. An ability to communicate effectively with a range of audiences.
4. An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.
5. An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
6. An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.
7. An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Curricular Content

General Education Component - 37 credits

Course	Credits	Title	Prerequisites
INGS 201	3	Introduction to Information Literacy and Research	SPGS 250
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
ENGS 153	3	Fundamentals of Speaking, Reading and Writing English II	ENGS 152*
SPGS 152*	3	Fundamentals of Reading and Writing	
SPGS 250	3	Writing Techniques	SPGS 152*
HIGS 201	3	Puerto Rico History and Culture	
SOGS 201	3	The Human Being and Social Consciousness	
SOGS 202	3	State-Government and the Human Being	SOGS 201
HUGS 101	3	World Culture I	
HUGS 102	3	World Culture II	HUGS 101
MATH 152+*	4	Pre-Calculo II	
SCGS 200	3	Science, Technology and Society	

Core Component- 46 credits

Course	Credits	Title	Prerequisites
CHEM 203+	4	General Chemistry I	Co req. MATH 151
ENGI 122	3	Introduction to Computer Programming	MATH 152+
ENGI 160	3	Engineering Graphics	MATH 152+
ENGI 233	3	Statics	PHSC 215+
ENGI 280	3	Data Analysis	MATH 221+
ENGI 478	3	Fundamentals of Engineering	ENGI 280, MEEN 420 or next to last semester status
ELEN 301	3	Electrical Networks I	PHSC 216+
ELEN 302	1	Electrical Networks I Laboratory	Co-req. ELEN 301
PHSC 215+	4	Physics I	MATH 221+
PHSC 216+	4	Physics II	PHSC 215+
MATH 221+	4	Calculus I	MATH 152+
MATH 222+	4	Calculus II	MATH 221+
MATH 223	4	Calculus III	MATH 222+
MATH 395	3	Differential Equations	MATH 222+

Major Component - 45 credits

Course	Credits	Title	Prerequisites
ENGI 244	3	Engineering Materials	CHEM 215+, PHSC203+
ENGI 305	3	Fluid Mechanics	ENGI 233, MATH 395
ENGI 318	3	Strength of Materials	ENGI 233
ENGI 319L	1	Materials Testing Laboratory	ENGI 244, ENGI 318
ENGI 333L	1	Machine Shop Laboratory	ENGI 160, ENGI 244, ENGI 318
MEEN 312	3	Kinematics of Mechanisms	ENGI 233
MEEN 320	3	Thermodynamics I	CHEM 203+, PHSC 21
MEEN 340	3	Computer Aided Design	ENGI 160, MATH 221+
ENGI 406	1	Fluid Mechanics Laboratory	ENGI 305, MEEN 418
MEEN 418	1	Experimental Methods	PHSC 216+, ENGI 122
MEEN 420	3	Heat Transfer	ENGI 305, MEEN 320
MEEN 421	3	Thermodynamics II	ENGI 305, MEEN 320
MEEN 425	3	Design of Machine Elements	ENGI 318
MEEN 475	1	Multidisciplinary Experience in Industry Laboratory	MEEN 418, MEEN 420, MEEN 425 or last semester status
MEEN 460	3	Control of Dynamic Systems	ELEN 301, ELEN 302, ENGI 233, MATH 395
MEEN 461	1	Controls Laboratory	ELEN 301, ELEN 302, ENGI 233, MATH 395, MEEN 460
MEEN 481	3	Mechanical Systems Design	Co-req. MEEN 340, MEEN 425 or last semester status

Course	Credits	Title	Prerequisites
MEEN 485	3	Thermal System Design	MEEN 420, MEEN 421 or last semester status
MEEN 464	3	Mechanical Vibrations	ENGI 233, MATH 395
Directed Electives - 6 credits			
Course	Credits	Title	Prerequisites
MEEN 465	3	Vehicle Dynamics Fundamentals	MEEN 425
MEEN 482	3	Failure of Materials in Mechanical Design	MEEN 425
MEEN 484	3	Corrosion in Metals	MEEN 425
MEEN 489	3	Air Conditioning	MEEN 420, MEEN 421
MEEN 497	3	Special Problems	Chairperson's permission
MEEN 498	3	Undergraduate Research I	Chairperson's permission
MEEN 499	3	Undergraduate Research II	Chairperson's permission
INNO 300	3	Sustainable Innovation (Must register in entrepreneurship option)	
INNO 303	3	Product Development, Prototyping and Idea Validation (Must register in entrepreneurship option)	INNO 300
MEEN 641	3	Sustainable Energy	Senior status & Chair's permission
MEEN 462	3	Grid Integration	Senior status & Chair's permission
MEEN 643	3	Energy Management	Senior status & Chair's permission
MEEN 644	3	Photovoltaic Energy Conversion	Senior status & Chair's permission
MEEN 646	3	Solar Refrigeration and Air Conditioning	Senior status & Chair's permission
MEEN 648	3	Advanced Topics in Alternate Energy	Senior status & Chair's permission
MEEN 649	3	Independent Study in Alternative Energy	Senior status & Chair's permission
MEEN 651	3	Ocean Energy	Senior status & Chair's permission
MEEN 652	3	Biofuels	Senior status & Chair's permission
MEEN 502	3	Aircraft Design	Senior status & Chair's permission
MEEN 503	3	Fundamentals of Aerospace Engineering	Senior status & Chair's permission
MEEN 612	3	Aerospace Structural Analysis	Senior status & Chair's permission
MEEN 613	3	Flight Mechanics	Senior status & Chair's permission
MEEN 614	3	Propulsion Systems	Senior status & Chair's permission
MEEN 615	3	Aerodynamics II	Senior status & Chair's permission
MEEN 622	3	Compressible Flow	Senior status & Chair's permission
MEEN 624	3	Combustion	Senior status & Chair's permission
MEEN 628	3	Advanced Topics in Aerospace Engineering	Senior status & Chair's permission
MEEN 629	3	Independent Study in Aerospace Engineering	Senior status & Chair's permission
MEEN 501	3	Finite Elements Analysis	Senior status & Chair's permission

Course	Credits	Title	Prerequisites
MEEN 601	3	Advanced Mathematics	Senior status & Chair's permission
MEEN 602	3	Advanced Mechanics of Material	Senior status & Chair's permission
MEEN 603	3	Advanced Fluid Mechanics	Senior status & Chair's permission
MEEN 604	3	Aerodynamics I	Senior status & Chair's permission
MEEN 611	3	Composite Materials	Senior status & Chair's permission
MEEN 616	3	Introduction to Aeroelasticity	Senior status & Chair's permission
MEEN 621	3	Boundary Layers	Senior status & Chair's permission
MEEN 623	3	Multi-scale Turbulence	Senior status & Chair's permission
MEEN 645	3	Wind Energy	Senior status & Chair's permission
MEEN 671	3	Advanced Heat Conduction	Senior status & Chair's permission
MEEN 673	3	Computational Fluid Dynamics (CFD)	Senior status & Chair's permission
MEEN 674	3	Micro and Nano Heat Transfer	Senior status & Chair's permission
MEEN 675	3	MEMS and Energy Harvesting	Senior status & Chair's permission
MEEN 676	3	Design Optimization	Senior status & Chair's permission
MEEN 678	3	Advanced Topics	Senior status & Chair's permission
MEEN 679	3	Independent Study	Senior status & Chair's permission
MEEN 681	3	Introduction to Biomechanics	Senior status & Chair's permission
MEEN 682	3	Systems Engineering	Senior status & Chair's permission
MEEN 683	3	Friction, Wear and Lubrication	Senior status & Chair's permission
MEEN 684	3	Advanced Tribology	Senior status & Chair's permission
MEEN 685	3	Applied Modern Control	Senior status & Chair's permission

Important Notes:

1. * Students will be enrolled according to their College Board results or placement test.
2. + Laboratory course.
3. The General Education component of all bachelor's degrees in engineering is different from other programs because of the Engineering Accreditation Commission of ABET requirements. Engineering competencies in mathematics start at Calculus level, and competencies in science require an ability to identify, formulate, and solve complex engineering problems by applying principles of Engineering, Science, and Mathematics (ABET's Student Outcome 1). Also, they need to be able to develop and conduct appropriate experimentation, analyze, and interpret data, and use engineering judgment to draw conclusions (ABET's Student Outcome 6). These exceed compliance levels of the COMPETENT competency level for both quantitative and scientific reasoning.
4. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
5. Developmental courses to develop academic skills for students entering with some deficiency: MATH 121 Intermediate Algebra

(3 credits) and MATH 151 Precalculus (4 credits).

6. Minimum grade required: All courses in the program must be passed with a minimum grade of C.
7. Program accredited by ABET at Gurabo Campus.
8. Subject to change.

Bachelor of Science in Electronic Engineering Technology major in Avionics

Program's description

The Bachelor of Science in Technology in Electronic Engineering with a Concentration in Avionics provides the student with the opportunity to gain expert knowledge in the areas of electronics and avionics, acquiring technical skills through applied courses and research; developing technical skills in the basic principles of engineering and aviation, as well as specializing in the use and management of equipment such as spectrum analyzers, radars, aircraft control, communication and navigation instruments and knowledge in programming, among others. With an innovative 127-credit curriculum, students gain a solid foundation for their career, whether in industry and manufacturing with electronics or aviation applications or continuing in graduate school. They also find job opportunities in the design and maintenance of electronic systems for aircraft, applied to radar and pulse systems for aircraft, flight instruments and air traffic alert, among others.

Admission GPA: 2.50

Graduation GPA: 2.00

Curricular Content

General Education Component - 36 credits

Course	Credits	Title	Prerequisites
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
ENGS 153	3	Fundamentals of Speaking, Reading and Writing English II	ENGS 152
SPGS 152*	3	Fundamentals of Reading and Writing	
SPGS 250	3	Writing Techniques	SPGS 152
HUGS 101	3	World Culture I	
HUGS 102	3	World Culture II	HUGS 101
HIGS 201	3	Puerto Rico History and Culture	
SOGS 201	3	The Human Being and Social Consciousness	
SOGS 202	3	State-Government and the Human Being	SOGS 201
MATH 121+	3	Intermediate Algebra	Placement test or MAGS 120
SCGS 200	3	Science, Technology and Society	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 250

Core Component- 45 credits

Course	Credits	Title	Prerequisites
ENGI 200	3	Technology, Engineering, and Industrial Development	
ENGI 164-	3	Computer Aided Engineering Design	Pre req. ENGI 200 Co req. MATH 151
ENGI 201-	3	Wiring, Soldering, Harness	ENGI 200
ENGI 250	3	Engineering Economics & Management	MATH 151
ENGI 122- or	3	Introduction to Computer Programming	MATH 152
ENGI 123-	3	Procedural and Object-Oriented Programming	Co req. MATH 152
ENGI 224	3	Object-Oriented and Web-Based Programming	ENGI 122
MATH 151+	4	Precalculus I	MATH 121 or minimum of 600 points on CEEB and placement test.
MATH 152+	4	Precalculus II	MATH 151
MATH 221+	4	Calculus I	MATH 152
MATH 222+	4	Calculus II	MATH 221
ENGI 398	3	Engineering Mathematics	MATH 222
PHSC 215+	4	Physics for Engineers I	MATH 221
PHSC 216+	4	Physics for Engineers II	PHSC 215

Major Component - 46 credits

Course	Credits	Title	Prerequisites
EETP 302-	3	Circuits I	MATH 151
EETP 303-	4	Circuits II	EETP 302
EETP 316-	3	Electronics I	EETP 303
EETP 417-	4	Electronics II	EETP 316
EETP 410-	3	Microprocessors	AETP 302, ENGI 122
EETP 405-	4	Advanced Communication Systems	ENGI 398

Course	Credits	Title	Prerequisites
EETP 450-	3	Sensors and Actuators	EETP 410
EETP 420-	3	Embedded Systems with FPGA's	EETP 450
AETP 302-	3	Digital Electronics	EETP 302
AETP 404-	3	Advanced Aircraft Navigation	MATH 151
AETP 410-	3	Pulse and Radars Systems	AETP 405
AETP 450-	3	Robotics and Drones	Co Req EETP 420
AETP 470	1	License Review	EETP 417
NETP 400-	3	Computer Networks and Internet of Things	Co Req. EETP 302
ENGI 400	3	Capstone I	EETP 410

Important Notes:

1. * Students will be enrolled according to their College Board results or placement test.
2. + Laboratory course.
3. -Classroom-lab type
4. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
5. The minimum passing grade for core and major courses component is C.
6. Subject to change.

DEPARTMENT OF DESIGN AND ARCHITECTURE

Associate Degree of Fashion Design

Program's description

Get trained in the most relevant areas of design, production, marketing, selling, and distribution of regular clothes and high fashion. An ISD Fashion Design program graduate can work as a: Fashion Designer, Fashion Illustrator, Textile Designer, Fashion Buyer, Fashion Vendor, Fashion Stylist, Fashion Coordinator, Fashion Editor or Critic and Trendhunter or Coolhunter.

Admission GPA: 2.00

Graduation GPA: 2.00

Curricular Content

General Education Component - 15 credits			
Course	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
ENGS 152*	3	Fundamentals of Reading and Writing	
MAGS 120 (I)	3	Introductory Algebra	
HUGS 101	3	World Culture I	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 152
Core Component - 6 credits			
Course	Credits	Title	Prerequisites
DESI 121	3	Drawing I	
DESI 315	3	Ethic and Legislation	
Major Component - 45 credits			
Course	Credits	Title	Prerequisites
HIDE 105	3	Fashion History	
FADE 100	3	Basic Sewing	
FADE 125	3	Representing the Body	
FADE 131	3	Fashion Concept Development I	
FADE 132	3	Fashion Concept Development II	FADE 125, FADE 131
FADE 140	3	Fashion Drawing	FADE 125
FADE 150	3	Studio Methods and Structure	
FADE 200	3	Patternmaking	FADE 100, FADE 150
FADE 210	3	Construction Techniques I	FADE 100
FADE 215	3	Digital Fashion Design	FADE 131, FADE 140
FADE 230	3	Fabric Science	
FADE 240	3	Portfolio Studio	FADE 132, FADE 215
FADE 255	3	Core Studio: Concept and Realization I	FADE 132, FADE 150, FADE 210, FADE 140
FADE 256	6	Core Studio: Concepts and Realization II	FADE 200, FADE 255
FADE 270	3	Internship	FADE 200, FADE 255

Important Notes:

- * Students will be enrolled according to their College Board results or placement test.
- New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
- Subject to change.

Associate Degree in Web Design

Program's description

Become a Web Designer, an expert capable of dealing with the Internet's continuous string of advances, with the training and skills to define, create, and design them. A web designer configures telecommunications systems to ease people's access to content and audiovisual information. As a Web Design program graduate, you could be a: Web Designer, Web Art Director, Web Creative Director, Multimedia Designer, Web Specialist and Web Information Architect.

Admission GPA: 2.00

Graduation GPA: 2.00

Curricular Content

General Education Component - 12 credits

Course	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
ENGS 152*	3	Fundamentals of Reading and Writing	
MAGS 120 (I)	3	Introductory Algebra	
HUGS 101	3	World Culture I	

Core Component - 6 credits

Course	Credits	Title	Prerequisites
DESI 121	3	Drawing I	
ENTR 360	3	Entrepreneurship	

Major Component - 39 credits

Course	Credits	Title	Prerequisites
WEDE 100	3	Web Design and Graphics Studio I	
WEDE 200	3	Web Design and Graphics Studio II	WEDE 100
WEDE 250	3	Web Design and Graphics Studio III	WEDE 200
WEDE 260	3	Web Design and Graphics Studio IV	WEDE 250
WEDE 270	3	Internship	WEDE 250
WEDE 280	3	Portfolio Studio	WEDE 250
GRAD 130	3	Image Studio: Black and White	
GRAD 131	3	Image Studio: Color	GRAD 130
GRAD 310	6	Graphic Design Studio III	WEDE 100
CTEC 210	3	Operating Systems, Installation and Configuration	WEDE 200
CTEC 340	3	Programming for the Web	WEDE 200
GRAD 145	3	Communication Studio	GRAD 131

Important Notes:

- * Students will be enrolled according to their College Board results or placement test.
- New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
- Subject to changes.

Associate Degree of Architectural Drafting Technology

Program's description

With the Architectural Drafting degree, the student will be trained to manage architectural, mechanical, electrical, civil, structural and products technical drawings. In addition, the student will be prepared to get tested at Puerto Rico Drafting Accreditation Board. Our alumnae from Architectural Drafting will be able to prepare paper and digital drawings, plans and in 2D and 3D, using CAD software from a sketch. They will be able to work as: Architectural Drafter, Surveyor Drafter, Engineer Drafter, Industrial Design Drafter, 3D Modeler and 2D and 3D Render.

Admission GPA: 2.00

Graduation GPA: 2.00

Curricular Content

General Education Component - 12 credits

Course	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
ENGS 152*	3	Fundamentals of Reading and Writing	
MAGS 120 (I)	3	Introductory Algebra	
HUGS 101	3	World Culture I	

Core Component - 3 credits

Course	Credits	Title	Prerequisites
DESI 121	3	Drawing I	

Major Component - 42 credits

Course	Credits	Title	Prerequisites
ADID 111	6	Technical Drawing I	
ADID 121	3	Computer Aided Drawing I	
ADID 122	6	Technical Drawing II	ADID 111
ADID 231	3	Computer Aided Drawing II	ADID 121
ADID 232	6	Technical Drawing III	ADID 122
ADID 223	3	Methods and Construction Materials	ADID 122
ADID 240	3	Mechanical Drawing	ADID 122
ADID 241	3	Computer Aided Drawing III	ADID 231
ADID 242	3	Technical Drawing IV	ADID 232
ADID 250	3	Portfolio Studio	ADID 231
ADID 270	3	Internship	ADID 231

Important Notes:

- * Students will be enrolled according to their College Board results or placement test.
- New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
- Subject to change.

Bachelor of Design major in Industrial Design

Program's description

The Industrial Designer has the skills to design objects that improve people's quality of life. Industrial designers complement people's everyday life activities. With a Bachelor's degree in Industrial Design, you could be a: Furniture Designer, Toy Designer, Medical Equipment Designer, Package Designer, Prototype Designer, Scenic Designer/Stage Designer and Design-Production Director.

Admission GPA: 2.50

Graduation GPA: 2.00

Curricular Content

General Education Component - 36 credits

Course	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
SPGS 250	3	Writing Techniques	SPGS 152
ENGS 152*	3	Fundamentals of Oral Communication, Reading and Writing I	
ENGS 153	3	Fundamentals of Oral Communication, Reading and Writing II	ENGS 152
SCGS 200	3	Science, Technology and Society	
MAGS 120 (I)	3	Introductory Algebra	
HUGS 101	3	World Culture I	
HUGS 102	3	World Culture II	HUGS 101
HIGS 201	3	Puerto Rico History and Culture	
SOGS 201	3	The Human Being and the Social Consciousness	
SOGS 202	3	State-Government and the Human Being	SOGS 201
INGS 201	3	Introduction to Information Literacy and Research	SPGS 250

Core Component - 18 credits

Course	Credits	Title	Prerequisites
DESI 121	3	Drawing I	
DESI 315	3	Ethic and Legislation	Min. 3 RD Year
ENTR 360	3	Entrepreneurship	Min. 3 RD Year
HIDE 100	3	History of Art	HUGS 101
HIDE 110	3	Representing the Culture: Art & Artifact 1500-1850	HIDE 100
HIDE 200	3	History of Design 1800-Today	HIDE 100

Major Component - 69 credits

Course	Credits	Title	Prerequisites
INDI 140	3	Industrial Design Studio 1	
INDI 150	3	Industrial Design Studio 2	INDI 140
INDI 160	3	Technical Rendering and Product Illustration	DESI 121
INDI 250	6	Industrial Design Studio 3	INDI 150
INDI 251	6	Industrial Design Studio 4	INDI 250
INDI 300	6	Industrial Design Studio 5	INDI 251
INDI 301	6	Industrial Design Studio 6	INDI 300
INDI 400	6	Senior Design Project I	INDI 301
INDI 401	6	Senior Design Project II	INDI 400
INDI 270	3	Models I	
INDI 271	3	Models II	INDI 270
INDI 310	3	Contextual Research Method	INDI 150
INDI 280	3	Introduction to CAD and CAID	INDI 140
INDI 281	3	CAD and CAID	INDI 280
INDI 410	3	Portfolio Studio	INDI 301
INDI 480	3	Internship	INDI 301, INDI 410
SEDE 300	3	Material Survey, Properties and Product Process	INDI 250

Elective Courses - 3 credits			
Course	Credits	Title	Prerequisites
	3	Elective	

Important Notes:

1. * Students will be enrolled according to their College Board results or placement test.
2. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
3. Subject to change.

Bachelor of Design major in Graphic Design

Program's description

As a graphic designer, master the language of design, in both its visual and non-visual dimensions, and face new physical, technological, social, and cultural worlds. Graduates of the Graphic Design bachelor's program will be trained to judge appropriately the quality and effectiveness of design projects through the rigorous use of current thought in the field of design. As a Graphic Designer you can be a: Creative Director, Package Designer, Textile Designer, Corporate Identity Designer, Trademark Designer, Advertising Designer, Art Director and Printing Press Director.

Admission GPA: 2.50

Graduation GPA: 2.00

Curricular Content

General Education Component - 36 credits

Course	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
SPGS 250	3	Writing Techniques	SPGS 152
ENGS 152*	3	Fundamentals of Oral Communication, Reading and Writing I	
ENGS 153	3	Fundamentals of Oral Communication, Reading and Writing II	ENGS 152
SCGS 200	3	Science, Technology and Society	
MAGS 120 (I)	3	Introductory Algebra	
HUGS 101	3	World Culture I	
HUGS 102	3	World Culture II	HUGS 101
HIGS 201	3	Puerto Rico History and Culture	
SOGS 201	3	The Human Being and the Social Consciousness	
SOGS 202	3	State-Government and the Human Being	SOGS 201
INGS 201	3	Introduction to Information Literacy and Research	SPGS 250

Core Component - 18 credits

Course	Credits	Title	Prerequisites
DESI 121	3	Drawing I	
DESI 315	3	Ethic and Legislation	Min. 3 RD Year
ENTR 360	3	Entrepreneurship	Min. 3 RD Year
HIDE 100	3	History of Art	HUGS 101
HIDE 110	3	Representing the Culture: Art & Artifact 1500-1850	HIDE 100
HIDE 200	3	History of Design 1800-Today	HIDE 100

Major Component - 69 credits

Course	Credits	Title	Prerequisites
DESI 285	3	Digital Photography	
GRAD 130	3	Image Studio: Black and White	
GRAD 131	3	Image Studio: Color	GRAD 130
GRAD 145	3	Communications Studio	GRAD 131
GRAD 105	3	Typography I	GRAD 130
GRAD 215	3	Typography II	GRAD 105
GRAD 202	6	Graphic Design Studio 1	GRAD 130
GRAD 210	6	Graphic Design Studio 2	GRAD 202, GRAD 145
GRAD 310	6	Graphic Design Studio 3	GRAD 210, WEDE 100
GRAD 320	3	Packaging Design	GRAD 215
GRAD 325	6	Video Editing	GRAD 210
GRAD 410	6	Senior Design Project I	GRAD 310

Course	Credits	Title	Prerequisites
GRAD 420	6	Senior Design Project II	GRAD 410
GRAD 430	3	Portfolio Studio	GRAD 310
GRAD 440	3	Internship	GRAD 310, GRAD 430
WEDE 100	3	Web Design and Graphic I	
WEDE 200	3	Web Design and Graphic II	WEDE 100

Elective Courses - 3 credits

Course	Credits	Title	Prerequisites
	3	Elective	

Important Notes:

1. * Students will be enrolled according to their College Board results or placement test.
2. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
3. Subject to change.

Bachelor of Design major in Interior Design

Program's description

The interior designer plans, designs, and furnishes interiors of residential, commercial, or industrial buildings. The designer formulates design, which is practical, aesthetic, and conducive to intended purposes, such as raising productivity, selling merchandise, and/or improving life style. The Interior Design Program includes manual and CAD drafting and design, space planning, design history, furniture design, lighting calculations, ergonomics and business practices. With a Bachelor's degree in Interior Design, you could be a: Residential Interior Designer, Commercial Interior Designer, Industrial Interior Designer, Project Manager, Store Window Designer, Space Planner, Trend Researcher, Material Specialist, Furniture Designer, Stage Designer and Interior Design Publication Editor or Critic.

Admission GPA: 2.50

Graduation GPA: 2.00

Curricular Content

General Education Component - 36 credits

Course	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
SPGS 250	3	Writing Techniques	SPGS 152
ENGS 152*	3	Fundamentals of Oral Communication, Reading and Writing I	
ENGS 153	3	Fundamentals of Oral Communication, Reading and Writing II	ENGS 152
SCGS 200	3	Science, Technology and Society	
MAGS 120 (I)	3	Introductory Algebra	
HUGS 101	3	World Culture I	
HUGS 102	3	World Culture II	HUGS 101
HIGS 201	3	Puerto Rico History and Culture	
SOGS 201	3	The Human Being and the Social Consciousness	
SOGS 202	3	State-Government and the Human Being	SOGS 201
INGS 201	3	Introduction to Information Literacy and Research	SPGS 250

Core Component - 18 credits

Course	Credits	Title	Prerequisites
DESI 121	3	Drawing I	
ENTR 360	3	Entrepreneurship	Min. 3 RD Year
HIDE 100	3	History of Art	HUGS 101
HIDE 106	3	Dwellings: Constructed Environments, Prehistory-1500	HIDE 100
HIDE 110	3	Representing the Culture: Art & Artifact 1500-1850	HIDE 100
HIDE 200	3	History of Design 1800-Today	HIDE 100

Major Component - 69 credits

Course	Credits	Title	Prerequisites
INTE 110	3	Color Theory, Principles and Fundaments of Design	
INTE 210	3	Introduction to CAD and Computer Presentation	INTE 110, INTE 150
INTE 211	3	CAD for Interior Design	INTE 210
INTE 220	3	Textiles, Interior Materials, Finishes and Specifications	INTE 150
INTE 240	3	Plastic and Decorative Arts for Interior Design	INTE151, HIDE 100
INTE 310	3	Building Codes and Standard	INTE 250
INTE 320	3	Furniture Design	INTE 151, INTE 220
INTE 330	3	Lightning Design Studio	INTE 251
INTE 340	3	Building Systems and Construction Methods	INTE 251

Course	Credits	Title	Prerequisites
INTE 150	3	Interior Design Studio 1	
INTE 151	3	Interior Design Studio 2	INTE 110, INTE 150
INTE 250	3	Interior Design Studio 3	INTE 151
INTE 251	3	Interior Design Studio 4	INTE 250
INTE 350	6	Interior Design Studio 5	INTE 251
INTE 351	6	Interior Design Studio 6	INTE 350
INTE 400	6	Senior Design Project I	INTE 351
INTE 401	6	Senior Design Project II	INTE 400
INTE 410	3	Portfolio Studio	INTE 351
INTE 420	3	Internship	INTE 351

Elective Courses - 3 credits

Course	Credits	Title	Prerequisites
	3	Elective	

Important Notes:

1. * Students will be enrolled according to their College Board results or placement test.
2. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
3. Subject to change.

Bachelor of Design major in Fashion Design

Program's description

The Bachelor degree in Design with concentration in Fashion Design will train students to take part as professionals in all aspects of the garment industry, ranging from children's apparel to men's ready to wear to couture. Particular attention will be placed on the history of fashion and its recurring interpretations. Students will be asked to see fashion and its recurring interpretations as a reflection and as a component in a continuum that includes, ethical practice, manufacturing, marketing, promotion, accessorizing, and disposal. Students will not only be instructed in the areas of fashion concept development, but also in the technical aspects of the rapidly growing clothing industry.

Admission GPA: 2.50

Graduation GPA: 2.00

Curricular Content

General Education Component - 36 credits

Course	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
SPGS 250	3	Writing Techniques	SPGS 152
ENGS 152*	3	Fundamentals of Oral Communication, Reading and Writing I	
ENGS 153	3	Fundamentals of Oral Communication, Reading and Writing II	ENGS 152
SCGS 200	3	Science, Technology and Society	
MAGS 120 (I)	3	Introductory Algebra	
HUGS 101	3	World Culture I	
HUGS 102	3	World Culture II	HUGS 101
HIGS 201	3	Puerto Rico History and Culture	
SOGS 201	3	The Human Being and the Social Consciousness	
SOGS 202	3	State-Government and the Human Being	SOGS 201
INGS 201	3	Introduction to Information Literacy and Research	SPGS 250

Core Component - 15 credits

Course	Credits	Title	Prerequisites
DESI 121	3	Drawing I	
ENTR 360	3	Entrepreneurship	Min. 3 RD Year
HIDE 100	3	History of Art	HUGS 101
HIDE 110	3	Representing the Culture: Art & Artifact 1500-1850	HIDE 100
HIDE 200	3	History of Design 1800-Today	HIDE 100

Major Component – 72 credits

Course	Credits	Title	Prerequisites
FADE 100	3	Basic Sewing	
HIDE 105	3	Fashion History	HIDE 100
FADE 125	3	Representing the Body	
FADE 131	3	Fashion Concept Development I	
FADE 132	3	Fashion Concept Development II	FADE 131, FADE 125
FADE 140	3	Fashion Drawing	FADE 125
FADE 150	3	Studio Methods and Structure	
FADE 200	3	Patternmaking	FADE 100, FADE 150
FADE 210	3	Construction Techniques I	FADE 100, FADE 150
FADE 215	3	Digital Fashion Design	FADE 131, FADE 140
FADE 230	3	Fabric Science	

Course	Credits	Title	Prerequisites
FADE 255	3	Core Studio: Concepts and Realization I	FADE 132, FADE 150, FADE 140
FADE 256	3	Core Studio: Concepts and Realization II	FADE 200, FADE 255
FADE 310	3	Core Studio: Concepts and Realization III	FADE 315, FADE 405, FADE 256
FADE 315	3	Construction Techniques II	FADE 210
FADE 320	3	Construction Techniques III	FADE 315
FADE 330	3	Digital Patternmaking	FADE 200, FADE 320
FADE 400	6	Senior Design Project I	FADE 310, FADE 320, SPAN 255, HIDE 105
FADE 401	6	Senior Design Project II	FADE 400, FADE 330
FADE 405	3	Digital Fashion Design II	FADE 215, FADE 256
FADE 440	3	Portfolio Studio	FADE 310, FADE 320
FADE 470	3	Internship	FADE 440

Elective Courses - 3 credits

Course	Credits	Title	Prerequisites
	3	Elective	

Important Notes:

1. * Students will be enrolled according to their College Board results or placement test.
2. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
3. Subject to change.

Bachelor of Sciences in Landscape Architecture

Program's description

The Landscape Architect designs, preserves, maintains and improves the natural surroundings in a sustainable and balanced form. The Science in Landscape Architecture Program includes studies and analysis from small-scale garden projects to regional and urban forest planning projects. The curriculum includes studies in history and theory, natural systems including principles of sustainability, site analysis and design, systems technologies, materials and methods, plant assessment, construction documentation, codes, ethics, regulations and professional practice. With a Bachelor's Degree of Science in Landscape Architecture, you could be a: Landscape Developer, Garden Designer, Landscape Contractor, Tourism Consultant, Planning Consultant, or a Recreational and Park Designer.

Admission GPA: 2.50

Graduation GPA: 2.00

Curricular Content

General Education Component - 36 credits

Course	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
SPGS 250	3	Writing Techniques	SPGS 152
ENGS 152*	3	Fundamentals of Oral Communication, Reading and Writing I	
ENGS 153	3	Fundamentals of Oral Communication, Reading and Writing II	ENGS 152
SCGS 200	3	Science, Technology and Society	
MAGS 120 (I)	3	Introductory Algebra	
HUGS 101	3	World Culture I	
HUGS 102	3	World Culture II	HUGS 101
HIGS 201	3	Puerto Rico History and Culture	
SOGS 201	3	The Human Being and the Social Consciousness	
SOGS 202	3	State-Government and the Human Being	SOGS 201
INGS 201	3	Introduction to Information Literacy and Research	SPGS 250

Core Component - 12 credits

Course	Credits	Title	Prerequisites
DESI 121	3	Drawing I	
ENTR 360	3	Entrepreneurship	Min. 3 RD Year
HIDE 100	3	History of Art	HUGS 101
HIDE 106	3	Dwellings: Constructed Environments, Prehistory-1500	HIDE 100

Major Component - 75 credits

Course	Credits	Title	Prerequisites
HIDE 115	3	Landscape Design History and Theory: Natural and Constructed Environments, 1500-today	HIDE 106
LAND 110	3	Introduction to Landscape Architecture: Reading the Landscape	
LAND 150	3	Introduction to Site Analysis and System Technology	LAND 110
LAND 210	3	Introduction to CAD for Landscape Architecture	LAND 100
LAND 211	3	CAD for Landscape Architecture	LAND 210
LAND 250	3	Landscape Construction Materials and Methods	LAND 150
LAND 251	3	Site Design	LAND 250
LAND 252	3	Environmental Systems, Plant Material and Landscape Ecology	LAND 150
LAND 340	3	Codes, Regulations, Ethics and Professional Practice	LAND 201
LAND 350	3	Methods for Regionals Landscape Design	LAND 251
LAND 351	3	Technology in Construction Documents	LAND 251

Course	Credits	Title	Prerequisites
LAND 100	3	Landscape Architecture Design I: Design Principles and Landscape Architecture Communication	
LAND 101	3	Landscape Architecture Design II: Planting Design, Residential and Small-Scale Projects	LAND 100, LAND 110
LAND 200	3	Landscape Architecture Design III	LAND 101
LAND 201	3	Landscape Architecture Design IV	LAND 200
LAND 300	6	Landscape Architecture Design V	LAND 201
LAND 301	6	Landscape Architecture Design VI: Urban Forest and Planning Issues	LAND 300
LAND 400	6	Senior Design Project I	LAND 301
LAND 401	6	Senior Design Project II	LAND 400
LAND 410	3	Portfolio Studio	LAND 301
LAND 440	3	Internship	LAND 400

Elective Courses - 3 credits

Course	Credits	Title	Prerequisites
	3	Elective	

Important Notes:

1. * Students will be enrolled according to their College Board results or placement test.
2. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
3. Program accredited by Landscape Architectural Accrediting Board American Society of Landscape Architects (LAAB-ASLA).
4. Subject to change.

SPECIALIZED SCHOOL OF DENTAL MEDICINE

Associate Degree in Dental Assistant with Expanded Functions

Program's description:

This program prepares the student so that he can perform his duties under the supervision of the dentist in the areas of: dental instrumentation and materials, oral and preventive radiology, diagnosis, clinical support, asepsis, maintenance and sterilization of equipment, as well as in administrative functions. The program develops the student in the use and management of the latest digital technology of the dental profession.

Admission GPA: 2.00

Graduation GPA: 2.00

Curricular Content

General Education Component - 15 credits

Course	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
ENGS 152*	3	Fundamentals of Oral Communication, Reading and Writing I	
MAGS 120 (I)	3	Introductory Algebra	
HUGS 101 or	3	World Culture I or	
SOGS 201	3	The Human Being and the Social Consciousness	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 152

Core Component – 10 credits

Course	Credits	Title	Prerequisites
BIOT 106**	4	Compendium of Anatomy and Physiology	
COAT 107	3	Keyboarding and Basic Skills in the Computer	
MEBI 225	3	Dental Services Billing	

Major Component – 46 credits

Course	Credits	Title	Prerequisites
DENT 200	3	Head and Neck Anatomy	
DENT 202	3	Dental Anatomy and Oral Histology	
DENT 205**	4	Dental Microbiology	BIOT 106, DENT 200, DENT 202
DENT 207	3	Oral Pathology	BIOT 106, DENT 200, DENT 202
DENT 213	3	Dental Instruments and Materials	BIOT 106, DENT 200, DENT 202
DENT 219**	4	Radiology I	DENT 200, DENT 202
DENT 230**	4	Radiology II	DENT 219
DENT 229***	5	Pre-Clinic I	DENT 213
DENT 245***	5	Pre-Clinic II	DENT 213, DENT 229
DENT 267	3	Dental Practice Seminar and Ethics	DENT 213, DENT 219, DENT 229, DENT 230
DENT 271	5	Internal Clinic	DENT 213, DENT 219, DENT 229, DENT 230
DENT 281	4	External Clinic Practice	DENT 271

Important Notes:

- * These courses have two levels: ENGS 152 (I) y ENGS 152(II); SPGS 152 (I) y SPGS 152. Students will be enrolled based on the results of placement tests or the CEEB.
- ** Courses with 45 laboratory hours.
- *** Courses with 90 laboratory hours.
- **** Course with 240 hours of practice.
- In order to practice the profession, the graduate is required to take and pass the exam offered by the Puerto Rico Dental Board of Examiners.
- New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
- Subject to changes.

Associate Degree in Dental Technology

Program's description:

This academic program will allow students to acquire the knowledge, skills and abilities to perform their duties under the supervision of dentists, in the design and construction of dental prostheses, such as: caps, crowns, bridges, dentures, splints and orthodontic appliances. Includes instruction in dental anatomy, dental materials, ceramic technology, impressions, full dentures, partial dentures, orthodontics, crowns and bridges, sculpting, bonding and assembly techniques, and equipment operation.

Admission GPA: 2.00

Graduation GPA: 2.00

Curricular Content

General Education Component - 15 credits

Course	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
ENGS 152*	3	Fundamentals of Oral Communication, Reading and Writing I	
MAGS 120 (I)	3	Introductory Algebra	
HUGS 101 or	3	World Culture I or	
SOGS 201	3	The Human Being and the Social Consciousness	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 152

Core Component – 7 credits

Course	Credits	Title	Prerequisites
COAT 107	3	Keyboarding and Basic Skills in the Computer	
ACCO 111	4	Introduction to Accounting I	

Major Component – 39 credits

Course	Credits	Title	Prerequisites
DETA 100**	5	Oral Anatomy	
DETA 101**	5	Complete Denture	
DETA 102	3	Dental Materials	DETA 100, 101
DETA 103**	5	Removable Partial Dentures	DETA 100, 101
DETA 104 **	5	Fixed Prosthesis	DETA 100, 101
DETA 205	3	Ethics And Legal Aspects for Dental Technology	
DETA 206**	5	Dental Ceramics	DETA 103, 104
DETA 207**	5	Orthodontic Prosthesis	DETA 103, 104
DETA 208	3	Dental Entrepreneurship	

Important Notes:

- * These courses have two levels: ENGS 152 (I) y ENGS 152(I); SPGS 152 (I) y SPGS 152. Students will be enrolled based on the results of placement tests or the CEEB.
- ** Courses with 60 laboratory hours.
- To practice the profession, it is required that the graduate take and pass the exam offered by the Examining Board of Dental Technologists of Puerto Rico.
- New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
- Subject to changes.

SPECIALIZED SCHOOL OF VETERINARY MEDICINE

Associate Degree in Veterinary Technology

Graduates of the program will be able to work as veterinary technicians to serve small and large animal hospitals, clinics, research facilities, educational institutions, animal shelters, and commercial, police and military facilities. Our program emphasizes the development of professional and ethical attitudes, as well as interpersonal skills that should have all health professionals.

Admission GPA: 2.50

Graduation GPA: 2.00

Curricular Content

General Education Component - 15 credits

Course	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
ENGS 152*	3	Fundamentals of Oral Communication, Reading and Writing I	
MAGS 120 (I)	3	Introductory Algebra	
HUGS 101 or	3	World Culture I or	
SOGS 201		The Human Being and the Social Consciousness	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 152

Core Component – 14 credits

Course	Credits	Title	Prerequisites
BIOL 107	3	Biology Science for Veterinary Students	
BIOL 300+	4	Microbiology	BIOL 107 Co-req. BIOL 300L
CHEM 224+	4	Fundamentals of General Chemistry	
PSYC 123	3	General Psychology	

Major Component – 38 credits

Course	Credits	Title	Prerequisites
AVET 110	3	Introduction to Veterinary Sciences	
AVET 120	4	Anatomy and Physiology of Domestic Animals	AVET 110, BIOL 107 Co-req. AVET 120L
AVET 120L	0	Anatomy and Physiology of Domestic Animals Laboratory	AVET 110, BIOL 107 Co-req. AVET 120
AVET 130	3	Introduction to Veterinary Nursing	AVET 110
AVET 221	4	Common Diseases and Parasitology in Domestic Animals	AVET 120, AVET 130
AVET 230	3	Techniques and Protocols of Veterinary Technology I	AVET 110 Co-req. AVET 230
AVET 230L	0	Techniques and Protocols of Veterinary Technology I Laboratory	AVET 110 Co-req. AVET 230
AVET 231	3	Techniques and Protocols of Veterinary Technology II	AVET 230 Co-req. AVET 231L
AVET 231L	0	Techniques and Protocols of Veterinary Technology II Laboratory	AVET 230 Co-req. AVET 231
AVET 240	3	Animal Pharmacology and Toxicology	MAGS 120 (I), AVET 130, BIOL 10
AVET 245	3	Basic Radiology in Domestic Animals	AVET 120, AVET 130, AVET 230, Co-req. AVET 245L
AVET 245L	0	Basic Radiology in Domestic Animals Laboratory	AVET 120, AVET 130, AVET 230, Co-req. AVET 245
AVET 260	3	Management, Practice and Farm Animal Disease	AVET 130, AVET 120
BVET 390	3	Integrative Seminar	AVET 221, AVET 231, AVET 260
BVET 400	3	Clinical Practice I	AVET 120, AVET 130, AVET 230, CHEM 224
BVET 410	3	Clinical Practice II	BVET 400

Important Notes:

- * All students will be enrolled according to the results of the placement test or results of the College Board.
- Accredited by Committee on Veterinary Technician Education and Activities (CVTEA).
- New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
- Subject to changes

Bachelor of Sciences in Veterinary Technology

Graduates will apply knowledge and skills to the care and handling of small and large animals during clinical laboratory procedures, the management of illness, animal nutrition, pharmacology, parasitology, anesthesia, and medical and surgical assistance of animals and to the prevention of diseases, hygiene, and cleanliness of the work area and to the management of a veterinary facility. Graduates of the program will be able to work as veterinary technologists with animals in veterinary hospitals, clinics, research facilities at the industry or the academy, at educational institutions, animal shelters, sanctuaries and commercial, police, and military facilities among other settings.

Admission GPA: 2.50

Graduation GPA: 2.00

Curricular Content

General Education Component - 36 credits			
Course	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
SPGS 250	3	Writing Techniques	SPGS 152
ENGS 152*	3	Fundamentals of Oral Communication, Reading and Writing I	
ENGS 153	3	Fundamentals of Oral Communication, Reading and Writing II	ENGS 152
SCGS 200	3	Science, Technology and Society	
MAGS 120 (I)	3	Introductory Algebra	
HUGS 101	3	World Culture I	
HUGS 102	3	World Culture II	HUGS 101
HIGS 201	3	Puerto Rico History and Culture	
SOGS 201	3	The Human Being and the Social Consciousness	
SOGS 202	3	State-Government and the Human Being	SOGS 201
INGS 201	3	Introduction to Information Literacy and Research	SPGS 250
Core Component - 36 credits			
Course	Credits	Title	Prerequisites
BIOL 107	3	Biology Science for Veterinary Students	
BIOL 300+	4	Microbiology	
CHEM 224+	4	Fundamentals of General Chemistry	
CHEM 225+	4	Fundamentals of Organic Chemistry	CHEM 224
PHSC 101	3	Physical Science	MAGS 120 (I)
MATH 121+	3	Intermediate Algebra	MAGS 120 (I) or placement test
MATH 151+	4	Precalculus I	MATH 121 or minimum of 600 points on CEEB and placement test.
MATH 152+	4	Precalculus II	MATH 151
MATH 221+	4	Calculus	MATH 152
PSYC 123	3	General Psychology	
Major Component - 56 credits			
Course	Credits	Title	Prerequisites
AVET 110	3	Introduction to Veterinary Sciences	
AVET 120	4	Anatomy and Physiology of Domestic Animals	AVET 110, BIOL 107, Co-req. AVET 120L
AVET 120L	0	Anatomy and Physiology of Domestic Animals Laboratory	AVET 110, BIOL 107, Co-req. AVET 120
AVET 130	3	Introduction to Veterinary Nursing	AVET 110
AVET 221	4	Common Diseases and Parasitology in Domestic Animals	AVET 120, AVET 130
AVET 230	3	Techniques and Protocols of Veterinary Technology I	AVET 110 Co-req. AVET 230L
AVET 230L	0	Techniques and Protocols of Veterinary Technology I Laboratory	AVET 110 Co-req. AVET 230
AVET 231	3	Techniques and Protocols of Veterinary Technology II	AVET 230 Co-req. AVET 231L
AVET 231L	0	Techniques and Protocols of Veterinary Technology II Laboratory	AVET 230 Co-req. AVET 231
AVET 240	3	Animal Pharmacology and Toxicology	MAGS 120 (I), AVET 130, BIOL 107

AVET 245	3	Universidad Ana G. Méndez Catalog 2023-2024 Basic Radiology in Domestic Animals	AVET 120, AVET 130, AVET 230, Co-req. AVET 245L
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Course	Credits	Title	Prerequisites
AVET 245L	0	Basic Radiology in Domestic Animals Laboratory	AVET 120, AVET 130, AVET 230, Co-req. AVET 245
AVET 260	3	Management, Practice and Farm Animal Disease	AVET 130, AVET 120
BVET 310	3	Veterinary Anesthesiology and Surgical Assisting	AVET 231, AVET 240, AVET 245 Co-req. BVET 310L
BVET 310L	0	Veterinary Anesthesiology and Surgical Assisting Laboratory	AVET 231, AVET 240, AVET 245 Co-req. BVET 310
BVET 350	3	Veterinary Dentistry for Veterinary Technicians	AVET 231, AVET 240, AVET 245 Co-req. BVET 350L
BVET 350L	0	Veterinary Dentistry for Veterinary Technicians Laboratory	AVET 231, AVET 240, AVET 245 Co-req. BVET 350
BVET 360	3	Animal Nutrition	AVET 260
BVET 370	3	Veterinary Office Management Fundamentals	AVET 240, AVET 245
BVET 380	3	Critical Care and Veterinary Emergency Fundamentals	AVET 231, AVET 240, AVET 245, Co-req. BVET 380L
BVET 380L	0	Critical Care and Veterinary Emergency Fundamentals Laboratory	AVET 231, AVET 240, AVET 245, Co-req. BVET 380
BVET 385	3	Principles of Veterinary Nursing in Alternative Medicine	AVET 240, AVET 260
BVET 390	3	Integrative Seminar	AVET 221, AVET 231, AVET 260
BVET 400	3	Clinical Practice I	AVET 120, AVET 130, AVET 230, CHEM 224
BVET 410	3	Clinical Practice II	BVET 400

Important Notes:

1. * All students will be enrolled according to the results of the placement test or results of the College Board.
2. Accredited by Committee on Veterinary Technician Education and Activities (CVTEA).
3. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
4. Subject to changes

SCHOOL OF TECHNICAL STUDIES

DEPARTMENT OF TECHNICAL PROGRAMS

Associate Degree in Management and Billing of Health Services

Program's description

This academic program will enable students to acquire the knowledge and skills to work in an environment of automated medical office. It will specialize in the use of medical terminology, procedures and medical office management and processes to perform medical billing transactions efficiently.

Admission GPA: 2.00

Graduation GPA: 2.00

Curricular Content

General Education Component – 15 credits

Course	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
MAGS 120 (I)	3	Introductory Algebra	
HUGS 101 or	3	World Culture I or	
SOGS 201		The Human Being and Social Consciousness	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 152

Core Component- 10 credits

Course	Credits	Title	Prerequisites
ACCO 111	4	Introduction to Accounting I	
COAT 107	3	Keyboarding and Basic Skills in the Computer	
ENMA 101	3	Introduction to Entrepreneurial Development	

Major Component - 30 credits

Course	Credits	Title	Prerequisites
MEBI 203	3	Medical Terminology	
MEBI 204	3	Coding of Diagnostics and Medical Services	MEBI 203
MEBI 205	3	Manual Medical Billing	MEBI 203, 204
MEBI 207	3	Electronic Billing	MEBI 205
MEBI 206	3	Legal Aspects and Administrative Procedures	
MEBI 208	3	Electronic Medical Record	
MEBI 213	3	Audit of Health Services Billing	MEBI 205, 207
MEBI 225	3	Dental Services Billing	
MEBI 227	3	Documents Design and Report Writing	COAT 107
MEBI 231**	3	Health Services Billing - Practicum	MEBI 203, 204, 205, 207, 208

Important Notes:

1. Graduation GPA 2.00.
2. * All students will be enrolled according to the results of the placement test or results of the College Board.
3. ** Courses with 180 hours of practice.
4. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
5. Subject to changes.

Associate Degree in Computer Repair and Network Installation

Program's description

The Associate Degree in Computer Repair and Network Installation has been designed to facilitate the effective application of the theoretical and practical knowledge acquired in network technology and in everything related to detection and repair with hardware.

Admission GPA: 2.00

Graduation GPA: 2.00

Curricular Content

General Education Component – 15 credits

Course	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
MAGS 120 (I)	3	Introductory Algebra	
HUGS 101 or SOGS 101	3	World Culture I or The Human Being and Social Consciousness	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 152

Core Component- 6 credits

Course	Credits	Title	Prerequisites
ENMA 101	3	Introduction to Entrepreneurial Development	
COAT 107	3	Keyboarding and Basic Skills in the Computer	

Major Component - 36 credits

Course	Credits	Title	Prerequisites
CRNI 201	3	Basic of Electronics Circuits	
CRNI 202	3	Introduction to Computer Networks	
CRNI 203	3	Mobile Device Repair	
CRNI 205	3	Diagnosis and Maintenance of Computer Systems I	
CRNI 207	3	Fundamental Topics of Operating Systems	
CRNI 209	3	Network Design and Maintenance	
CRNI 211	3	Security and System Recovery Plan	
CRNI 213	3	Diagnosis and Maintenance of Computer Systems II	CRNI 205
CRNI 215	3	Development of Electronic Commerce Applications	
CRNI 221	3	Introduction to Servers	
CRNI 223	3	Server Infrastructure	CRNI 221
CRNI 225	3	Virtualization and Networking Topics	

Important Notes:

1. Graduation GPA 2.00
2. * All students will be enrolled according to the results of the placement test or results of the College Board.
3. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
4. Subject to changes.

Associate Degree in Clinical Therapeutic Massage

Program's description

This program prepares the student to offer his clients / patients massage therapies that provide emotional and mental fitness benefits. It also prepares the graduate for the examination offered by the Examining Board of Massage Therapists.

Admission GPA: 2.00

Graduation GPA: 2.00

Curricular Content

General Education Component – 15 credits			
Course	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
MAGS 120 (I)	3	Introduction to Algebra	
HUGS 101 or SOGS 201	3	World Culture I or The Human Being and Social Consciousness	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 152
Core Component- 6 credits			
Course	Credits	Title	Prerequisites
COAT 107	3	Keyboarding and Basic Skills in the Computer	
ENMA 101	3	Introduction to Entrepreneurial Development	
Major Component – 43 credits			
Course	Credits	Title	Prerequisites
THMA 201**	3	Introduction to Massage and Chair Massage	
THMA 202**	3	Therapeutic Massage I	
THMA 208**	3	Therapeutic Massage II	THMA 201, 202
THMA 216**	3	Therapeutic Massage III	THMA 201, 202
THMA 225	3	Clinical Therapeutic Massage Seminar	THMA 201, 202, 208, 209, 216, 230, 232, 234, 236 THMA 201, 202, 208, 216
THMA 228***	2	Clinical Therapeutic Massage Practicum Course	
THMA 209**	4	Reflexiology And Spa Techniques	
THMA 230	4	Anatomy And Physiology	
THMA 232	4	Musculoskeletal Anatomy	
THMA 234	4	Clinical Pathology, Evaluation and Documentation	THMA 201
THMA 236**	3	Oriental Techniques	THMA 201, 202
THMA 238**	4	Sports Massage and Structural Kinesiology	THMA 201, 202
THMA 240**	3	Massage For Special Populations and Lymphatic Drainage	THMA 201

Important Notes:

1. Graduation GPA 2.00.
2. * These courses have two levels: ENGS 152 (I) and ENGS 152; SPGS 152 (I) and SPGS 152. Students will enroll based on CEEB or placement test results.
3. **Courses with 30 laboratory hours.
4. *** Courses with 120 hours of practice.
5. To practice the profession, it is required that the graduate take and pass the exam offered by the Puerto Rico Board of Examiners of Massage Therapists.
6. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
7. Subject to changes.

Associate Degree in Operating Room Technician

Program's description:

The graduate of this program is trained to assist the surgeon before, during and after the surgical procedure, in addition to helping him during the operative process in the management of surgical instruments. He is the professional responsible for the preparation, disinfection and sterilization of equipment and materials before and after the operation.

Admission GPA: 2.00

Graduation GPA: 2.00

Curricular Content

General Education Component – 15 credits

Course	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
ENGs 152*	3	Fundamentals of Speaking, Reading and Writing English I	
MAGS 120 (I)	3	Introduction to Algebra	
HUGS 101 or SOGS 201	3	World Culture I or The Human Being and Social Consciousness	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 152

Core Component- 11 credits

Course	Credits	Title	Prerequisites
BIOT 105**	4	Introduction to Microbiology	
BIOT 106**	4	Compendium of Anatomy and Physiology	
COAT 107	3	Keyboarding and Basic Skills in the Computer	

Major Component - 25 credits

Course	Credits	Title	Prerequisites
SURT 201	3	Introduction to the World of Surgery	
SURT 202**	4	Disinfection and Sterilization	
SURT 203	3	Human Relations and the Surgical Patient	
SURT 204	3	Foundations of Anesthesia	
SURT 205***	6	Operating Room Fundamentals	SURT 201, SURT 202
SURT 209****	6	Clinical Practice	SURT 205

Important Notes:

1. *These courses have two levels: ENGs 152 (I) and ENGs 152; SPGS 152 (I) and SPGS 152. Students will enroll based on results of placement tests or the CEEB.
2. ** Courses with 45 laboratory hours.
3. *** Courses with 135 laboratory hours.
4. **** Course with 360 hours of practice.
5. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
6. Subject to changes.

Associate Degree in Teacher Assistant in Preschool Education

Program's description

This program provides students with the skills and knowledge required for proper functioning at the preschool level. Educate the student in structured programs so that they acquire the knowledge and skills necessary to share the work of the teacher in property

Admission GPA: 2.00

Graduation GPA: 2.50

Curricular Content

General Education Component – 15 credits			
Course	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
MAGS 120 (I)	3	Introduction to Algebra	
HUGS 101 or	3	World Culture I or	
SOGS 201		The Human Being and Social Consciousness	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 152
Core Component- 3 credits			
Course	Credits	Title	Prerequisites
COAT 107	3	Keyboarding and Basic Skills in the Computer	
Major Component - 44 credits			
Course	Credits	Title	Prerequisites
PREA 102	3	Healty, Hygiene and Nutrition	
PREA 105	3	Introduction to Early Childhood Education	
PREA 171	3	Human Growth Development	
PREA 114	3	The Use of Computer in Education	COAT 107
PREA 123	3	Children's Literature	PREA 130
PREA 139	3	Education for Exceptional Children	PREA 171
PREA 176	3	Management of Classroom	PREA 105, PREA 171
PREA 130	3	Development of Arts, Language and Bilingualism	SPGS 152
PREA 136	3	Curriculum and Teaching Methods	PREA 105, PREA 171
PREA 138	3	Preparation of Teaching Materials	PREA 114
PREA 144	3	Administration of Infants, Toddlers and Preschool Educational Programs	PREA 105
PREA 155	3	Play and Arts as Teaching Strategies	PREA 138, PREA 171
PREA 160	4	Early Childhood Education Training I: Children's Growth and Development	PREA 102, PREA 105, PREA 171
PREA 190	4	Early Childhood Education Training II: Family and Community Services	PREA 160

Important Notes:

- *All students will be enrolled according to the results of the placement test or results of the *College Board*.
- The student must accumulate a total of 480 hours of direct work experience with children through the program.
- Classification of Instructional Programs (*CIP Code*): 13.1501
- New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
- Subject to change.

Associate Degree in Medical Emergencies

Program's description

This program of study prepares individuals, under the remote supervision of physicians, to recognize, evaluate, and manage medical emergencies in prehospital settings and to supervise ambulance personnel. Also, the student is instructed in basic, intermediate and advanced EMT procedures; emergency surgical procedures; medical triage; rescue operations; crisis scene management and staff supervision; operation and maintenance of equipment; stabilization, monitoring and patient care; administration of medicines; identification and preliminary diagnosis of diseases and injuries; communication and computer operations; basic anatomy, physiology, pathology and toxicology; and professional rules and regulations.

Admission GPA: 2.00

Graduation GPA: 2.00

Curricular Content

General Education Component – 15 credits

Course	Credits	Title	Prerequisites
MAGS 120 (I)	3	Introduction to Algebra	
SPGS 152+*	3	Fundamentals of Reading and Writing	
ENGS 152+*	3	Fundamentals of Speaking, Reading and Writing English I	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 152
HUGS 101 or SOGS 201	3	World Culture I or The Human Being and Social Consciousness	

Core Component- 23 credits

Course	Credits	Title	Prerequisites
NURS 215	4	Pathophysiology Nursing	HESC 125+; HESC 126+
BIOL 101	3	Introduction to Biological Sciences	
HESC 125+	4	Human Anatomy and Physiology I	BIOL 101
HESC 126+	4	Human Anatomy and Physiology II	HESC 125+
HESC 201	3	Medical Terminology	HESC 125+
PUHE 200	3	Fundamentals of Public Health	HESC 125+; HESC 126+
HESC 111	2	Computers in Medical Informatics	

Major Component - 45 credits

Course	Credits	Title	Prerequisites
EMTP 101	3	Fundamentals of Medical Emergencies	
EMTP 102	2	Pharmacology in Medical Emergencies	
EMTP 103+	4	Patient's Physical Assessment	EMTP 101
EMTP 104	4	EMS Communication System Operation	EMTP 101
EMTP 201	3	Shock and Fluids Therapy	EMTP 101
EMTP 202	3	Internal Medicine Emergencies	EMTP 101
EMTP 203	4	Airways Management and Respiratory Emergencies	EMTP 101
EMTP 204	4	Cardiovascular Emergencies	EMTP 201, EMTP 203
EMTP 205	4	Critical Care for Trauma	EMTP 103, NURS 215
EMTP 210 (P)	1	Pre-Clinical Practice (100 hours)	EMTP 202, EMTP 203
EMTP 301+	4	OB-GYN and Pediatrics Medical Emergencies	EMTP 202
EMTP 302	3	Emergency Management: Rescue and Disasters	EMTP 210 (P)
EMTP 303	3	Sign Language for EMT-P	
EMTP 304 (S)	2	Seminar for EMT-P	EMTP 210 (P)
EMTP 310 (P)	1	Clinical Practice (200 hours)	EMTP 210 (P), EMTP 302

Important Notes:

- *All students will be enrolled according to the results of the placement test or results of the *College Board*.
- Classification of Instructional Programs (*CIP Code*): 51.0904 Emergency Medical Technology/Technician (EMT Paramedic)
- New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students

must complete this seminar during the academic semester.

4. + Includes laboratory.
5. (P) course with clinical practice
6. Graduation GPA 2.00.
7. The major component courses must approve with a minimum grade of C.
8. The professional component courses must approve with a minimum grade of C.
9. Students transferred from other universities must comply with the residence standards at UAGM.
10. Subject to change.

Associate Degree in Science in Technical Studies

Program's description

Students from this program will be able to complete a degree specifically designed according to the selected course concentration. The curriculum offers the learning opportunity that enables the development of higher-level competencies in accordance with the skills required for success in future employment or higher-level studies. The chosen concentration will further strengthen the professional competencies of the graduate.

Admission GPA: (See admission requirements for accelerated adult program.)

Graduation GPA: 2.00

Curricular Content

General Education Component – 15 credits

Course	Credits	Title	Prerequisites
MAGS 120 (I)	3	Introduction to Algebra	
SPGS 152+*	3	Fundamentals of Reading and Writing	
ENGS 152+*	3	Fundamentals of Speaking, Reading and Writing English I	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 152
HUGS 101 or SOGS 201	3	World Culture I or The Human Being and Social Consciousness	

Core Component- 15 credits (Choose one option)

Business Administration

Course	Credits	Title	Prerequisites
MGMT 101 ⁴	3	Managerial Principles and Leadership	
MKTG 203	3	Marketing and Strategic Communication	
MGMT 240	3	Global Entrepreneurship	MGMT 101
BUSS 230	3	Legal and Ethical Aspects in Bussines	MGMT 101
MGMT 220	3	Organization and Business Behavior	
TECH 250	3	Information and Communication Technologies	

Health Sciences

Course	Credits	Title	Prerequisites
PUHE 101	3	Introduction to Public Health and Health Education	
PUHE 220	3	Health Communication	
MEBI 208	3	Electronic Medical Record	
HESM 110 ⁴	3	Health Services Management	
HESM 210	3	Health Systems and Models	HESM 110
HESM 220	3	Services Planning and Evaluation of Health Services	HESM 110

Technology

Course	Credits	Title	Prerequisites
COIS 201	3	Data Processing	
COIS 211	3	Introduction to Programming	
COIS 218	3	Application Development	COIS 211
COIS 111	3	Software Applications	
TECH 250	3	Information and Communication Technologies	
CRNI 202	3	Introduction to Computer Networks	

Directed Electives Component⁵ - 21 to 33 credits

Course	Credits	Title	Prerequisites
Electives	21-33		

Important Notes:

- *All students will be enrolled according to the results of the placement test or results of the *College Board*.
- Classification of Instructional Programs (*CIP Code*): 30.9999 Multi/interdisciplinary Studies. Other
- New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic

semester.

4. MGMT 101 y HESM 110 are required courses for the core component.
5. Directed electives correspond to the technical program courses completed by the student.
6. Subject to change.

DEPARTMENT OF PROFESSIONAL STUDIES
Bachelor in Business Administration Major in Finances and Insurance
Program's description

The professional in this field will be able to use the tools of the profession to make decisions on monetary policy, financial investments and quantitative methodologies associated with finance, banking, stock market and insurance that allow you to plan a financial management program and / or risk according to the needs of your client.

Admission GPA: (See admission requirements for accelerated adult program.)

Graduation GPA: 2.00

Curricular Content
General Education Component - 36 credits

Course	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
MAGS 120 (I)	3	Introductory Algebra	
ENGS 153	3	Fundamentals of Speaking, Reading and Writing English II	ENGS 152*
SCGS 200	3	Science, Technology and Society	
HIGS 201	3	Puerto Rico History and Culture	
HUGS 101	3	World Culture I	
SPGS 250	3	Writing Techniques	SPGS 152*
SOGS 201	3	The Human Being and Social Consciousness	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 250
SOGS 202	3	State-Government and the Human Being	SOGS 201
HUGS 102	3	World Culture II	HUGS 101

Core Component - 47 credits

Course	Credits	Title	Prerequisites
ACCO 111	4	Introduction to Accounting I	
ACCO 112	4	Introduction to Accounting II	ACCO 111
FINA 202	3	Business Finance	ACCO 112
QUME 250	3	Managerial Quantitative Methods	MAGS 120 (I)
STAT 201	3	Statistics	QUME 250
ECON 402	3	Management Economy	
BUSS 230	3	Legal and Ethical Aspects in Bussines	MGMT 101
PORF 101	3	Portfolio	
MGMT 101	3	Managerial Principles and Leadership	
MGMT 220	3	Organization and Business Behavior	
MGMT 230	3	Human Resources Management and Diversity	MGMT 101
MGMT 240	3	Global Entrepreneurship	MGMT 101
MGMT 250	3	International Business and Electronic Commerce	MGMT 101
MKTG 203	3	Marketing and Strategic Communication	
TECH 250	3	Information and Communication Technologies	

Major Component - 33 credits

Course	Credits	Title	Prerequisites
INSU 201	3	Introduction to Insurance	
INSU 205	3	Bargaining in Insurance	INSU 201
INSU 301	3	Seminar on Insurance Professional Designation	INSU 304
INSU 302	3	Reinsurance	INSU 201
ECON 303	3	Insurance Economics	INSU 201, ECON 402
INSU 304	3	Legal Environment	INSU 201, FINA 202
STAT 410	3	Intermediate Statistics for Business	STAT 201
FINA 400	3	Financial Investments	FINA 202, STAT 201
FINA 406	3	Monetary and Financial Policy	FINA 202
QUME 310	3	Quantitative Methods for Finances	INSU 201, FINA 202

Course	Credits	Title	Prerequisites
MGMT 431	3	Integration Seminar	30 major credits approved
Free Electives - 3 credits			
Course	Credits	Title	Prerequisites
	3	Elective	

Important Notes:

1. * All students will be enrolled according to the results of the placement test or results of the College Board.
2. Major courses and MGMT 431 must be approved with a C or higher.
3. Graduation GPA 2.00; major GPA 2.30.
4. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
5. Subject to change.

Bachelor in Business Administration major in Human Resources Management

Program's description

The Bachelor of Business Administration program with a concentration in Human Resource Management develops professionals with the knowledge, skills, abilities and competencies necessary to carry out technical, administrative, managerial and research support functions in public and private organizations at a local and international level. It emphasizes the development of competencies, aligned to the changing environments of the management of human talent in the training of the student as analysts or specialists in the essential functions of the administration and management of human resources in organizations.

Admission GPA: 2.00 (See admission requirements for accelerated adult program.)

Graduation GPA: 2.00

Curricular Content

General Education Component - 36 credits

Course	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
MAGS 120 (I)	3	Introduction to Algebra	
ENGS 153	3	Fundamentals of Speaking, Reading and Writing English II	ENGS 152*
SCGS 200	3	Science, Technology and Society	
HIGS 201	3	Puerto Rico History and Culture	
HUGS 101	3	World Culture I	
SPGS 250	3	Writing Techniques	SPGS 152*
SOGS 201	3	The Human Being and Social Consciousness	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 250
SOGS 202	3	State-Government and the Human Being	SOGS 201
HUGS 102	3	World Culture II	HUGS 101

Core Component- 47 credits

Course	Credits	Title	Prerequisites
ACCO 111	4	Introduction to Accounting I	
ACCO 112	4	Introduction to Accounting II	ACCO 111
FINA 202	3	Business Finance	ACCO 112
QUME 250	3	Managerial Quantitative Methods	MAGS 120 (I)
STAT 201	3	Statistics	QUME 250
ECON 402	3	Management Economy	
BUSS 230	3	Legal and Ethical Aspects in Bussines	MGMT 101
PORF 101	3	Portfolio	
MGMT 101	3	Managerial Principles and Leadership	
MGMT 220	3	Organization and Business Behavior	
MGMT 230	3	Human Resources Management and Diversity	MGMT 101
MGMT 240	3	Global Entrepreneurship	MGMT 101
MGMT 250	3	International Business and Electronic Commerce	MGMT 101
MKTG 203	3	Marketing and Strategic Communication	
TECH 250	3	Information and Communication Technologies	

Major Component - 33 credits

Course	Credits	Title	Prerequisites
HURM 201	3	Recruitment, Selection and Talent Management	MGMT 230
HURM 210	3	Policy Making, Evaluation, and Reward System	MGMT 230

Course	Credits	Title	Prerequisites
HURM 215	3	Human Resources Information Systems	MGMT 230
HURM 240	3	Employment and Labor Legislation	MGMT 230
HURM 250	3	Training and Career Development	MGMT 230
HURM 304	3	Evaluation and Methods of Performance of Human Resources Environment	
HURM 320	3	Negotiation and Conflict Management	MGMT 230
HURM 330	3	Health and Safety Management in the Labor Environment	MGMT 230
ODHR 409	3	Management Principles of Consultancy in Human Resources	MGMT 220, 230, 240
ODHR 410	3	Organizational Coaching	
MGMT 431	3	Integration Seminar	30 major credits approved

Free Electives - 3 credits

Course	Credits	Title	Prerequisites
	3	Elective	

Important Notes:

1. * All students will be enrolled according to the results of the placement test or results of the College Board.
2. Major courses and MGMT 431 must be approved with a C or higher.
3. Major GPA 2.30.
4. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
5. Program accredited by AACSB only at Gurabo Campus in the regular program.
6. Subject to change.

Bachelor of Business Administration major in Organizational Development

Program's description

The Baccalaureate (Undergraduate or Bachelor's Degree) in Business Administration with a concentration in Organizational Development prepares professionals with the necessary skills to promote the development of public and private organizations from the perspective of the development of human talent. Organizational design is emphasized by integrating internal and external elements that influence the productivity and motivation of the individual and that can impact the operation of the company.

Admission GPA: (See admission requirements for accelerated adult program.)

Graduation GPA: 2.00

Curricular Content

General Education Component - 36 credits

Course	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
MAGS 120 (I)	3	Introductory Algebra	
ENGS 153	3	Fundamentals of Speaking, Reading and Writing English II	ENGS 152*
SCGS 200	3	Science, Technology and Society	
HIGS 201	3	Puerto Rico History and Culture	
HUGS 101	3	World Culture I	
SPGS 250	3	Writing Techniques	SPGS 152*
SOGS 201	3	The Human Being and Social Consciousness	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 250
SOGS 202	3	State-Government and the Human Being	SOGS 201
HUGS 102	3	World Culture II	HUGS 101

Core Component- 47 credits

Course	Credits	Title	Prerequisites
ACCO 111	4	Introduction to Accounting I	
ACCO 112	4	Introduction to Accounting II	ACCO 111
FINA 202	3	Business Finance	ACCO 112
QUME 250	3	Managerial Quantitative Methods	MAGS 120 (I)
STAT 201	3	Statistics	QUME 250
ECON 402	3	Management Economy	
BUSS 230	3	Legal and Ethical Aspects in Bussines	MGMT 101
PORF 101	3	Portfolio	
MGMT 101	3	Managerial Principles and Leadership	
MGMT 220	3	Organization and Business Behavior	
MGMT 230	3	Human Resources Management and Diversity	MGMT 101
MGMT 240	3	Global Entrepreneurship	MGMT 101
MGMT 250	3	International Business and Electronic Commerce	MGMT 101
MKTG 203	3	Marketing and Strategic Communication	
TECH 250	3	Information and Communication Technologies	

Major Component - 33 credits

Course	Credits	Title	Prerequisites
ODHR 203	3	Strategic Organizational Communication	
ODHR 204	3	Organizational Psychology	
ODHR 305	3	Diversity in Organizations	

Course	Credits	Title	Prerequisites
ODHR 306	3	Conflict Resolution and Arbitrage	
ODHR 307	3	Training and Human Resource Development	
ODHR 308	3	Leadership and Organizational Change	
ODHR 409	3	Management Principles of Consultancy in Human Resources	MGMT 220, 230, 240
ODHR 410	3	Organizational Coaching	
ODHR 411	3	Total Quality in Work Scenario	
HURM 330	3	Health and Safety Management in the Labor Environment	MGMT 230
MGMT 431	3	Integration Seminar	30 major credits approved

Free Electives - 3 credits

Course	Credits	Title	Prerequisites
	3	Elective	

Important Notes:

1. * All students will be enrolled according to the results of the placement test or results of the College Board.
2. Major courses and MGMT 431 must be approved with a C or higher.
3. Major GPA 2.30.
4. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
5. Subject to change.

Bachelor in Business Administration Major in International Logistics Management

Program's description

Baccalaureate designed to prepare professionals to develop successfully in management in organizations related to international logistics and local transportation, as well as in companies that import and export products for consumption in Puerto Rico and the countries with which Puerto Rico has relationships commercial.

Admission GPA: (See admission requirements for accelerated adult program.)

Graduation GPA: 2.00

Curricular Content

General Education Component - 36 credits

Course	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
MAGS 120 (I)	3	Introductory Algebra	
ENGS 153	3	Fundamentals of Speaking, Reading and Writing English II	ENGS 152*
SCGS 200	3	Science, Technology and Society	
HIGS 201	3	Puerto Rico History and Culture	
HUGS 101	3	World Culture I	
SPGS 250	3	Writing Techniques	SPGS 152*
SOGS 201	3	The Human Being and Social Consciousness	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 250
SOGS 202	3	State-Government and the Human Being	SOGS 201
HUGS 102	3	World Culture II	HUGS 101

Core Component- 47 credits

Course	Credits	Title	Prerequisites
ACCO 111	4	Introduction to Accounting I	
ACCO 112	4	Introduction to Accounting II	ACCO 111
FINA 202	3	Business Finance	ACCO 112
QUME 250	3	Managerial Quantitative Methods	MAGS 120 (I)
STAT 201	3	Statistics	QUME 250
ECON 402	3	Management Economy	
BUSS 230	3	Legal and Ethical Aspects in Bussines	MGMT 101
PORF 101	3	Portfolio	
MGMT 101	3	Managerial Principles and Leadership	
MGMT 220	3	Organization and Business Behavior	
MGMT 230	3	Human Resources Management and Diversity	MGMT 101
MGMT 240	3	Global Entrepreneurship	MGMT 101
MGMT 250	3	International Business and Electronic Commerce	MGMT 101
MKTG 203	3	Marketing and Strategic Communication	
TECH 250	3	Information and Communication Technologies	

Major Component - 33 credits

Course	Credits	Title	Prerequisites
LOGI 310	3	International Trade	
LOGI 311	3	International Trade Finance	ACCO 111, FINA 202
LOGI 330	3	Globalization and International Markets	MGMT 250
LOGI 331	3	Logistics and Transportation	LOGI 330
LOGI 332	3	Planning and Product Control	LOGI 331
LOGI 410	3	Procurement Management	LOGI 332
LOGI 411	3	Purchase and Material Handling	LOGI 410
LOGI 412	3	Data Analysis and Electronic Transactions	LOGI 311
LOGI 413	3	Negotiation Strategies in Supply Chain	LOGI 330

Course	Credits	Title	Prerequisites
LOGI 414	3	Regulatory Compliance Management	
MGMT 431	3	Integration Seminar	30 major credits approved
Free Electives - 3 credits			
Course	Credits	Title	Prerequisites
	3	Elective	

Important Notes:

1. * All students will be enrolled according to the results of the placement test or results of the College Board.
2. Major courses and MGMT 431 must be approved with a C or higher.
3. Major GPA 2.30.
4. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
5. Subject to change.

Bachelor in Public Health Major in Health Services Management

Program's description

The graduate of this academic offer will be a professional academically prepared to perform successfully in primary management and intermediate in health service organizations. What distinguishes these professionals is their knowledge in the field of public health, in the field of the management and integration of both fields. In this way, it will ensure that the fine balance is maintained between the provision of public health services and organizational administrative and fiscal health.

Admission GPA: (See admission requirements for accelerated adult program.)

Graduation GPA: 2.00

Curricular Content

General Education Component - 36 credits

Course	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
MAGS 120 (I)	3	Introduction to Algebra	
ENGS 153	3	Fundamentals of Speaking, Reading and Writing English II	ENGS 152*
SCGS 200	3	Science, Technology and Society	
HIGS 201	3	Puerto Rico History and Culture	
HUGS 101	3	World Culture I	
SPGS 250	3	Writing Techniques	SPGS 152*
SOGS 201	3	The Human Being and Social Consciousness	
INGS 201	3	Introduction to Information Literacy and Research	SPGS 250
SOGS 202	3	State-Government and the Human Being	SOGS 201
HUGS 102	3	World Culture II	HUGS 101

Core Component - 43 credits

Course	Credits	Title	Prerequisites
ACCO 111	4	Introduction to Accounting I	
QUME 250	3	Managerial Quantitative Methods	MAGS 120 (I)
STAT 201	3	Statistics	QUME 250
ECON 402	3	Management Economy	
PORF 101	3	Portfolio	
MGMT 101	3	Managerial Principles and Leadership	
MGMT 220	3	Organization and Business Behavior	
MGMT 230	3	Human Resources Management and Diversity	MGMT 101
MGMT 240	3	Global Entrepreneurship	MGMT 101
TECH 250	3	Information and Communication Technologies	
PUHE 101	3	Introduction to Public Health and Health Education	
PUHE 201	3	Introduction to Biostatistics	MAGS 120 (I)
PUHE 203	3	Introduction to Epidemiology	PUHE 201
PUHE 210	3	Biological Aspects of Human Diseases	SCGS 200, PUHE 203

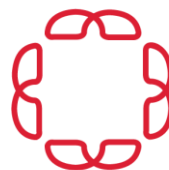
Major Component - 36 credits

Course	Credits	Title	Prerequisites
HESM 110	3	Health Services Management	
HESM 210	3	Health Systems and Models	HESM 110
HESM 220	3	Services Planning and Evaluation of Health Services	HESM 110
HESM 230	3	Basic Accounting for The Health Industry	ACCO 111, HESM 110, MAGS 120 (I)
HESM 310	3	Economics of the Health Industry	ECON 402, HESM 110
HESM 320	3	Basic Finance for the Health Industry	HESM 220
HESM 330	3	Legal Aspects in the Health Industry	HESM 110, MGMT 101, PUHE 101
HESM 340	3	Budgeting for the Health Industry	HESM 220
HESM 350	3	Healthcare Marketing	HESM 110, HESM 220
HESM 410	3	Health Information Systems	HESM 110, 230, 310, 320
HESM 420	3	Special Topics in Health Services	HESM 110, 220, 320, 340

Course	Credits	Title	Prerequisites
HESM 431	3	Seminar in the Health Services Management	30 major credits approved
Free Electives - 3 credits			
Course	Credits	Title	Prerequisites
	3	Elective	

Important Notes:

1. HESM 431 must be approved with a B or higher.
2. Major courses must be approved with a C or higher.
3. Major GPA 2.50.
4. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
5. Subject to change.



UNIVERSIDAD
ANA G. MÉNDEZ

UAGM

ACADEMIC OFFERINGS

GRADUATE PROGRAMS

(MASTER AND DOCTORAL'S DEGREES)

ACADEMIC OFFERINGS

GRADUATE DEGREE PROGRAMS (MASTER'S AND DOCTORAL)

SCIENCE AND TECHNOLOGY ACADEMIC DIVISION

DEPARTMENT OF NATURAL SCIENCES

Master of Environmental Sciences specialty Environmental Analysis

Program's description

The graduate student of Environmental Analysis will be able to: suggest the best method and technology; characterize and classify environmental contaminants; evaluate chemical results; and apply the state and federal regulations

Admission GPA: 2.75

Graduation GPA: 3.00

Curricular Content

Core Component- 17 credits

Course	Credits	Title	Prerequisites
STAT 750	3	Statist And Experimental Design	STAT 505 o equivalente
ENSC 751	3	Environmental Laws, Ethics and Public Policy	
ENSC 752	3	Water Quality Management	
ENSC 753	3	Soil Management	
ENSC 754	3	Air Quality Management	
ENSC 755	1	Graduate Seminar I	
ENSC 756	1	Graduate Seminar II	ENSC 755

Specialty Component - 12 credits

Course	Credits	Title	Prerequisites
ECON 700	3	Environmental Economics	
ENSC 706	3	Wildlife Management	
ENSC 707	3	Environmental Geology	
ENSC 709	3	Environmental Management and Planning	ENSC 763
ENSC 730	3	Solid Waste Management	
ENSC 737	3	Renewable Energy Sources and Issued	
ENSC 760	3	Hazardous Waste Operations and Emergency Response	
ENSC 763	3	Environmental Evaluation	ENSC 751
ENSC 770	3	Classification and Characterization of Hazardous Waste	
ENSC 790	1-6	Special Topics in Environmental Sciences	
ENSC 839	3	Issues in Environmental Public Health	
ENSC 841	3	Environmental Remediation	CHEM 221
ENSC 865	3	Environmental Toxicology	
BIOL 712	3	Applied Mycology	
BIOL 713	3	Microbial Ecology	
BIOL 843	3	Environmental Microbiology	BIOL 206
BIOL 844	3	Environmental Biotechnology	
CHEM 735	3	Environmental Chemical Analysis I	CHEM 430 or equivalent

Course	Credits	Title	Prerequisites
CHEM 736	3	Environmental Chemical Analysis II	CHEM 735
CHEM 850	3	Environmental Catalysis	
CHEM 852	3	Materials for Pollution Control	CHEM 463-464
CHEM 861	3	Nanotechnology	
ENVM 812	3	Internship	ENSC 763

Required Research Course- 6 credits

Course	Credits	Title	Prerequisites
ENSC 810	6	Research Thesis	Advisor's approval

Graduate Leveling Cours - 6 credits

Course	Credits	Title	Prerequisites
ENSC 500	3	Fundamentals of Environmental Sciences	
STAT 505	3	Statistics as an Instrument in Research	

Important Notes:

1. The general requirements for admission to the master's Program include a Baccalaureate in Science, having taken or presenting evidence to have requested the GRE and participate in an interview with a committee designated for these purposes.
2. The specific requirements will depend on the concentration of the baccalaureate and the program of interest of the applicant; in some cases, leveling in graduated courses could be recommended.
3. The STAT 505 and ENSC 500 leveling graduate courses may be recommended by the School's Admissions Committee, to strengthen the foundations of environmental and statistical knowledge. These courses do not count towards the degree.
4. Students will enroll in variable credits that reflect their dedication to research.
5. Subject to change.

Master of Environmental Sciences specialty in Environmental Management

Program's description

The graduate student in Environmental Management will be able to: apply or establish the procedures for handling and disposal of waste; develop and work with the stability of the evaluation programs and the environmental management in private or public enterprises.

Admission GPA: 2.75

Graduation GPA: 3.00

Curricular Content

Core Component- 17 credits

Course	Credits	Title	Prerequisites
STAT 750	3	Statist And Experimental Design	STAT 505 or equivalent
ENSC 751	3	Environmental Laws, Ethics and Public Policy	
ENSC 752	3	Water Quality Management	
ENSC 753	3	Soil Management	
ENSC 754	3	Air Quality Management	
ENSC 755	1	Graduate Seminar I	
ENSC 756	1	Graduate Seminar II	ENSC 755

Specialty Component -12 credits

Course	Credits	Title	Prerequisites
ECON 700	3	Environmental Economics	
ENSC 706	3	Wildlife Management	
ENSC 707	3	Environmental Geology	
ENSC 709	3	Environmental Management and Planning	ENSC 763
ENSC 730	3	Solid Waste Management	
ENSC 737	3	Renewable Energy Sources and Issued	
ENSC 760	3	Hazardous Waste Operations and Emergency Response	
ENSC 763	3	Environmental Evaluation	ENSC 751
ENSC 770	3	Classification and Characterization of Hazardous Waste	
ENSC 790	1-6	Special Topics in Environmental Sciences	
ENSC 839	3	Issues in Environmental Public Health	
ENSC 841	3	Environmental Remediation	CHEM 221
ENSC 865	3	Environmental Toxicology	
BIOL 712	3	Applied Mycology	
BIOL 713	3	Microbial Ecology	
BIOL 843	3	Environmental Microbiology	BIOL 206
BIOL 844	3	Environmental Biotechnology	
CHEM 735	3	Environmental Chemical Analysis I	CHEM 430 or equivalent
CHEM 736	3	Environmental Chemical Analysis II	CHEM 735
CHEM 850	3	Environmental Catalysis	
CHEM 852	3	Materials for Pollution Control	CHEM 463-464
CHEM 861	3	Nanotechnology	

Course	Credits	Title	Prerequisites
ENVM 812	3	Internship	ENSC 763

Required Research Course - 6 credits

Course	Credits	Title	Prerequisites
ENVM 811	6	Special Project	ENSC 763, ENSC 709, 24 credits of coursework approved

Graduate Leveling Course - 6 credits

Course	Credits	Title	Prerequisites
ENSC 500	3	Fundamentals of Environmental Sciences	ENSC 500
STAT 505	3	Statistics as an Instrument in Research	STAT 505

Important Notes:

1. The general requirements for admission to the master's Program include a Baccalaureate in Science, having taken or presenting evidence to have requested the GRE and participate in an interview with a committee designated for these purposes
2. The specific requirements will depend on the concentration of the baccalaureate and the program of interest of the applicant; in some cases, leveling in graduated courses could be recommended.
3. The STAT 505 and ENSC 500 leveling graduate courses may be recommended by the School's Admissions Committee, to strengthen the foundations of environmental and statistical knowledge. These courses do not count towards the degree.
4. Subject to change.

Master of Science in Biomedical Sciences

Program's description

Program that incorporates emerging trends in applied sciences, emphasizing the design of biomedical research, technical writing, administrative aspects of laboratories and personnel supervision, bioinformatics and quantitative, qualitative and mixed analysis. It is a two-year program, which contains a multidisciplinary curriculum that will prepare professionals to work in areas of science and health care in various corporations or professional organizations.

Admission GPA: 2.80

Graduation GPA: 3.00

Curricular Content

Core Component- 33 credits

Course	Credits	Title	Prerequisites
BIOE 500	3	Bioethics in Scientific Research	
BIOL 601	3	Medical Microbiology	
BIOL 602	4	Topics in Human Anatomy and Physiology	
BIOL 603	3	Bioinformatics	MATH 510
BIOL 604	3	Advanced Molecular Genetics	CHEM 600
BIOL 605	3	Biomedical Toxicology	BIOL 602, CHEM 600
BIOL 606	3	Advanced Immunology	BIOL 601, BIOL 604
BIOL 607	2	Teaching Practices in Biomedical Sciences	BIOL 606, BIOL 605
CHEM 600	3	Graduate Biochemistry	
MATH 510	3	Applied Biostatistics	
SEMN 500	1	Technical Writing and Scientific Articles	
SEMN 501	1	Foundations of the Transdisciplinary Approach in the Investigative Process	SEMN 500
SEMN 502	1	Management Aspects in the Biomedical Sciences	SEMN 501

Research Component - 3 credits

Course	Credits	Title	Prerequisites
REPR 650	1	Research Project I	BIOL 601, BIOL 603, CHEM 600
REPR 651	2	Research Project II	REPR 650

Important Notes:

1. Courses must be approved with a minimum of B.
2. Graduation requirement is at least one oral presentation of the research project and having a manuscript submitted for publication.
3. Subject to change.

Master of Sciences in Environmental Management
specialty in Conservation and Managing of Natural Resources

Program's description

This specialty includes the training of professionals capable of offering productive alternatives in the integral management of wildlife, with special attention to the protection and conservation of the habitat of the species. The courses of this specialty have an interdisciplinary approach in the analysis of the interaction and interdependence of the ecological, socio-economic, cultural and technological components in the management and conservation of tropical ecosystems.

Admission GPA: 2.75

Graduation GPA: 3.00

Curricular Content

Core Component- 15 credits

Course	Credits	Title	Prerequisites
ENMG 501 (Online)	3	Principles Environmental Sciences	
ENMG 506 (Online)	3	Statistical Methods Applied to Environmental Research	
ENMG 615 (Online)	3	Environmental Legislation and Regulatory Agencies	ENMG 501
ENMG 617	3	Environmental Documents and Assesments	ENMG 501, ENMG 515
ENMG 712 (Online)	3	Tropical Ecosystems	ENMG 501

Major Component -15 credits

Course	Credits	Title	Prerequisites
ENMG 532	3	Conservation and Management of Forest Ecosystems and Flora	ENMG 531
ENMG 533	3	Conservation and Management of Wild Fauna	ENMG 531
ENMG 535	3	Conservation and Management of Marine Resources	ENMG 531
ENMG 700	3	Integrated Management of Natural Resources	ENMG 531, ENMG 532, ENMG 533

Directed Electives - 6 credits

Course	Credits	Title	Prerequisites
ENMG 503	3	Natural Resources and Environmental Economy	ENMG 501
ENMG 512 (Online)	3	Environmental Comunications	
ENMG 515	3	Environmental Microbiology	ENMG 501
ENMG 520**	3	Environmental Chemistr	ENMG 501
ENMG 530	3	Oceanography	
ENMG 536	3	Properties and Conservation of Soils	ENMG 501, ENMG 531
ENMG 538	3	Limnology, River and Lakes Ecosystems	ENMG 501, ENMG 712
ENMG 600	3	Research Methodology	ENMG 501
ENMG 608	3	Solid and Hazardous Waste Management	ENMG 501
ENMG 613	3	Quality Control Management in the Environment	
ENMG 701	3	Enviromental Topics I	
ENMG 702	3	Environmental Topics II	ENMG 501
ENMG 703	3	Climate and Atmospheric Pollution	ENMG 501, ENMG 510
ENMG 705**	3	Environmental Toxicolog	ENMG 501, ENMG 520
ENMG 707	3	Environmental Auditing	ENMG 501, ENMG 510
ENMG 714	3	Fundamentals of Hydrogeology	ENMG 501
ENMG 715	3	Sustainable Agriculture	ENMG 501
ENMG 718	3	Urban Agriculture	ENMG 501
ENPL 505	3	Geographic Information Systems	
ENST 500	3	Principles of Terrestrial System	
ENST 515	3	Sustainable Development	ENMG 501

Investigation - 6 credits (Choose one option.)

Course	Credits	Title	Prerequisites
<i>Thesis</i>			
ENMG 717 (Online)	1	Research Introduction	12 credits approved
ENMG 719 (Online)	2	Thesis Proposal	ENMG 717
ENMG 723 (Online)	3	Thesis Defense	ENMG 717, ENMG 719 or ENMG 721
<i>Portfolio</i>			
ENAF 740 – 745 (Online)	6	Professional Portfolio in Environmental Affairs	Requires approval from the graduate program (CV)

Important Notes:

1. These courses are offered in the Part of Term modality, except those marked with * that are offered in the semester modality.
2. The courses indicated as a distance modality will be offered online only.
3. ENMG 717 and ENMG 719 courses replace ENMG 721 Thesis of the previous curriculum.
4. The courses ENAF 740 - ENAF 745 Professional Portfolio in Environmental Affairs is an alternative modality to replace the final thesis research requirement (ENMG 717, ENMG 719 and ENMG 723), and **apply only** to professionals with a proved background in the environmental field and must be authorized by the graduate coordinator.
5. **Include laboratory.
6. All courses must be approved with A or B.
7. Minimum graduation average must be 3.00 points.
8. Subject to change.

Master of Science in Environmental Management
specialty in Environmental Assessment and Risk Management

Program's description

The Master of Sciences in Environmental Management (MSEM) with specializations in Environmental Risk Assessment and Management offer an outstanding and updated curriculum that prepares students to assume management responsibilities required by today's environmental field. The academic and field experiences allow students to develop the competences in the area of environmental management that will enable them to assume leadership positions in the public and private sectors. The main goal of this program is to prepare an educated and skilled professional that contributes to solving the environmental problems of the world to achieve a sustainable development

Admission GPA: 2.75

Graduation GPA: 3.00

Curricular Content

Core Component- 15 credits			
Course	Credits	Title	Prerequisites
ENMG 501 (Online)	3	Principles Environmental Sciences	
ENMG 506 (Online)	3	Statistical Methods Applied to Environmental Research	
ENMG 615 (Online)	3	Environmental Legislation and Regulatory Agencies	ENMG 501
ENMG 608	3	Solid and Hazardous Waste Management	ENMG 501
ENMG 510 (Online)	3	Principles of Environmental Technology	ENMG 501
Specialty Component -15 credits			
Course	Credits	Title	Prerequisites
ENMG 511 (Online)	3	Environmental Risk Management	ENMG 501, ENMG 506
ENMG 515**	3	Environmental Microbiology	ENMG 501
ENMG 520**	3	Environmental Chemistry	ENMG 501
ENMG 614	3	Comparative Environmental Risk Assessment	ENMG 501, ENMG 511
ENMG 619	3	Occupational Risk Assessment and Management	ENMG 608, ENMG 510
Directed Electives - 6 credits			
Course	Credits	Title	Prerequisites
ENMG 503	3	Natural Resources and Environmental Economy	ENMG 501
ENMG 512 (Online)	3	Environmental Communications	
ENMG 600	3	Research Methodology	ENMG 501
ENMG 609	3	Energy Sources and Environment	ENMG 501
ENMG 613	3	Quality Control Management in the Environment	
ENMG 617	3	Environmental Documents and Assesments	ENMG 501, ENMG 615
ENMG 701	3	Enviromental Topics I	
ENMG 702	3	Environmental Topics II	ENMG 501
ENMG 703	3	Climate and Atmospheric Pollution	ENMG 501, ENMG 510
ENMG 705**	3	Environmental Toxicology	ENMG 501, ENMG 520
ENMG 707	3	Environmental Auditing	ENMG 501, ENMG 510
ENMG 714	3	Fundamentals of Hydrogeology	ENMG 501
ENPL 505	3	Geographic Information Systems	
ENST 500	3	Principles of Terrestrial System	
EOSH 639	3	Introduction to Epidemiology	
EOSH 641	3	Principles of Industrial Hygiene	
EOSH 642	3	Environmental and Occupational Measurements	
EOSH 643	3	Principles of Green Chemistry	ENMG 520

Investigation - 6 credits (Choose one option.)

Course	Credits	Title	Prerequisites
<i>Thesis</i>			
ENMG 717 (Online)	1	Research Introduction	12 credits approved
ENMG 719 (Online)	2	Thesis Proposal	ENMG 717
ENMG 723 (Online)	3	Thesis Defense	ENMG 717, ENMG 719 or ENMG 721
<i>Portfolio</i>			
ENAF 740 – 745 (Online)	6	Professional Portfolio in Environmental Affairs	Requires approval from the graduate program (CV)

Important Notes:

1. These courses are offered in the Part of Term modality, except those marked with * that are offered in the semester modality.
2. The courses indicated as a distance modality will be offered online only.
3. ENMG 717 and ENMG 719 courses replace ENMG 721 Thesis of the previous curriculum.
4. The courses ENAF 740 - ENAF 745 Professional Portfolio in Environmental Affairs is an alternative modality to replace the final thesis research requirement (ENMG 717, ENMG 719 and ENMG 723), and **apply only** to professionals with a proved background in the environmental field and must be authorized by the graduate coordinator.
5. **Includes laboratory.
6. All courses must be approved with A or B.
7. Subject to change.

Professional Master's Degree in Science in Industrial Biotechnology

Program's description

This professional master's degree aims to develop professionals with the fundamental skills to work in industries dedicated to the production of biological and/or chemical products through biotechnological processes. The student will develop the skills of scientific and mathematical reasoning, critical thinking, effective communication, and solving complex problems through the integration of fundamental concepts in biotechnology, laboratory experiences, and hours of practice. Students will apply the skills in real scenarios in the biotechnology industry. The program will provide the student with training in the areas of manufacturing operations, good manufacturing practices (GMP), quality system, regulatory compliance, and legal and ethical aspects.

Admission GPA: 2.75

Graduation GPA: 3.00

Curricular Content

Core Component- 32 credits			
Course	Credits	Title	Prerequisites
MATH 510	3	Applied Biostatistics	
CHEM 600	3	Graduate Biochemistry	
BIOT 600	2	Aspects of Industrial Biotechnology y Good Manufacturing Processes	
BIOT 601	2	Biosafety and Quality Systems	
BIOL 610	3	Advanced Cellular and Molecular Biology	CHEM 600
BIOT 602	3	Microbial Biotechnology	BIOT 600
BIOT 603	3	Animal and Plant Biotechnology	BIOT 600
BIOL 603	3	Bioinformatics	MATH 510
BIOT 604	2	Bioprocesses	MATH 510, BIOT 602, BIOT 603
CHEM 601	3	Instrumental Analysis of Biomolecules	BIOT 604
BIOT 605	3	Regulatory, Legal and Ethical Aspects in the Biotechnology Industry	
BIOT 606	2	Industrial Biotechnology Practice	BIOT 600, BIOT 601, BIOT 604

Important Notes:

1. Courses can be passed with a minimum of C, as long as you maintain a 3.0 average.
2. Students transferred from other university institutions must comply with the UAGM residency standard.
3. Graduation requirement is completion of 160 hours of practice in the industrial biotechnology industry.
4. Subject to change.

Master of Planning specialization in Environmental Planning

Program's description

The Master of Planning in Environmental Planning includes conceptual tools and methodologies for problem diagnostics, strategies for development and evaluation, and program and plan design. This discipline promotes the management of natural resources, the protection of the environment and sustainable development.

Admission GPA: 2.75

Graduation GPA: 2.00

Curricular Content

Core Component- 15 credits			
Course	Credits	Title	Prerequisites
ENPL 500	3	Planning Theory	
ENPL 504	3	Socio-Economic Planning	ENPL 500
ENMG 506	3	Statistical Methods Applied to Environmental Research	
ENPL 508	3	Land Use Planning	ENPL 500, ENPL 505
ENPL 640	3	Development, Implementation and Assessment of Plans	
Specialty Component -15 credits			
Course	Credits	Title	Prerequisites
ENMG 501	3	Principles Environmental Sciences	
ENPL 505	3	Geographic Information Systems	
ENMG 615	3	Environmental Legislation and Regulatory Agencies	ENMG 501
ENPL 616	3	Urban Planning	ENPL 500, ENPL 505
ENMG 617	3	Environmental Documents and Assesments	ENMG 501, ENMG 515
Electives - 6 credits			
Course	Credits	Title	Prerequisites
ENMG 503	3	Natural Resources and Environmental Economy	ENMG 501
ENMG 512 (Online)	3	Environmental Communications	
ENMG 531	3	Conservation Biology	ENMG 501
ENMG 532	3	Conservation and Management of Forest Ecosystems	ENMG 531
ENMG 530	3	Oceanography	
ENMG 600	3	Research Methodology	ENMG 501
ENMG 608	3	Hazardous Waste Management	ENMG 501
ENMG 609	3	Energy Sources and Environment	ENMG 501
ENMG 613	3	Quality Control Management in the Environment	
ENMG 701	3	Enviromental Topics I	
ENMG 702	3	Environmental Topics II	ENMG 501
ENMG 712	3	Tropical Ecosystems	ENMG 501
ENMG 714	3	Fundamentals of Hydrogeology	ENMG 501
ENPL 620	3	Costal Areas Planning	ENPL 500, ENPL 508, ENMG 501
ENPL 630	3	Planning for the Mitigation of Natural Hazards	ENMG 501
ENST 500	3	Fundamentals of Earth Systems	
ENST 515	3	Sustainable Development	ENMG 501
Investigation - 6 credits			
Course	Credits	Title	Prerequisites
ENMG 721-723*	6	Thesis	36 credits approved
ENAF 740-745	6	Professional Portfolio in Environmental Affairs	36 credits approved

Important Notes:

1. These courses are offered in Part of Term mode, except those marked with * that are offered in semester mode.
2. Subject to change.

Master of Education in Environmental Studies specialization in Environmental Education

Program's description

The main goal of MAES is to prepare an Environmental Educator, capable of developing a sense of responsibility and compromise towards the environment, within itself and those around him/her. This educator will collaborate with solutions to local environmental issues and will provide alternatives to enhance a global vision for a sustainable future.

Admission GPA: 2.75

Graduation GPA: 2.00

Curricular Content

Core Component- 15 credits			
Course	Credits	Title	Prerequisites
ENMG 501	3	Principles Environmental Sciences	
ENMG 615	3	Environmental Legislation and Regulatory Agencies	ENMG 501
ENST 515	3	Sustainable Development	ENMG 501
ENMG 712	3	Tropical Ecosystems	ENMG 501
ENMG 531	3	Conservation Biology	ENMG 501
Specialty Component -15 credits			
Course	Credits	Title	Prerequisites
ENST 518	3	Environmental Education I	
ENST 618	3	Environmental Education II	ENST 518
EDUC 504	3	Theories of Learning and Cognitive Development	
ENMG 512 (Online)	3	Environmental Communications	
ENMG 601	3	Education and Environmental Ethics	
Electives - 6 credits			
Course	Credits	Title	Prerequisites
COIS 600	3	Computer as an Instructional Resource	
ENMG 503	3	Natural Resources and Environmental Economy	ENMG 501
ENMG 506	3	Statistical Methods Applied to Environmental Research	
ENMG 520	3	Environmental Chemistry	ENMG 501
ENMG 530	3	Oceanography	
ENMG 532	3	Conservation and Management of Forest Ecosystems	ENMG 531
ENMG 538	3	Limnology, River and Lakes Ecosystems	ENMG 501, ENMG 712
ENMG 600	3	Research Methodology	ENMG 501
ENMG 608	3	Hazardous Waste Management	ENMG 501
ENMG 617	3	Environmental Documents and Assesments	ENMG 501, ENMG 515
ENMG 701	3	Enviromental Topics I	
ENMG 702	3	Environmental Topics II	ENMG 501
ENMG 703	3	Climate and Atmospheric Pollution	ENMG 501, ENMG 510
ENMG 714	3	Fundamentals of Hydrogeology	ENMG 501
ENPL 505	3	Geographic Information Systems	
ENST 500	3	Fundamentals of Earth Systems	
ENST 504			
Investigation - 6 credits			
Course	Credits	Title	Prerequisites
ENMG 721-723*	6	Thesis	36 credits approved
ENST 724 -726	6	Environmental Education Internship	
ENAF 740-745	6	Professional Portfolio in Environmental Affairs	36 credits approved

Important Notes:

1. These courses are offered in Part of Term mode, except those marked with * that are offered in semester mode.
2. Subject to change.

Doctor of Science specialty Environmental Sciences (PhD)

Program's description

The PhD in Environmental Science draws heavily upon the biological, chemical, geological, and health sciences. Our students will acquire an extensive academic and research foundations necessary to evaluate, prevent, and remediate environmental problems to safeguard our natural resources. Our graduates will be able to share their scientific expertise with industries and government agencies on environmental issues as well as in the development of new methodologies, technologies, and strategies to protect the environment through research in academia.

Admission GPA: 3.00

Graduation GPA: 3.00

Curricular Content

Core Component- 17 credits

Course	Credits	Title	Prerequisites
STAT 750	3	Statist And Experimental Design	STAT 505 o equivalente
ENSC 751	3	Environmental Laws, Ethics and Public Policy	
ENSC 752	3	Water Quality Management	
ENSC 753	3	Soil Management	
ENSC 754	3	Air Quality Management	
ENSC 755	1	Graduate Seminar I	
ENSC 756	1	Graduate Seminar II	ENSC 755

Major Component -18 credits

Course	Credits	Title	Prerequisites
ECON 700	3	Environmental Economics	
ENSC 706	3	Wildlife Management	
ENSC 707	3	Environmental Geology	
ENSC 709	3	Environmental Management and Planning	ENSC 763
ENSC 730	3	Solid Waste Management	
ENSC 737	3	Renewable Energy Sources and Issued	
ENSC 760	3	Hazardous Waste Operations and Emergency Response	
ENSC 763	3	Environmental Evaluation	ENSC 751
ENSC 770	3	Classification and Characterization of Hazardous Waste	
ENSC 790	3	Special Topics in Environmental Sciences	
ENSC 839	3	Issues in Environmental Public Health	
ENSC 841	3	Environmental Remediation	CHEM 221
ENSC 844	3	Environmental Biotechnology	
ENSC 865	3	Environmental Toxicology	
ENSC 901	3	Environmental Risk Assessment and Management	
ENSC 902	3	Environmental Quality Indicators	
ENSC 960	3	Biodiversity, Conservation and Management	
ENSC 992	3	Experimental Methods in Remediation	
ENSC 995	3	Advance Studies in Environmental Sciences	
BIOL 712	3	Applied Mycology	
BIOL 713	3	Microbial Ecology	
BIOL 843	3	Environmental Microbiology	BIOL 206
BIOL 903	3	Ecology and Conservation of Natural Resources	
BIOL 914	3	Applied Tropical Biology	
BIOL 990	3	Experimental Microbiology	

Course	Credits	Title	Prerequisites
BIOL 995	3	Advanced Studies in Environmental Biology	
CHEM 735	3	Environmental Chemical Analysis I	CHEM 430 or equivalent
CHEM 736	3	Environmental Chemical Analysis II	CHEM 735
CHEM 850	3	Environmental Catalysis	
CHEM 852	3	Materials for Pollution Control	
CHEM 861	3	Nanotechnology	
CHEM 953	3	Environmental Electrochemistry	
CHEM 954	3	Adsorption and Ionic Exchange in Solid Materials	
CHEM 960	3	Instrumental Methods for Material Characterization	
CHEM 962	3	Advanced Environmental Chemical Analysis	
CHEM 995	3	Advanced Studies in Environmental Chemistry	

Research - 21 credits

Course	Credits	Title	Prerequisites
TEST 800	0	Comprehensive Examination	Advisor's proposal
ENSC 997	1 – 21	Doctoral Dissertation	Advisor's proposal

Important Notes:

1. The general requirements for admission to the master's Program include a Baccalaureate in Science, having taken or presenting evidence to have requested the GRE and participate in an interview with a committee designated for these purposes.
2. The specific requirements will depend on the concentration of the baccalaureate and the program of interest of the applicant; in some cases, leveling in graduate courses could be recommended.
3. The following STAT 505 and ENSC 500 leveling graduate courses may be recommended by the School's Admissions Committee, to strengthen the foundations of environmental and statistical knowledge. These courses do not count towards the degree.
4. Students will enroll in variable credits that reflect their dedication to research.
5. The student is required to take three 3-credit courses at the 900 level. In addition, to take the ENSC specialty courses for Environmental Management; BIOL for Environmental Biology and CHEM for Environmental Chemistry
6. Subject to change.

Doctor in Toxicology and Drug Design (PhD)

Program's description

The doctoral program in Toxicology and Drug Design leading to a Doctor of Philosophy (PhD) provides training to understand the beneficial or adverse effects of chemical or biological agents on the living organism and their mechanisms of action. The drug design component provides foundations for the discovery and generation of medicinal (drugs) or health strategies implementing molecular toxicology. Core courses offer a theoretical foundation in subdisciplines such as: molecular toxicology, environmental toxicology, regulatory issues, forensic toxicology, clinical and microbiological pharmacology, genomics, and drug development. The research component will train the student in in-vitro and in-vivo experimental designs, analytical techniques, and computational applications to understand the toxic or therapeutic effects of natural or synthetic chemical substances. The objectives of the program are to train the student to perform as an ethical professional focused on health and human well-being.

Admission GPA: 3.00

Graduation GPA: 3.00

Curricular Content

Core Component- 31 credits

Course	Credits	Title	Prerequisites
TOPA 800	4	Principles of Toxicology and Pharmacology	
TOPA 810	3	Ethics and Responsible Conducts in Biomedical Research	
TOPA 820	3	Pharmaceutical Microbiology	TOPA 800
TOPA 830	3	Anatomy & Pathophysiology	TOPA 800
TOPA 850	3	Clinical and Therapeutic Pharmacology	TOPA 800
TOPA 860	3	Applied Biostatistics	
TOPA 890	3	Risk Assessment in Toxicology & Pharmacology	TOPA 800
TOPA 900	3	Epidemiology & Public Health	
TOPA 910	3	Drug Discovery & development	TOPA 800
TOPA 915	3	Communicating Science for Medical Scientists	

Electives -9 credits

Course	Credits	Title	Prerequisites
TOPA 920	3	Seminar: Journal Club	
TOPA 930	3	Forensic Toxicology	TOPA 800
TOPA 940	3	Pharmacogenomics	

Comprehensive Exam – 0 credits

Course	Credits	Title	Prerequisites
TOPA 960	0	Comprehensive Examen	TOPA 800, 810, 820, 830, 850, 860, 890, 900, 910, 915, 920, 930, 940

Research - 26 credits

Course	Credits	Title	Prerequisites
TOPA 950*	1	Laboratory Rotation 1: Research Methods in Toxicology & Pharmacology	TOPA 800
TOPA 951*	1	Laboratory Rotation 2: Research Methods in Toxicology & Pharmacology	TOPA 800, TOPA 950
TOPA 952	1	Laboratory Rotation 3: Research Methods in Toxicology & Pharmacology	TOPA 800, TOPA 951
TOPA 970	5	Dissertation I: Dissertation Proposal	TOPA 960
TOPA 971	18	Dissertation II: Dissertation Research	TOPA 970

Important Notes:

1. The admission requirements to the doctoral program include a bachelor's degree in Natural Sciences or Biomedical Sciences with a general average of 3.00 points or more, 2 letters of recommendation, an essay, presenting the curriculum vitae and going through an interview before a committee designated for these purposes.
2. The courses of the doctoral program must be approved with a minimum grade of B.
3. *Course is offered in 8-week Part of Term.
4. In order to enroll in the TOPA 970 (Dissertation I: Research Proposal) course, you must first pass the comprehensive exam.
5. Subject to change.

BUSINESS, TOURSIM, AND ENTREPERNEURSHIP ACADEMIC DIVISION

DEPARTMENT OF BUSINESS

Master in Business Administration specialty in Human Resources

Program's description

The Master in Business Administration in Human Resources prepares students for management level positions responsible for the strategic development of the human talent in the organization. The program enables leaders to focus on the managerial skills, labor relations and business knowledge needed to manage human resources functions including employee recruitment, selection, retention, development and compensation.

Admission GPA: 2.75 (See admission requirements for accelerated adult program.)

Graduation GPA: 3.00

Curricular Content

Core Component- 24 credits			
Course	Credits	Title	Prerequisites
MANA 501	3	Organizational Behavior	
ACCO 515	3	Managerial Accounting	ACCO 500 ⁴
STAT 555	3	Statistics Decision Making	
MARK 510	3	Marketing Management	
FINA 503	3	Managerial Finance	STAT 555
ECON 519	3	Economics	STAT 555
ITMA 501	3	Business Analytics	
MANA 742	3	Simulation	Requires 21 core credits and 6 specialty credits approved
Specialty Component - 15 credits			
Course	Credits	Title	Prerequisites
HURM 710	3	Human Resources Management	
HURM 725	3	Labor Law	
HURM 730	3	Compensations and Benefits	HURM 710
HURM 720	3	Performance Evaluation	HURM 710
HURM 735	3	Human Resources Seminar	9 specialty credits approved
Elective Courses- 6 credits			
Course	Credits	Title	Prerequisites
HURM 714	3	Training, Planning and Administration	HURM 710
HURM 743	3	Human Resources Analysis and Metrics	HURM 710
MANA 744	3	Strategic Business Consulting	12 credits approved
HURM 614	3	Security Hygiene and Labor Quality Management	HURM 710
HURM 611	3	Labor Relations	HURM 710
HURM 615	3	International Human Resources	HURM 710
MANA 613	3	Management of Diversity	HURM 710
HURM 745	3	Thesis	Requires 21 core credits y 12 specialty credits approved

Important Notes:

1. Courses are taken in periods of eight (8) weeks (Part of Term), except Course MANA 742 and MANA 745, which will be taken in a semester of 16 weeks.
2. Students can enroll only twelve (12) credits per semester.
3. The minimum passing grade is B.
4. ACCO 500 prerequisite applies to students who are not from the field of Business Administration.
5. Subject to change.

Master in Business Administration specialty in Management

Program's description

The Master in Business Administration in Management develops leadership skills needed to manage new ventures or complex, established organizations. The program includes strategic management, as well as the entrepreneurial management of resources and people in organizations locally and internationally.

Admission GPA: 2.75

Graduation GPA: 3.00

Curricular Content

Core Component- 24 credits			
Course	Credits	Title	Prerequisites
MANA 501	3	Organizational Behavior	
ACCO 515	3	Managerial Accounting	ACCO 500 ⁴
STAT 555	3	Statistics Decision Making	
MARK 510	3	Marketing Management	
FINA 503	3	Managerial Finance	STAT 555
ECON 519	3	Economics	STAT 555
ITMA 501	3	Business Analytics	
MANA 742	3	Simulation	Requires 21 core credits and 6 specialty credits approved
Specialty Component - 15 credits			
Course	Credits	Title	Prerequisites
MANA 610	3	Strategic Management	
MANA 618	3	International Management	
MANA 722	3	Basic Principles of Project Management	
MANA 600	3	Business Policy and Ethics	
MANA 607	3	Supply Chain Management	
Directed Electives - 6 credits			
Course	Credits	Title	Prerequisites
MANA 626	3	Management Consulting	
HURM 710	3	Human Resources Management	
MANA 700	3	Business Development	
MANA 625	3	Total Quality Management	MANA 501, STAT 555
MANA 622	3	Service Management Strategy	
MANA 745	3	Thesis	Requires 21 core credits and 12 specialty credits

Important Notes:

1. Courses are taken in periods of eight (8) weeks (Part of Term), except Course MANA 742 and MANA 745, which will be taken in a semester of 16 weeks.
2. Students can enroll only twelve (12) credits per semester.
3. The minimum passing grade is B.
4. ACCO 500 prerequisite applies to students who are not from the field of Business Administration.
5. Subject to change.

Master of Science in Accountancy - MSA

Program's description

The Master of Accountancy aims to advance knowledge about new accounting and contribution practices, the evaluation of business performance, tax planning, forensic accounting techniques and procedures, including fraud investigation and the analysis of financial statements, companies prepared on the basis of international accounting standards. It also aims to advance knowledge about the study of the ethical and legal considerations of the accounting profession, the professional judgment and the independent attitude necessary to exercise and apply the managerial skills necessary to succeed in a competitive business environment.

Admission GPA: 2.75

Graduation GPA: 3.00

Curricular Content

Specialty Component - 30 credits			
Course	Credits	Title	Prerequisites
ACCO 702	3	Financial Accounting and Reporting I	
ACCO 703	3	Financial Accounting and Reporting II	ACCO 702
ACCO 706	3	Auditing and Attestation	
ACCO 731	3	Internal Auditing	
ACCO 711	3	Forensic Accounting and Fraud Detection	
ACCO 733	3	Information Systems Auditing	
ACCO 728	3	Business Environment and Concepts	
ACCO 707	3	Federal Income Tax	
ACCO 730	3	Business Law and Regulations	
ACCO 724	3	Accounting Research and Communication	

Important Notes:

1. Subject to change.

Master in Business Administration specialty in Accounting

Program's description

The accounting specialization offers students the skills, mechanisms, and methods of analysis that the administrator needs to apply and process accounting data of in the planning, operation and control of business activities.

Admission GPA: 2.75 (See admission requirements for accelerated adult program.)

Graduation GPA: 3.00

Curricular Content

Core Component- 24 credits			
Course	Credits	Title	Prerequisites
MANA 501	3	Organizational Behavior	
ACCO 515	3	Managerial Accounting	ACCO 500 ⁴
STAT 555	3	Statistics Decision Making	
MARK 510	3	Marketing Management	
FINA 503	3	Managerial Finance	STAT 555
ECON 519	3	Economics	STAT 555
ITMA 501	3	Business Analytics	
MANA 742	3	Simulation	Requires 21 core credits and 6 specialty credits approved
Specialty Component - 15 credits			
Course	Credits	Title	Prerequisites
ACCO 506	3	Advanced Cost Accounting	ACCO 515
ACCO 610	3	Advanced Accounting	ACCO 515
ACCO 710	3	Advanced Auditing	ACCO 515, ACCO 304 if the student does not have a bachelor's degree in business administration
ACCO 620	3	Accounting for Government and Non-Profit Entities	ACCO 515
ACCO 707	3	Federal Income Tax	ACCO 515
Electives- 6 credits			
Course	Credits	Title	Prerequisites
ACCO 705	3	Taxes in Puerto Rico	ACCO 515
ACCO 712	3	International Accounting	ACCO 515
ACCO 520	3	Accounting Information Systems	ACCO 515
ACCO 711	3	Forensic Accounting and Fraud Detection	ACCO 515
MANA 745	3	Thesis	Requires 21 core credits and 12 specialty credits approved

Important Notes:

1. Courses are taken in periods of eight (8) weeks (Part of Term), except Course MANA 742 and MANA 745, which will be taken in a semester of 16 weeks.
2. Students can enroll only twelve (12) credits per semester.
3. The minimum passing grade is B.
4. ACCO 500 prerequisite applies to students who are not from the field of Business Administration.
5. Subject to change.

Master in Accounting - MAcc

Program's description

The Master in Accounting (MAcc) develops in the student various administrative capacities. Graduates will be able to consider the characteristics of accounting by analyzing financial systems, estimating the accounting methods used in different situations, and prepare consolidated financial statements, among others. (Combined degree)

Admission GPA: 2.75

Graduation GPA: 3.00

Curricular Content

General Education Component - 36 credits

Course	Credits	Title	Prerequisites
SPGS 152*	3	Fundamentals of Reading and Writing	
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
MAGS 120 (I)	3	Introductory Algebra	
ENGS 153	3	Fundamentals of Speaking, Reading and Writing English II	ENGS 152
SCGS 200	3	Science, Technology and Society	
HIGS 201	3	Puerto Rico History and Culture	
HUGS 101	3	World Culture I	
SPGS 250	3	Writing Techniques	SPGS 152
SOGS 201	3	The Human Being and Social Consciousness	
INGS 201	3	Introduction to Information Literacy and Research	
SOGS 202	3	State-Government and the Human Being	SOGS 201
HUGS 102	3	World Culture II	HUGS 101

Core Component- 50 credits

Course	Credits	Title	Prerequisites
ACCO 111	4	Introduction to Accounting I	
ACCO 112	4	Introduction to Accounting II	ACCO 111
MARK 134	3	Introduction to Marketing	
COIS 201	3	Data Processing	
ENMA 201	3	Entrepreneurship	
STAT 201	3	Statistics	QUME 250
FINA 202	3	Business Finance	ACCO 112
MANA 213	3	Human Resources Management	MANA 210
MANA 210	3	Introduction to Management	
MANA 204	3	Business Law	
QUME 250	3	Managerial Quantitative Methods	MAGS 120 (I)
MANA 340	3	Operations Management	
COIS 223	3	Technology Management	COIS 201
INBU 350	3	International Business	
ECON 402	3	Management Economy	
BUSI 499	3	Business Simulation	18 core credits approved

Major Component - 35 credits

Course	Credits	Title	Prerequisites
ACCO 201	4	Intermediate Accounting I	ACCO 112
ACCO 202	4	Intermediate Accounting II	ACCO 201
ACCO 315	3	Intermediate Accounting III	ACCO 202
ACCO 203	3	Cost Accounting	ACCO 202
ACCO 304	3	Auditing	ACCO 112, ACCO 202
ACCO 205	3	Taxes of Puerto Rico	ACCO 112
ACCO 350	3	Computerized Accounting	ACCO 112
ACCO 450	3	Advancing Accounting & Fund	ACCO 315
ACCO 320	3	Federal Taxes	
QUME 251	3	Quantitative Methods II	QUME 250
STAT 301	3	Element of Statistics II	

Course	Credits	Title	Prerequisites
Graduate Courses in Accounting (30) credits³			
ACCO 506	3	Advanced Cost Accounting	
ACCO 712	3	International Accounting	
ACCO 610	3	Advanced Accounting	
ACCO 620	3	Accounting for Government and Non-Profit Entities	
ACCO 707	3	Federal Income Tax	Have completed 32 credits of accounting at the undergraduate level
ACCO 710	3	Advanced Auditing	
ACCO 721	3	Research Accounting (Capcourse)	
BUSI 600	3	Federal Business Law	
MANA 600	3	Business Policy and Ethics	
ELECTIVE**	3	Graduate Elective	

Important Notes:

1. *All students will be enrolled according to the results of the placement test or results of the College Board.
2. ** The student will select 3 credits from the directed electives component.
3. Have completed 32 credits of accounting at the undergraduate level.
4. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
5. Subject to change.

Master in Business Administration specialty in Management of Information Security

Program's description

The Master of Business Administration in Management of Information Security is oriented towards the world of business and technology. It aims to develop skills in graduates to know and apply the theoretical and practical aspects of information security systems within the organization.

Admission GPA: 2.75 (See admission requirements for accelerated adult program.)

Graduation GPA: 3.00

Curricular Content

Core Component-24 credits

Course	Credits	Title	Prerequisites
MANA 501	3	Organizational Behavior	
ACCO 515	3	Managerial Accounting	ACCO 500 ⁴
STAT 555	3	Statistics Decision Making	
MARK 510	3	Marketing Management	
FINA 503	3	Managerial Finance	STAT 555
ECON 519	3	Economics	STAT 555
ITMA 501	3	Business Analytics	
MANA 742	3	Simulation	Requires 21 core credits and 6 specialty credits approved

Specialty Component - 15 credits

Course	Credits	Title	Prerequisites
ITMA 525	3	Information Security and Assurance	ITMA 501
ITMA 615	3	Information Technology and Communications	ITMA 501
ITMA 620	3	Information Technology Service Management	ITMA 501
ITMA 600	3	Business Continuity and Disaster Recovery Planning	ITMA 501
ITMA 610	3	Forensic Cybernetics	ITMA 501

Directed Electives - 3 credits

Course	Credits	Title	Prerequisites
ITMA 630	3	Policy and Administration in Information Technology Security	ITMA 501
ITMA 743	3	Project Management in Systems Development	
ITMA 745	3	Thesis	Requires 21 core credits and 6 specialty credits approved
ITMA 635	3	Data Warehouse Management	ITMA 501

Important Notes:

1. Courses are taken in periods of eight (8) weeks (Part of Term), except Course MANA 742 and ITMA 745, which will be taken in a semester of 16 weeks
2. Students can enroll only twelve (12) credits per semester.
3. The minimum passing grade for the Courses is B.
4. ACCO 500 prerequisite applies to students who are not from the field of Business Administration.
5. Subject to change.

Master in Business Administration specialty in Global Business

Program's description

This program prepares individuals for management decision making in multinational companies and international business operations. It takes as its principles the processes of export sales, commercial controls, foreign operations, currency changes, international business policy and applications to do business in specific countries and markets. The graduate of this program will be able to: analyze the different theories and practices on which global businesses are based and evaluate international management in the services industry as an integrated system of operation, marketing, strategy and technology.

Admission GPA: 2.75

Graduation GPA: 3.00

Curricular Content

Core Component- 24 credits

Course	Credits	Title	Prerequisites
MANA 501	3	Organizational Behavior	
ACCO 515	3	Managerial Accounting	ACCO 500 ⁴
STAT 555	3	Statistics Decision Making	
MARK 510	3	Marketing Management	
FINA 503	3	Managerial Finance	STAT 555
ECON 519	3	Economics	STAT 555
ITMA 501	3	Business Analytics	
MANA 742	3	Simulation	Requires 21 core credits and 6 specialty credits approved

Specialty Component - 15 credits

Course	Credits	Title	Prerequisites
INBU 610	3	International Bussines Environment	
MANA 618	3	International Management	
MARK 701	3	International Marketing	MARK 510
INBU 630	3	Import/Export Management	
MANA 607	3	Supply Chain Management	

Directed Electives - 6 credits

Course	Credits	Title	Prerequisites
INBU 603	3	Global Business Emerging Markets	INBU 610
FINA 660	3	International Finance	FINA 503
INBU 712	3	Contemporary Affairs in International Business	INBU 610
INBU 710	3	Legal Environment of International Business	INBU 610
INBU 709	3	International Business in Latin American and the Caribbean	INBU 610
INBU 720	3	International Business Studies	INBU 610
INBU 745	3	Thesis	Requires 21 core credits and 12 specialty credits

Important Notes:

1. Courses are taken in periods of eight (8) weeks (Part of Term), except Course MANA 742 and INBU 745, which will be taken in a semester of 16 weeks
2. Students can enroll only twelve (12) credits per semester.
3. The minimum passing grade for the courses is B.
4. ACCO 500 prerequisite applies to students who are not from the field of Business Administration.
5. Subject to change.

Master in Business Administration specialty in Marketing

Program's description

The Master in Marketing trains the student to master the theoretical and practical functions of marketing of companies and other current organizations. This program trains specialists with managerial skills, in the identification of market opportunities, with the ability to implement marketing strategies, which contribute to an increase in competitiveness to the company.

Admission GPA: 2.75 (See admission requirements for accelerated adult program.)

Graduation GPA: 3.00

Curricular Content

Core Component- 24 credits			
Course	Credits	Title	Prerequisites
MANA 501	3	Organizational Behavior	
ACCO 515	3	Managerial Accounting	ACCO 500 ⁴
STAT 555	3	Statistics Decision Making	
MARK 510	3	Marketing Management	
FINA 503	3	Managerial Finance	STAT 555
ECON 519	3	Economics	STAT 555
ITMA 501	3	Business Analytics	
MANA 742	3	Simulation	Requires 21 core credits and 6 specialty credits approved
Specialty Component - 15 credits			
Course	Credits	Title	Prerequisites
MARK 610	3	Advanced Marketing Management	MARK 510
MARK 719	3	Brand Marketing	
MARK 761	3	Digital Marketing	MARK 510
MARK 709	3	Consumer Behavior	MARK 510
MARK 703	3	Marketing Research	STAT 555, 9 specialty credits
Directed Electives - 6 credits			
Course	Credits	Title	Prerequisites
MARK 615	3	Advertising and Promotion	MARK 510
MARK 701	3	International Marketing	MARK 510
MARK 720	3	Corporate Social Marketing	MARK 510
MARK 741	3	Customer Relationship Management	MARK 510
MARK 745	3	Thesis	Requires 21 core credits and 9 specialty credits

Important Notes:

1. Courses are taken in periods of eight (8) weeks (Part of Term), except Course MANA 742 and MARK 745, which will be taken in a semester of 16 weeks
2. Students can enroll only twelve (12) credits per semester.
3. The minimum passing grade for the courses is B.
4. ACCO 500 prerequisite applies to students who are not from the field of Business Administration.
5. Subject to change.

Master in Business Administration specialty in Finances

Program's description

The program provides students with the theoretical and practical concepts of business management and administration with a strong emphasis on finance, based on case studies and contexts on a global and regional scale. This MBA in Finance, in general, will prepare students for financial risk management and furthermore, it gives you the option of studying corporate finance, all with a global perspective. The emphasis is on developing the knowledge of basic disciplines and financial analytical skills necessary to understand and direct the work of other functional and operational specialists in the business or business setting.

Admission GPA: 2.75 (See admission requirements for accelerated adult program.)

Graduation GPA: 3.00

Curricular Content

rCore Component- 24 credits			
Course	Credits	Title	Prerequisites
MANA 501	3	Organizational Behavior	
ACCO 515	3	Managerial Accounting	ACCO 500 ⁴
STAT 555	3	Statistics Decision Making	
MARK 510	3	Marketing Management	
FINA 503	3	Managerial Finance	STAT 555
ECON 519	3	Economics	STAT 555
ITMA 501	3	Business Analytics	
MANA 742	3	Simulation	Requires 21 core credits and 6 specialty credits approved
Specialty Component - 18 credits			
Course	Credits	Title	Prerequisites
FINA 610	3	Corporate Finances	FINA 503
FINA 620	3	Money Banking and Investment Markets	FINA 503
FINA 630	3	Investment	FINA 503
FINA 660	3	International Finance	FINA 503
FINA 640	3	Public Finance and Fiscal Policy	FINA 503
FINA 670	3	Risk and Insurance	FINA 503
Directed Electives - 6 credits			
Course	Credits	Title	Prerequisites
ECON 520	3	Managerial Macroeconomics	ECON 519
FINA 705	3	Options, Futures and Other Derivate Markets	FINA 630
FINA 745	3	Thesis	Requires 21 core credits and 12 specialty credits

Important Notes:

1. Courses are taken in periods of eight (8) weeks (Part of Term), except Course MANA 742 and FINA 745, which will be taken in a semester of 16 weeks
2. Students can enroll only twelve (12) credits per semester.
3. The minimum passing grade for the courses is B.
4. ACCO 500 prerequisite applies to students who are not from the field of Business Administration.
5. Subject to change.

Master of Business Administration specialty in Supply Chain and Material Management

Program's description

The program is designed to provide students with a thorough preparation in supply chain and materials management skills and expertise in consulting management from middle to senior level roles in the organizations, with a global and social perspective. The program also provides a comprehensive approach that integrates skills in project management and lean six-sigma problem solving techniques. It incorporates the use of tools, critical thinking, project management, research and information technology skills especially in specific areas of the profession in the role of consultant.

Admission GPA: 2.75

Graduation GPA: 3.00

Curricular Content

Core Component- 24 credits

Course	Credits	Title	Prerequisites
MANA 501	3	Organizational Behavior	
ACCO 515	3	Managerial Accounting	ACCO 500 ⁴
STAT 555	3	Statistics Decision Making	
MARK 510	3	Marketing Management	
FINA 503	3	Managerial Finance	STAT 555
ECON 519	3	Economics	STAT 555
ITMA 501	3	Business Analytics	
MANA 742	3	Simulation	Requires 21 core credits and 6 specialty credits approved

Specialty Component - 18 credits

Course	Credits	Title	Prerequisites
MANA 603	3	Material Management	
SUMA 607	3	Supply Chain Management	
SUMA 610	3	Strategic Cost Management	
SUMA 612	3	Operations Management	SUMA 607
SUMA 615	3	Demand Management and Forecasting	STAT 555
SUMA 618	3	Purchase Strategies	

Directed Electives - 3 credits

Course	Credits	Title	Prerequisites
MANA 607	3	Supply Chain Management	SUMA 607
SUMA 745	3	Thesis	Requires 21 core credits and 6 specialty credits

Important Notes:

1. Courses are taken in periods of eight (8) weeks (Part of Term), except Course MANA 742 and SUMA 745, which will be taken in a semester of 16 weeks
2. Students can enroll only twelve (12) credits per semester.
3. The minimum passing grade for the courses is B.
4. ACCO 500 prerequisite applies to students who are not from the field of Business Administration.
5. Subject to change.

Master of Business Administration specialty in Quality Management

Program's description

The master's degree in Quality Management offers the skills to effectively manage the relationship between quality systems and the present and future development of organizations. The graduate of this master's degree may serve as an operations manager in manufacturing and service companies, specialist in statistical process control, consultant for the design and implementation of quality management models, consultant for the selection and evaluation of technologies, equipment and planning and control systems operations, evaluator of quality control systems, among others.

Admission GPA: 2.75

Graduation GPA: 3.00

Curricular Content

Core Component- 24 credits

Course	Credits	Title	Prerequisites
MANA 501	3	Organizational Behavior	
ACCO 515	3	Managerial Accounting	ACCO 500 ⁴
STAT 555	3	Statistics Decision Making	
MARK 510	3	Marketing Management	
FINA 503	3	Managerial Finance	STAT 555
ECON 519	3	Economics	STAT 555
ITMA 501	3	Business Analytics	
MANA 742	3	Simulation	Requires 21 core credits and 6 specialty credits approved

Specialty Component - 12 credits

Course	Credits	Title	Prerequisites
MANA 609	3	Quality Control System	
MANA 625	3	Total Quality Management	MANA 501, STAT 555
QUMA 655	3	Quality Statistics	STAT 555 or equivalent
MANA 607	3	Supply Chain Management	

Directed Electives - 6 credits

Course	Credits	Title	Prerequisites
HURM 710	3	Human Resources Management	
QUMA 600	3	Six Sigma	STAT 555
QUMA 626	3	Teamwork Development	MANA 501, STAT 555
QUMA 727	3	ISO Standard Development Principles	
QUMA 728	3	Total Quality in Human Resources Management	STAT 555
QUMA 729	3	Regineering	
QUMA 745	3	Thesis	Requires 21 core credits and 6 specialty credits

Important Notes:

1. Courses are taken in periods of eight (8) weeks (Part of Term), except Course MANA 742 and QUMA 745, which will be taken in a semester of 16 weeks
2. Students can enroll only twelve (12) credits per semester.
3. The minimum passing grade for the courses is B.
4. ACCO 500 prerequisite applies to students who are not from the field of Business Administration.
5. Subject to change.

Master of Business Administration specialty in Project Management

Program's description

Project Management is the application of knowledge, skills, tools and techniques with the aim of meet the expectations of a project, achieving the benefit of increasing the efficiency of people, companies and countries, in a world of rapid change. The graduate of the master's degree in Project management will possess the skills to design, evaluate and apply projects, collecting the concepts and processes related to their management; likewise, it will show a critical and reflective attitude with the content presented.

Admission GPA: 2.75

Graduation GPA: 3.00

Curricular Content

Core Component- 24 credits

Course	Credits	Title	Prerequisites
MANA 501	3	Organizational Behavior	
ACCO 515	3	Managerial Accounting	ACCO 500 ⁴
STAT 555	3	Statistics Decision Making	
MARK 510	3	Marketing Management	
FINA 503	3	Managerial Finance	STAT 555
ECON 519	3	Economics	STAT 555
ITMA 501	3	Business Analytics	
MANA 742	3	Simulation	Requires 21 core credits and 6 specialty credits approved

Specialty Component - 18 credits

Course	Credits	Title	Prerequisites
MANA 722	3	Basic Principles of Project Management	
MANA 724	3	Project Management in Human Resources	MANA 722
MANA 726	3	Strategic Planning in Project Management	MANA 724
MANA 728	3	Quality Risk Management Projects	MANA 724
MANA 730	3	Project Cost and Procurement Management	MANA 724
MANA 733	3	Project Schedule Management	MANA 724

Directed Electives - 3 credits

Course	Credits	Title	Prerequisites
MANA 729	3	Risk Management Project	MANA 724
MANA 736	3	Management Seminar	MANA 724
MANA 735	3	Project Scope Management	MANA 724
MANA 745	3	Thesis	Requires 21 core credits and 6 specialty credits

Important Notes:

1. Courses are taken in periods of eight (8) weeks (Part of Term), except Course MANA 742 and MANA 745, which will be taken in a semester of 16 weeks
2. Students can enroll only twelve (12) credits per semester.
3. The minimum passing grade for the courses is B.
4. ACCO 500 prerequisite applies to students who are not from the field of Business Administration.
5. Subject to change.

Master of Science in Brand Management and Digital Marketing

Program's description

The Master in Brand Management and Digital Marketing discusses brand management, product and service positioning strategies, through new advertising tactics, in order to improve the customer's purchase and consumption experience through of digital platforms. Digital analytics tools are applied to obtain information about the decision making of the clients and evaluate the success of the marketing activities. The new and diverse marketing strategies are analyzed and integrated so that the companies face the challenges in the markets.

Admission GPA: 2.75

Graduation GPA: 3.00

Curricular Content

Specialty Component - 33 credits			
Course	Credits	Title	Prerequisites
MARK 510	3	Marketing Management	
MARK 719	3	Brand Marketing	
MARK 704	3	Consumer and Brand Research	MARK 510
MARK 731	3	Branding Communication Strategy	MARK 510
MARK 741	3	Customer Relationship Management	MARK 510
MARK 708	3	Consumer Behavior in Digital Marketing	MARK 510
MARK 760	3	Digital Marketing	MARK 510
MARK 765	3	Social Media Brand Strategies	MARK 510
MARK 770	3	Branding Digital Advertising	MARK 510
MARK 785	3	Marketing Analytics	MARK 510
MARK 790	3	Digital Marketing Strategies	MARK 510

Important Notes:

1. Subject to change.

Master of Business Administration with specialty in Human Resources (Online)

Program's description

The Master in Business Administration in Human Resources (Online) prepare graduates to have the competencies required to manage and lead the human management and transformation processes, in any type of organization. The graduate can also formulate policies, strategies, plans and human management programs aligned with the needs and requirements of the organization and will be a leader, visionary and agent of change. Additionally, he or she will be able to carry out research in the field of human management, relating the economic, political, social and cultural aspects. (Gurabo).

Admission GPA: 2.75

Graduation GPA: 3.00

Curricular Content

Core Component- 21 credits

Course	Credits	Title	Prerequisites
ACCO 515	3	Managerial Accounting	ACCO 500 ³
ECON 519	3	Economics	STAT 555
FINA 503	3	Managerial Finance	STAT 555
MANA 501	3	Organizational Behavior	
MANA 601	3	Research Methods	STAT 555
MARK 510	3	Marketing Management	
STAT 555	3	Statistics Decision Making	

Specialty Component - 12 credits

Course	Credits	Title	Prerequisites
HURM 710	3	Human Resources Management	
HURM 725	3	Labor Law	MANA 501, HURM 710
HURM 730	3	Compensations and Benefits	STAT 555, MANA 501
HURM 732	3	Occupational Health and Safety	HURM 710

Electives - 3 credits

Course	Credits	Title	Prerequisites
HURM 715	3	Advanced Supervision	HURM 710
ENTR 600	3	Identification and Evaluation of Entrepreneurial Opportunities	
ENTR 601	3	E-Commerce	
ENTR 602	3	Business Plan Development	
ENTR 603	3	Design and Organizational Structure for Business	

Degree Requirement - 3 credits

Course	Credits	Title	Prerequisites
HURM 738	3	Knowledge Integration in Human Resources	27 crs approved or more, including MANA 601

Important Notes:

1. Students can enroll only twelve (12) credits per semester.
2. The minimum passing grade for the courses is B.
3. ACCO 500 prerequisite applies to students who are not from the field of Business Administration.
4. Subject to change

Master of Business Administration with specialty in Management (Online)

Program's description

The Master of Management allows the student to develop the necessary skills to promote communication and integration, with the various professional organizations and institutions that represent the field of business and other organizations, inside and outside of Puerto Rico. The graduate of this specialty will be able to assertively evaluate the management in the organizations through the application of the theoretical and practical aspects of the administration, the analytical consideration of its structure, the efficient application of emerging technologies, to solve situations and challenges of organizations, among others. (Gurabo).

Admission GPA: 2.75

Graduation GPA: 3.00

Curricular Content

Core Component- 21 credits

Course	Credits	Title	Prerequisites
ACCO 515	3	Managerial Accounting	ACCO 500 ³
ECON 519	3	Economics	STAT 555
FINA 503	3	Managerial Finance	STAT 555
MANA 501	3	Organizational Behavior	
MANA 601	3	Research Methods	STAT 555
MARK 510	3	Marketing Management	
STAT 555	3	Statistics Decision Making	

Specialty Component - 12 credits

Course	Credits	Title	Prerequisites
HURM 710	3	Human Resources Management	
HURM 725	3	Labor Law	MANA 501, HURM 710
HURM 715	3	Advanced Supervision	HURM 710
MANA 705	3	Production and Operations Management	STAT 555

Electives - 3 credits

Course	Credits	Title	Prerequisites
HURM 732	3	Occupational Health and Safety	HURM 710
MANA 625	3	Total Quality Management	MANA 501, STAT 555

Degree Requirement - 3 credits

Course	Credits	Title	Prerequisites
MANA 736	3	Management Seminar	27 crs approved or more and MANA 601
MANA 738	3	Knowledge Integration in Management	27 crs approved or more and MANA 601

Important Notes:

1. Students can enroll only twelve (12) credits per semester.
2. The minimum passing grade for the courses is B.
3. ACCO 500 prerequisite applies to students who are not from the field of Business Administration.
4. Subject to change

Master of Business Administration specialty in Marketing (Online)

Program's description

Marketing is a social process where groups and individuals participate who seek to satisfy what they need and want by creating, offering, and freely sharing products and services that others value. The Master in Marketing trains the student to master the theoretical and practical functions of marketing of the current businesses and other organizations. This program trains specialists with managerial skills, in the identification of market opportunities, with the capacity to implement marketing strategies, which provide an increase of competitiveness to the company. (Gurabo).

Admission GPA: 2.75

Graduation GPA: 3.00

Curricular Content

Core Component- 21 credits			
Course	Credits	Title	Prerequisites
ACCO 515	3	Managerial Accounting	ACCO 500 ³
ECON 519	3	Economics	STAT 555
FINA 503	3	Managerial Finance	STAT 555
MANA 501	3	Organizational Behavior	
MANA 601	3	Research Methods	STAT 555
MARK 510	3	Marketing Management	
STAT 555	3	Statistics Decision Making	
Specialty Component - 12 credits			
Course	Credits	Title	Prerequisites
MARK 610	3	Advanced Marketing Management	MARK 510
MARK 615	3	Advertising and Promotion	
MARK 616	3	Public Relations	
MARK 708	3	Consumer Behavior in Digital Marketing	MARK 510
Electives - 3 credits			
Course	Credits	Title	Prerequisites
MARK 711	3	International Marketing	MARK 610
Degree Requirement - 3 credits			
Course	Credits	Title	Prerequisites
MARK 738	3	Knowledge Integration in Marketing	27 crs approved or more and MANA 601
MARK 740	3	Marketing Seminar	27 crs approved or more and MANA 601

Important Notes:

1. Students can enroll only twelve (12) credits per semester.
2. The minimum passing grade for the courses is B.
3. ACCO 500 prerequisite applies to students who are not from the field of Business Administration.
4. Subject to change

Master in Business Administration Specialty in Human Resources Administration (Online)

Program's description

The Master in Business Administration in Human Resources Administration (Online) prepare graduates to manage the development of human capital in organizations providing related services for individuals and groups. The graduate can also formulate policies, strategies, plans and human management programs aligned with the needs and requirements of the organization and will be a leader, visionary and agent of change. (Cupey)

Admission GPA: 2.75

Graduation GPA: 3.00

Curricular Content

Core Component- 24 credits

Course	Credits	Title	Prerequisites
ACCO 515	3	Managerial Accounting	ACCO 500 ⁵
ECON 519	3	Economics	STAT 555
FINA 503	3	Managerial Finance	STAT 555
MANA 501	3	Organizational Behavior	
MANA 600	3	Business Policy and Ethics	
MARK 510	3	Marketing Management	
STAT 555	3	Statistics Decision Making	
MANA 705	3	Production and Operations Management	STAT 555

Specialty Component - 15 credits

Course	Credits	Title	Prerequisites
HURE 640	3	Collective Bargaining	HURE 710
HURE 700	3	Organization Design & Structure	MANA 501
HURM 710*	3	Human Resources Management	
HURE 720	3	Training Methodology and Design	HURE 710, MANA 501
HURM 725*	3	Labor Law	HURE 710
HURM 730	3	Compensations and Benefits	MANA 501
HURE 740	3	International Human Resource	HURE 710
HURE 750*	3	Human Resources Seminar	12 specialty crs approved
HURM 715	3	Advanced Supervision	HURM 710

Electives - 3 credits

Course	Credits	Title	Prerequisites
ELECTIVE**	3		MANA 603

Important Notes:

- * Mandatory main courses
- **Elective in Business Administration: The student will select any master's specialization level course from any other area of business that does not have prerequisites or an additional course from their specialization, as an elective.
- Students can enroll only twelve (12) credits per semester.
- The minimum passing grade for the courses is B.
- ACCO 500 prerequisite applies to students who are not from the field of Business Administration.
- Subject to change

Master in Business Administration specialty in Material Control Management (Online)

Program's description

This specialty provides to the student the necessary knowledge to work with management of materials and its different functions such as planning of production facilities, purchasing of materials, control of production, and inventory.

Admission GPA: 2.75

Graduation GPA: 3.00

Curricular Content

Core Component- 21 credits

Course	Credits	Title	Prerequisites
ACCO 515	3	Managerial Accounting	ACCO 500 ³
ECON 519	3	Economics	STAT 555
FINA 503	3	Managerial Finance	STAT 555
MANA 501	3	Organizational Behavior	
MANA 601	3	Research Methods	STAT 555
MARK 510	3	Marketing Management	
STAT 555	3	Statistics Decision Making	

Specialty Component - 12 credits

Course	Credits	Title	Prerequisites
MANA 603	3	Material Management	STAT 555
MANA 701	3	Inventory Management	
MANA 705	3	Production and Operations Management	STAT 555
MANA 720	3	Advanced Production Management	MANA 705

Electives - 3 credits

Course	Credits	Title	Prerequisites
MANA 606	3	Purchasing Management	MANA 603
MANA 609	3	Quality Control System	

Degree Requirement - 3 credits

Course	Credits	Title	Prerequisites
MANA 719	3	Knowledge Integration in Materials Management and Control	27 crs approved or more and MANA 601
MANA 717	3	Materials Management and Control Seminar	27 crs approved or more and MANA 601

Important Notes:

1. Students can enroll only twelve (12) credits per semester.
2. The minimum passing grade for the courses is B.
3. ACCO 500 prerequisite applies to students who are not from the field of Business Administration.
4. Subject to change

Doctor of Business Administration specialty in Management

Program's description

The doctoral program in Management is designed to provide a theoretical basis applied to enhance managerial decision-making. The program encourages theoretical and applied research on the fundamental aspects of business management. It is designed to prepare students for careers in performance management, teaching, research, and consulting. It encourages research and publication of articles focused on solving organizational problems. The student has the opportunity to be exposed to a variety of international management models allowing them an overview of management.

Admission GPA: 3.00

Graduation GPA: 3.00

Curricular Content

Core Component- 18 credits

Course	Credits	Title	Prerequisites
ECON 760	3	Economic Analysis	STAT 555 or equivalent
MANA 750	3	Advanced Statistical Methods	STAT 555 or equivalent
MANA 754	3	Business Research Methods	
MANA 762	3	Management Science	
INBU 764	3	International Business Management	
MAIS 835	3	IT Policy & Strategy	

Specialty Component - 15 credits

Course	Credits	Title	Prerequisites
MANA 800	3	Business Data Analysis	STAT 555 or equivalent
MANA 802	3	Corporate Finance	
MANA 804	3	Strategic Management	
MANA 806	3	Organizational Design	
MANA 842	3	Entrepreneurship Management	

Research - 18 credits

Course	Credits	Title	Prerequisites
RESM 862	3	Seminar in Management I	Advisor approval
RESM 864	3	Seminar in Management II	Advisor approval
RESM 866	6	Dissertation I	TEST 800-A Comprehensive Test
RESM 868	6	Dissertation II	RESM 866

Directed Electives - 9 credits

Course	Credits	Title	Prerequisites
MANA 808	3	Business Consulting	
MANA 810	3	Negotiations Strategies	
MANA 820	3	Management of Innovations and Technology	
MANA 822	3	Project Management in Business	
MANA 824	3	Risk Management	
MANA 830	3	Advanced Human Resources Management	
MANA 832	3	Training & Human Resources Management	
MANA 834	3	Seminar in Leadership	
MANA 840	3	Management in the Service Industry	
MANA 844	3	Managing Professional Service Organization	
MANA 850	3	Strategic Planning and Programming	
MANA 852	3	Management and Budgeting in Government	
MANA 857	3	Special Topics in Entrepreneurship & Management	

Important Notes:

- Subject to change.
- All students enrolled in RESM 866 Dissertation I and RESM 868 Dissertation II who have not completed the requirements established in the course will have an IP (In Progress). This entails that student enroll in the RESM 867 and RESM 869 Continuation Courses, respectively, for a cost equivalent to 3 credits for each academic term that enrolls the continuation.

Course	Credits	Prerequisites
RESM 867 Dissertation I (Continuation)	3	RESM 866
RESM 869 Dissertation II (Continuation)	3	RESM 868

Doctor of Business Administration specialty in Information Systems Management

Program's description

The doctoral program in Management Information Systems is designed to provide a theoretical basis used to improve the knowledge of management information systems. This specialization allows students to concentrate on the meaning of information systems in various management scenarios. The program encourages theoretical and applied research, which results in the improvement of services in computers and information systems company. The program is designed to prepare students for careers in performance management, teaching and research, involving the design, analysis, implementation and operation of computerized information systems associated with economic and organizational issues.

Admission GPA: 3.00

Graduation GPA: 3.00

Curricular Content

Core Component- 18 credits

Course	Credits	Title	Prerequisites
ECON 760	3	Economic Analysis	STAT 555 or equivalent
MANA 750	3	Advanced Statistical Methods	STAT 555 or equivalent
MANA 754	3	Business Research Methods	
MANA 762	3	Management Science	
INBU 764	3	International Business Management	
MAIS 835	3	IT Policy & Strategy	

Specialty Component - 15 credits

Course	Credits	Title	Prerequisites
MAIS 810	3	Information Systems Modeling	
MAIS 815	3	Telecommunications Management	
MAIS 820	3	Decision Support Systems	
MAIS 825	3	Information Security Management	
MAIS 830	3	Web-Based Information Architectures	MAIS 825

Directed Electives - 9 credits

Course	Credits	Title	Prerequisites
MAIS 827	3	Data Warehousing Management	
MAIS 832	3	Knowledge Management	
MAIS 842	3	Web Services	MAIS 830
MAIS 847	3	Special Topics in Information Security	
MAIS 852	3	Multimedia Systems	MAIS 830
MAIS 857	3	Special Topics in Computer Information Systems	
MAIS 858	3	Data Mining	
MAIS 859	3	Service Oriented Architecture	

Research - 18 credits

Course	Credits	Title	Prerequisites
RESM 850	3	Seminar in Information Systems I	Advisor approval
RESM 860	3	Seminar in Information Systems II	Advisor approval
RESM 866	6	Dissertation I	TEST 800-A Comprehensive Test
RESM 868	6	Dissertation II	RESM 866

Important Notes:

1. Subject to change.
2. All students enrolled in RESM 866 Dissertation I and RESM 868 Dissertation II who have not completed the requirements established in the course will have an IP (In Progress). This entails that student enroll in the RESM 867 and RESM 869 Continuation Courses, respectively, for a cost equivalent to 3 credits for each academic term that enrolls the continuation.

Course	Credits	Prerequisites
RESM 867 Dissertation I (Continuation)	3	RESM 866
RESM 869 Dissertation II (Continuation)	3	RESM 868

Graduate Certificate in Accounting

Program's description

The graduate certificate in accounting aims for the professional to deepen the study of accounting theory, the problems related to different types of entities and the preparation of accounting information, for business management. This certificate provides the graduate with the educational opportunities necessary for the development of essential knowledge and skills to guarantee their professional success. The graduate will be able to select the courses that allow him to deepen in financial accounting, external audit, internal audit, fraud investigation, information systems audit and other areas and skills that allow him to complement his knowledge in accounting and his professional preparation

Admission GPA: 2.75

Graduation GPA: 3.00

Curricular Content

Specialty Component- 18 - 21 credits			
Course	Credits	Title	Prerequisites
ACCO 702	3	Financial Accounting and Reporting I	
ACCO 731	3	Internal Auditing	
ACCO 711	3	Forensic Accounting and Fraud Detection	
ACCO 733	3	Information Systems Auditing	
ACCO 707	3	Federal Income Tax	
ACCO 724	3	Accounting Research and Communication	
ACCO 730	3	Business Law and Regulations	

Important Notes:

1. Student must choose between 18 or 21 credits
2. Subject to change.

Graduate Certificate in Management

Program's description

The Certificate in Management allows the student to develop the necessary skills to promote communication and integration with the various professional organizations and institutions that represent the field of business and other organizations, inside and outside of Puerto Rico. The graduate of this specialty will be able to assertively evaluate the management in organizations through the application of the theoretical and practical aspects of the administration, the analytical consideration of its structure, the efficient application of emerging technologies, for the solution of situations and challenges. of organizations, among others.

Admission GPA: 2.75

Graduation GPA: 3.00

Curricular Content

Specialty Component - (18) credits			
Course	Credits	Title	Prerequisites
ENTR 600	3	Identification and Evaluation of Entrepreneurial Opportunities	HURM 710
HURM 710	3	Human Resources Management	
MANA 611	3	Business Strategic Management	
MANA 612	3	International Strategic Management	
MANA 622	3	Service Management Strategy	
MANA 722	3	Basic Principles of Project Management	
MANA 744	3	Strategic Business Consulting	

Important Notes:

1. Subject to change.

Graduate Certificate in Quality Management

Program's description

This program offers the skills to effectively manage the relationship between quality systems and the present and future development of organizations. The graduate of this certification may serve as operations manager in manufacturing and services companies, specialist in statistical control of processes, consultant for the design and implementation of quality management models, consultant for selection and evaluation of technologies, equipment and systems for planning and control of operations, evaluator of quality control systems, among others.

Admission GPA: 2.75

Graduation GPA: 3.00

Curricular Content

Specialty Component - 9 credits

Course	Credits	Title	Prerequisites
MANA 609	3	Quality Control System	
MANA 625	3	Total Quality Management	
QUMA 655	3	Quality Statistics	

Elective Courses - 12 credits

Course	Credits	Title	Prerequisites
HURM 710	3	Human Resources Management	
QUMA 600	3	Six Sigma	
QUMA 626	3	Teamwork Development	
QUMA 727	3	ISO Standard Development Principles	
QUMA 728	3	Total Quality in Human Resources Management	
QUMA 729	3	Regineering	

Important Notes:

1. Subject to change.

Graduate Certificate in Supply Chain and Material Management

Program's description

The program is designed to provide students with a thorough preparation in supply chain and materials management skills and expertise in consulting management from middle to senior level roles in the organizations, with a global and social perspective. The program also provides a comprehensive approach that integrates skills in project management and lean six-sigma problem solving techniques. It incorporates the use of tools, critical thinking, project management, research and information technology skills especially in specific areas of the profession in the role of consultant.

Admission GPA: 2.75

Graduation GPA: 3.00

Curricular Content

Specialty Component - 18 credits			
Course	Credits	Title	Prerequisites
MANA 603	3	Material Management	
SUMA 607	3	Supply Chain Management	
SUMA 610	3	Strategic Cost Management	
SUMA 612	3	Operations Management	MANA 607
SUMA 615	3	Demand Management and Forecasting	
SUMA 618	3	Purchase Strategies	
Directed Electives - 3 credits			
Course	Credits	Title	Prerequisites
QUMA 600	3	Six Sigma	
MANA 625	3	Total Quality Management	
ACCO 500	3	Accounting Survey	

Important Notes:

1. Subject to change.

Graduate Certificate in Project Management

Program's description

The Graduate Certificate in Project Management allows the student to acquire the skills to manage projects meeting the criteria of time and budget. It will be a complement in your professional development and will provide you with methodologies and analytical skills for the design and implementation of projects in various fields. In just one year (24 credits) you can achieve a credential important to your resume, as you acquire a set of skills valued in virtually any industry.

Admission GPA: 2.75

Graduation GPA: 3.00

Curricular Content

Specialty Component - 21 credits			
Course	Credits	Title	Prerequisites
MANA 722	3	Basic Principles of Project Management	
MANA 724	3	Project Management Human Resources	MANA 722
MANA 726	3	Strategic Planning in Project Management	MANA 722, MANA 724
MANA 735	3	Project Scope Management	MANA 722, MANA 726
MANA 734	3	Quality And Risk Management in Projects	MANA 722, MANA 724
MANA 730*	3	Project Cost and Procurement Management	MANA 722, MANA 724, MANA 726, MANA 734
MANA 733	3	Project Schedule Management	MANA 722, MANA 724

Important Notes:

1. *It is recommended to have knowledge in Accounting
2. Subject to change.

Graduate Certificate in Human Resources

Program's description

The graduate of the Human Resources Certificate will have the competencies required to management and lead the processes of human management and transformation, in any type of organization. Also, be able to formulate human management policies, strategies, plans and programs aligned with the needs and requirements of the organization and will be a leader, visionary and agent of change. Additionally, you can perform research in the field of human management, relating the economic, political, social and cultural environment.

Admission GPA: 2.75

Graduation GPA: 3.00

Curricular Content

Specialty Component - 12 credits

Course	Credits	Title	Prerequisites
HURM 710	3	Human Resources Management	
HURM 725	3	Labor Law	
HURM 730	3	Compensations and Benefits	HURM 710
HURM 743	3	Human Resources Analytics and Metrics	HURM 710

Directed Electives - 6 credits

Course	Credits	Title	Prerequisites
HURM 714	3	Training, Planning and Administration	HURM 710
HURM 715	3	Advanced Supervision	HURM 710
HURM 716	3	Personnel Recruit and Selection	HURM 710
HURM 720	3	Performance Evaluation	HURM 710
MANA 744	3	Strategic Business Consulting	12 crs approved
REHU 614	3	Health and Safety Systems	
REHU 611	3	Labor Relations	
REHU 615	3	International Human Resources	
MANA 613	3	Management of Diversity	

Important Notes:

1. Subject to change.

Graduate Certificate in Digital Marketing

Program's description

In the Graduate Certificate in Digital Marketing students develop, analyze and apply marketing strategies associated with digital media platforms. The role of digital analytics and brand management is studied to maximize the reach and influence on the consumer. Strategic marketing plans are discussed in order to make informed decisions that result in efficient business management within the new digital environment.

Admission GPA: 2.75

Graduation GPA: 3.00

Curricular Content

Specialty Component - 21 credits			
Course	Credits	Title	Prerequisites
MARK 510	3	Marketing Management	
MARK 704	3	Consumer and Brand Research	MARK 510
MARK 760	3	Digital Marketing	MARK 510
MARK 765	3	Social Media Brand Strategies	MARK 510
MARK 770	3	Branding Digital Advertising	MARK 510
MARK 785	3	Marketing Analytics	MARK 510
MARK 790	3	Digital Marketing Strategies	

Important Notes:

1. Subject to change.

Graduate Certificate in Security of Information Systems

Program's description

This program is oriented towards the world of business and technology. It aims to develop skills in graduates to know and apply theoretical and practical aspects of information security systems within the organization.

Admission GPA: 2.75

Graduation GPA: 3.00

Curricular Content

Major Component - 24 credits			
Course	Credits	Title	Prerequisites
ITMA 525	3	Information Security and Assurance	ITMA 501
ITMA 615	3	Information Technology and Communications	ITMA 501
ITMA 620	3	Information Technology Service Management	ITMA 501
ITMA 600	3	Business Continuity and Disaster Recovery Planning	ITMA 501
ITMA 610	3	Forensic Cybernetics	ITMA 501
ITMA 630	3	Policy and Administration in Information Technology Security	ITMA 501
ITMA 743	3	Project Management in Systems Development	
ITMA 635	3	Data Warehouse Management	ITMA 501

Important Notes:

1. Subject to change.

Graduate Certificate in Marketing

Program's description

This specialty provides the student the necessary skills, theory, and modern practices of the trade element within organizations. In addition, the specialty promotes technical competence and the development of the ability to make market investigations and marketing planning.

Admission GPA: 2.75

Graduation GPA: 3.00

Curricular Content

Specialty Component - 12 credits			
Course	Credits	Title	Prerequisites
MARK 610	3	Advanced Marketing Management	
MARK 708	3	Consumer Behavior	
MARK 709	3	Distribution Channels	MARK 510
MARK 711	3	International Marketing	MARK 610
Electives - 9 credits			
Course	Credits	Title	Prerequisites
Marketing Business to Business			
MARK 713	3	New Products Management	
MARK 716	3	Marketing Business to Business	
MARK 718	3	Logistics	
Service Marketing			
MARK 715	3	Services Marketing I	
MARK 720	3	Services Marketing II	
MARK 725	3	E-Marketing	
People's Marketing			
MARK 730	3	Sport Marketing	
MARK 735	3	Special Event	
MARK 745	3	Political Marketing	
Green Marketing			
MANA 502	3	Environmental Management	
MARK 690	3	Green Marketing	
MARK 695	3	Sustainable Development	
Graduation Requirement - 3 credits			
Course	Credits	Title	Prerequisites
MARK 740*	3	Marketing Seminar	27 crs approved or more and MANA 601
MANA 742*	3	Simulation	Requires 21 core credits and 6 specialty credits approved

Important Notes:

1. *Semester course.
2. Subject to change.

Certificate in Mixology

Program's description

The Professional Certificate Program in Mixology aims to train the student in the basic operation of the bar, focused on new trends in cocktails and service. The history and new trends in the production and service of wines, beers and spirits will be studied in detail. Also, the student will be trained in the techniques of making classic and modern cocktails, with and without alcohol. In addition, it focuses on service and customer experience.

Admission GPA: 2.00

Graduation GPA: 2.50

Curricular Content

General Education - 6 credits			
Course	Credits	Title	Prerequisites
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing English I	
MAGS 120 (I)	3	Introductory Algebra	
Major Component - 21 credits			
Course	Credits	Title	Prerequisites
HMNG 281	3	Guest Service Experience	
MIXO 179	3	Marketing Business to Business	
MIXO 180+		Handling and Serving Wines (lab)	
MIXO 182+		Beers and Spirits	
MIXO 184+		Modern Cocktails (Lab)	MIXO 179, 180+ y 182+
MIXO 185+		Classic Cocktails and Mixology (Lab)	MIXO 184+
MIXO 187+	3	Bartending Practicum	(Co-req.) MIXO 185+

Important Notes:

1. Subject to change.

HEALTH SCIENCES ACADEMIC DIVISION

DEPARTMENT OF ALLIED HEALTH SCIENCES

Master of Sciences in Speech - Language Pathology

Program's description

The program has the ultimate goal of increasing the number of qualified speech-language pathologists in the island. Graduates will be able to supply the high demand of services to the population with speech, language, articulation, voice, fluency, swallowing, and hearing problems in Puerto Rico and the Hispanic population, and minorities all over the United States.

Admission GPA: 3.00

Graduation GPA: 3.00

Curricular Content

Specialty Component - (61) credits			
Course	Credits	Title	Prerequisites
MSLP 500	3	Phonology	
MSLP 510	3	Language Disorders in Children	
MSLP 520	3	Audiology for Speech-Language Pathologists	
MSLP 535	3	Neuroscience Applied to Speech- Language Pathology	
MSLP 530	3	Fluency Disorders	
MSLP 540	3	Voice Disorders	
MSLP 630	3	Language Disorders in Adults	
MSLP 525	2	Seminar: Multicultural Issues in Speech-Language Pathology	
MSLP 545	2	Seminar: Contemporary Professional Issues in Speech-Language Pathology & Audiology	
MSLP 570	3	Augmentative and Alternative Communication	MSLP 510-520
MSLP 550	3	Clinical Assessment Skills	MSLP 500-510-520-530-540-630
MSLP 590	3	Neurogenic Speech and Language Disorders	MSLP 500-510-535
MSLP 580	3	Aural Rehabilitation	MSLP 520
MSLP 620	3	Oral Motor and Swallowing Disorders	MSLP 535
MSLP 555	3	Clinical Intervention Skills	
MSLP 680	3	Knowledge Integration in Speech- Language Pathology	MSLP 590-580-550-620-555-570
MSLP 559	2	Research in Speech-Language Pathology I	
MSLP 569	2	Research in Speech-Language Pathology II	MSLP 559
MSLP 669	2	Research in Speech-Language Pathology III	MSLP 569
MSLP 595	3	SLP Clinical Practicum Workshop	MSLP 590-580-550-620-555-570 and 25 clinical observation hours
MSLP 600	3	Clinical Internship I	MSLP 595
MSLP 610	3	Clinical Internship II	MSLP 600
Total	61		
Electives – (3) credits			
Course	Credits	Title	Prerequisites
MSLP 585	3	Supervisory Process	
MSLP 650	3	Traumatic Brain Injury	MSLP 535
MSLP 565	3	Language, Reading and Writing	
MSLP 505	3	Early Intervention	

Important Notes:

1. The student should check with the department the elective courses available.
2. Subject to change.

Master in Nutrition Sciences

Program's description

This program is designed for students who are interested in advanced academic training in food and nutrition in order to enhance their health-related profession. Program graduates will be able to assume a variety of careers in health care, community, entrepreneurship, as well as education.

Admission GPA: 3.00

Graduation GPA: 3.00

Curricular Content

Core Component - (6) credits			
Course	Credits	Title	Prerequisites
ENTR 603	3	Design and Organizational Structure for Business	
ENTR 602	3	Business Plan Development	
Specialty Component - (27) credits			
Course	Credits	Title	Prerequisites
MSNT 500	3	Sports and Exercise Nutrition	
MSNT 510	3	Lifecycle Nutrition	
MSNT 520	3	Health Communication	
MSNT 530	3	Nutrition for Health	
MSNT 550	3	Epidemiology of Public Health for Health Professionals	
MSNT 560	3	Nutrition and Disease Prevention	
MSNT 570	3	Nutrition in Alternative and Complementary Medicine	
MSNT 590	6	Nutrition Practicum	
Electives – (3) credits			
Course	Credits	Title	Prerequisites
*PSYC 510	3	Motivation and Learning	
*MHSA 674	3	Human Development	

Important Notes:

1. *Elective chose one
2. Subject to change.

Master in Public Health

Program's description

The Master of Public Health was designed to train professionals with knowledge in health promotion and disease prevention, with an emphasis on policies, ethical aspects, planning and administration, based on scientific evidence, within a social context, economic and cultural. Graduates of this program will be able to assume a variety of roles in state and federal agencies, community-based organizations, medical plans, pharmaceuticals, and private businesses, as well as in education and research.

Admission GPA: 3.00

Graduation GPA: 3.00

Curricular Content

Core Component- 30 credits			
Course	Credits	Title	Prerequisites
MSPH 500	3	Public Health Fundamentals	
MSPH 510	3	Cultural Competencies in Health	
MSPH 520	3	Planning and Evaluation of Health Programs	
MSPH 530	3	Biostatistics and Informatic in Public Health	Co-requisite MSPH 520
MSPH 540	3	Research Methods in Public Health	MSPH 520, MSPH 530
MSPH 550	3	Social Determinants in Health	
MSPH 560	3	Response Planning in Health Systems	MSPH 510
MSPH 570	3	Health Care Systems: Management and Public Policy	
MSPH 580	3	Ethics and Leadership in Public Health	
MSPH 590	3	Health Promotion in the Community	MSPH 510, MSPH 520
Specialty Component - 12 credits			
Course	Credits	Title	Prerequisites
MSPH 600	3	Human Ecology	MSPH 530, MSPH 540
MSPH 610	3	Framework of the Epidemiology in Health	
MSPH 620	3	Behavioral Health: Individual, Society and Wellness	MSPH 510, MSPH 570
MSPH 630	3	Knowledge Integration in Public Health	MSPH 500, MSPH 550, MSPH 560, MSPH 570, MSPH 580, MSPH 590, MSPH 600, MSPH 610
			Co-requisite MSPH 620

Important Notes:

1. Subject to change

Speech-Language Pathology Doctorate

Program's description

The Doctorate in Speech-Language Pathology is an advanced post-master offer for speech-language pathologists interested in pursuing doctoral studies to practice in leadership positions. The program has a rigorous academic curriculum with a scientific basis. The Curriculum incorporates current research, ethical decision-making, and best practice models to foster knowledge, leadership, problem-solving skills and research. SLPD students are encouraged to analyze, synthesize, and apply research-based theory to their current work environment and through the development of the applied dissertation.

Admission GPA: 3.00

Graduation GPA: 3.00

Curricular Content

Major Component- 48 credits			
Courses	Credits	Title	Prerequisites
SLPD 700	3	Advanced Neuroscience	
SLPD 710	3	Gerontology	
SLPD 720	2	Counseling and Supervision in Speech-Language Pathology	
SLPD 730	2	Educational Leadership in the Health Professions	
SLPD 740	3	Biostatistics I	
SLPD 750	3	Neurolinguistics	
SLPD 760	2	Entrepreneurship for Speech-Language Pathology	
SLPD 770	3	Pediatric Speech-Language Pathology	
SLPD 780	3	Research Design	SLPD 740
SLPD 800	3	Advanced Seminar on Dysphagia	
SLPD 810	3	Biostatistics II	SLPD 740
SLPD 820	3	Qualitative Research Design	
SLPD 840	3	Genetics	
SLPD 850	3	Quantitative Research Design	
SLPD 860	2	Advanced Seminar on Augmentative and Alternative Communication (CAA)	
SLPD 870	2	Pharmacology	
SLPD 880	3	Medical Speech-Language Pathology	
SLPD 880-S	2	Medical Speech-Language Pathology-Clinical Seminar	
Research Component – 9 credits			
Courses	Credits	Title	Prerequisites
SLPD 830	3	Dissertation I	
SLPD 910	3	Dissertation II	SLPD 830
SLPD 920	3	Dissertation III	SLPD 910

Important Notes:

- The courses are approved with a minimum grade of B.
- Any student enrolled in the dissertation courses who has not completed the requirements established in the course will be awarded an IP (In Progress). This entails that student enroll in the courses below SLPD 890, SLPD 930 and SLPD 940 for a cost equivalent to 1 credit.

Courses	Credits	Title	Prerequisites
SLPD 890	1	Continuation of Dissertation I	
SLPD 930	1	Continuation of Dissertation II	SLPD 830
SLPD 940	1	Continuation of Dissertation III	SLPD 910

- Subject to changes.

Graduate Certificate in Supervised Speech-Language Professional

Program's description

The Graduate Certificate Program in Supervision of Speech-Language Professionals will develop in the graduate the competencies required to lead and carry out the processes of clinical supervision. Students will be trained in the areas of education, mentoring, leadership, administration, and counseling to demonstrate the skills and attitudes necessary to interact with their supervisees. It will offer a training experience that will facilitate its execution as a supervisor, mentor, and consultant in the various clinical environments that the profession requires.

Admission GPA: 3.00

Graduation GPA: 3.00

Curricular Content

Major Component- 18 credits			
Courses	Credits	Title	Prerequisites
MSLP 660	3	Clinical Supervision	
MSLP 640	3	Counseling Strategies for SLP	
MSLP 671	3	Multicultural and Professional Issues in the Supervision of Speech-Language Professionals	
MSLP 690	3	Clinical Teaching Strategies for Speech-Language Professionals	
MSLP 695	3	Supervision Practicum	MSLP 660, MSLP 640, MSLP 671, MSLP 685, MSLP 690
MSLP 685	3	Management and Leadership in the Speech-Language Profession	

Important Notes:

1. Courses are approved with a minimum grade of B.
2. Subject to change

DEPARTMENT OF NURSING

Master of Sciences with specialty in Family Nurse Practitioner

Program's description

A Family Nurse Practitioner (FNP) is a registered nurse (RN) with advanced education and training. Their goal is to help people be as healthy as possible. Family Nurse Practitioners advocate for health promotion and disease prevention. These professionals teach people ways to stay healthy and treat them for acute illness (e.g. colds) and chronic diseases (e.g. diabetes). Family Nurse Practitioners perform health histories, physical assessment and examinations, order and interpret diagnostic/laboratory studies, diagnose and treat common illness and minor injuries, make referrals to specialists, counsel and teach health and nutrition, prescribe/manage medication therapy and provide continued/follow-up and coordinate care for patients at any stage of development throughout the lifespan.

Admission GPA: 3.00

Graduation GPA: 3.00

Curricular Content

Specialty Component - (51) credits			
Course	Credits	Title	Prerequisites
NURS 500	3	Theoretical Foundations of Advanced Practice Nursing	Concurrent with NURS 505, NURS 506, NURS 507
NURS 501	3	Public Health Policy, Ethics and Systems	NURS 505, NURS 500
NURS 502	3	Nursing Science and the Research Process (Semester)	NURS500, Concurrent with HESC 500
NURS 503	3	Nursing Research Project: From Proposal to Publication (Semester)	NURS 502, HESC 500
NURS 505	2	Health Promotion and Disease Prevention: Transcultural Considerations	Concurrent with NURS 500, NURS 506, NURS 507
HESC 500	3	Statistics Applied to Clinical Research	Concurrent with NURS 502
NURS 506	3	Advanced Pathophysiology (Semester)	Concurrent with NURS 500, NURS 505, NURS 507
NURS 507	3	Advanced Pharmacology (Semester)	Concurrent with NURS 500, NURS 505, NURS 506
NURS 504	3	Advanced History Taking and Physical Assessment	NURS 506, NURS 507
NURS 508	3	Diagnostic & Differential Diagnosis	NURS 506, NURS 507
NURS 509	3	Pharmacology for FNP's	NURS 507, Concurrent with NURS 510
NURS 510	4	Primary Care I	NURS 501, NURS 504, NURS 506, NURS 507, NURS 508
NURS 511	4	Primary Care II	NURS 509, NURS 510
NURS 512	4	Primary Care III	NURS 511
NURS 513	4	Residency	NURS 512
NURS 529	3	Pediatric Primary Care	NURS 504, NURS 508

Important Notes:

1. + Includes laboratory or workshop.
2. The NURS 510, NURS 511, NURS 512, and NURS 513 courses have a clinical practice component.
3. A minimum of 750 clinical hours is required to complete the academic degree.
4. The core component and concentration courses must be passed with a minimum grade of B.
6. The second year must obtain an academic evaluation with the coordinator of the program before completing the enrollment process.
7. Students enrolled in courses from other academic programs must meet the pertinent prerequisites.
8. Students transferred from other universities must meet the residency standards at UAGM.
9. Subject to change.

Master of Science in Nursing specialty in Case Management and Secondary Role in Administration or Education

Program's description

It prepares nursing professionals to assume leadership positions in case management. The student also has the opportunity to select a second role in Administration or Education that will allow greater employment opportunities.

Admission GPA: 3.00

Graduation GPA: 3.00

Curricular Content

Core Component- 21 credits

Courses	Credits	Title	Prerequisites
NURS 649	3	Advanced Pharmacology	
NURS 650	3	Interdisciplinary Management in Health Science	
NURS 651	2	Clinical Specialist Role Development	
NURS 652	2	Nursing Theories in Advanced Nursing Practice	NURS 650
NURS 653	3	Statistics for Health Professionals	NURS 650, NURS 651
NURS 654	3	Advanced Pathofisiology	
NURS 655	3	Research in Advanced Nursing Practice	
NURS 656*	2	Research Project	NURS 655

Major Component – 15 credits

Courses	Credits	Title	Prerequisites
ACMN 660	4	Advanced Nursing in Case Management	NURS 650, NURS 651, NURS 652, NURS 653, NURS 655
ACMN 661	4	Case Management I	ACMN 660
ACMN 662	4	Case Management II	ACMN 660, ACMN 661
ACMN 663	3	Advanced Nursing Practice in Case Management	ACMN 660, ACMN 661, ACMN 662

Elective Component in Administration - 10 credits

Courses	Credits	Title	Prerequisites
NADM 657	3	Theories and Strategies in Nursing Administration	
NADM 658	3	Essentials Concepts of Nursing Service Administration	NADM 657
NADM 659*	4	Advanced Nursing Practice in Nursing Administration	NADM 657, NADM 658

Elective Component in Education - 10 credits

Courses	Credits	Title	Prerequisites
NUED 670	3	Fundamentals, Principles, & Systematic Curricular Design	
NUED 671	3	Assessment, Measurement and Student Learning Evaluation	NUED 670
NUED 672*	4	Practicum in Nursing Education	NUED 670, NUED 671

Important Notes:

1. NURS 656 Research Project (mentoring course) - The student will enroll in the course every semester until the end of their research project.
2. Secondary Role: The student has the option to choose between Administration (10 credits) or Education (10 credits). If you choose Administration, you must enroll in Course NADM 657 (3 credits), NADM 658 (3 credits), NADM 659 (4 credits). If you choose Education, you must enroll in Course NUED 670 (3 credits), NUED 671 (3 credits), NUED 672 (4 credits).
3. Minimum passing grade for each course is B.
4. Student must hold a permanent license from Puerto Rico to be able to perform clinical practice.
5. *Course offered in semester.
6. Subject to change.

**Master of Science in Nursing with specialization in
Adult Critical Care and a Secondary Role in Administration or Education in Nursing**

Program's description

It prepares nursing professionals to assume leadership positions in the area of Critical Adult Care. The student also has the opportunity to select a second role in Administration or Education that will allow greater employment opportunities.

Admission GPA: 3.00

Graduation GPA: 3.00

Curricular Content

Core Component- 24 credits

Courses	Credits	Title	Prerequisites
NURS 649	3	Advanced Pharmacology	
NURS 650	3	Interdisciplinary Management in Health Science	
NURS 651	2	Clinical Specialist Role Development	
NURS 652	2	Nursing Theories in Advanced Nursing Practice	NURS 650
NURS 653	3	Statistics for Health Professionals	NURS 650, NURS 651
NURS 654	3	Advanced Pathofisiology	
NURS 655	3	Research in Advanced Nursing Practice	
NURS 656*	2	Research Project	NURS 655
NURS 674	3	Differential Diagnosis	

Major Component – 15 credits

Courses	Credits	Title	Prerequisites
NUAG 664	3	Advanced Nursing Assessment of the Adult - Gero Patient	
CCNA 665+	4	Advanced Nursing with Critically Ill Adults I	NUAG 664
CCNA 673+	4	Advanced Nursing with Critically Ill Adults II	NUAG 664, CCNA 665
CCNA 667+	4	Advanced Clinical Practice in the Adult Critical Care	NUAG 664, CCNA 665, CCNA 673

Elective Component in Administration - 10 credits

Courses	Credits	Title	Prerequisites
NADM 657	3	Theories and Strategies in Nursing Administration	
NADM 658	3	Essentials Concepts of Nursing Service Administration	NADM 657
NADM 659*	4	Advanced Nursing Practice in Nursing Administration	NADM 657, NADM 658

Elective Component in Education - 10 credits

Courses	Credits	Title	Prerequisites
NUED 670	3	Fundamentals, Principles, & Systematic Curricular Design	
NUED 671	3	Assessment, Measurement and Student Learning Evaluation	NUED 670
NUED 672*	4	Practicum in Nursing Education	NUED 670, NUED 671

Important Notes:

1. NURS 656 Research Project (mentoring course) - The student will enroll in the course every semester until the end of their research project.
2. Secondary Role: The student has the option to choose between Administration (10 credits) or Education (10 credits). If you choose Administration, you must enroll in Course NADM 657 (3 credits), NADM 658 (3 credits), NADM 659 (4 credits). If you choose Education, you must enroll in Course NUED 670 (3 credits), NUED 671 (3 credits), NUED 672 (4 credits).
3. Minimum passing grade for each course is B.
4. Student must hold a permanent license from Puerto Rico to be able to perform clinical practice.
5. *Course offered in semester.
6. +Includes laboratory.
7. Subject to change.

Doctor in Nursing Practice

Program's description

A Doctorate in Nursing Practice (DNP) program is designed to prepare experts in nursing practice. It is the pinnacle of practice-focused nursing degrees, building upon master's programs by providing an educational foundation in quality improvement, evidence-based practice, and systems leadership, among others. According to the American Association of Colleges of Nursing (AACN), DNP nurses possess a blend of clinical, leadership, economic, and organizational skills that puts them in a unique position to deftly critique nursing practice and design programs of care delivery that are economically feasible, locally acceptable, and that significantly impact healthcare outcomes. The DNP nurses are prepared to perform nursing interventions that influence healthcare outcomes for individuals or populations by providing direct patient care, managing the care of patients and patient populations, administrating in nursing and healthcare organizations, and developing and implementing health policy.

Admission GPA: 3.00

Graduation GPA: 3.00

Curricular Content

Core Component- 23 credits

Courses	Credits	Title	Prerequisites
NURS 700	3	Nursing Theories, Conceptual Models and Philosophies	
NURS 701	3	Advanced Epidemiology for Nursing Practice	
NURS 702	3	Public Policy and Ethics in Healthcare	
NURS 703	3	Evidence-Based Practice Perspectives	
NURS 704	3	Transcultural and Global Health Perspectives	
NURS 706	3	Health Information Systems	
NURS 708 (P)	5	Leadership and Collaboration in Health Care	

Specialty Component – 16 credits

Courses	Credits	Title	Prerequisites
NURS 705 (P)	5	Developing Practice Scholarship (Capstone I)	NURS 700, NURS 701, NURS 702, NURS 703, Co-req. NURS 704
NURS 707 (P)	5	Quality Improvement and Risk Management for Health Care (Capstone II)	NURS 705
NURS 709 (P)	6	DNP Project	NURS 707

Important Notes:

1. (P) Course with clinical practice.
2. The following courses have a clinical practice component: NURS 705; NURS 707; NURS 708: NURS 709.
3. All courses must be approved with a minimum grade of B.
4. The second-year students must obtain an academic evaluation with the program coordinator before making the registration process.
5. Students enrolled courses from other academic programs, must meet the pertinent prerequisites.
6. Students transferred from other universities must comply with the residence standards at UAGM.
7. Subject to changes.

LIBERAL ARTS ACADEMIC DIVISION

DEPARTMENT OF GENERAL EDUCATION

Master of Arts in Cultural Studies specialty in General Cultural Studies

Program's description

The Master of Arts in Cultural Studies from the School of Liberal Arts and General Education is a program that offers an interdisciplinary approach —with theoretical and critical emphasis— to the study of culture and society. It aims to offer tools to understand and analyze contemporary culture, which is characterized by its diversity, especially in the space of postcolonial and subaltern reality. The program is oriented towards the development of competences that allow carrying out academic research work. In addition, the graduate demonstrates the ability to interpret, discuss and explain contemporary culture.

Admission GPA: 2.75

Graduation GPA: 3.00

Curricular Content

Core Component– 21 credits

Course	Credits	Title	Prerequisites
MACS 500	3	Modernism Post-Modern Culture	
MACS 505	3	Introduction to Cultural Studies	
MACS 520	3	Theory and Practice of Postcolonial Studies	MACS 500, MACS 505
MACS 600	3	Cultural Perspectives and the Mass Media	MACS 500, MACS 505
MACS 625	3	Ethnicity and Race: Issues	MACS 500, MACS 505
PRCS 610	3	Introduction to Gender Studies	MACS 500, MACS 505
MACS 675	3	Research Methods	MACS 500, MACS 505

Directed Electives – 6 credits

Course	Credits	Title	Prerequisites
SOHS 605	3	Ethnopsichology in Postmodernity Era	MACS 500, MACS 505
MACS 630	3	Open Seminar for Cultural Studies	MACS 500, MACS 505
Elective	3	Elective course of the program or other graduate programs	
Elective	3	Elective course of the program or other graduate programs	

Research Component – 3 credits

MACS 640	3	Research Seminar	All courses
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Important Notes:

1. Subject to change.

Doctor of Philosophy in Cultural Studies

Program's description

The degree of Doctor of Philosophy (Ph.D.) in Cultural Studies of Liberal Arts Division is a program of study that aims to prepare graduate students in this field of research. The program offers an interdisciplinary approach, with theoretical and critical emphases, of the study of culture and society. It aims to offer tools to understand and analyze contemporary culture, which is characterized by its diversity, especially in the space of postcolonial and subaltern reality. The program is oriented towards the development of competencies that allow original research and other works that constitute significant contributions to knowledge in a specific area, as well as prepare the graduate with the ability to interpret, discuss, and explain humanistic and cultural disciplines.

Admission GPA: 3.00

Graduation GPA: 3.00

Curricular Content

Core Component– 39 credits

Course	Credits	Title	Prerequisites
CUST 701	3	Cultural, Postcolonial and Subaltern Studies	
CUST 702	3	Philosophy, History and Literature: An Approach to the Reading of the Cultural Production	CUST 701
HIST 703	3	Cultural History Topics	CUST 702
CUST 800	3	Methods and Research in Cultural Studies I	CUST 702
CUST 801	3	Methods and Research in Cultural Studies II	CUST 800
CUST 802	3	Seminar on Research in Cultural Studies I	CUST 801
CUST 803	3	Seminar on Research in Cultural Studies II	CUST 802
LITE 804	3	Literature of the Puerto Rican Diaspora	HIST 703
CUST 805	3	Cultural Approaches to Gender Studies	HIST 703
COMM 806	3	The Media Globalization	HIST 703
CUST 807	3	History and Literature	HIST 703
CUST 808	3	Metropolis-Colony Relations: A Post-Colonial Approach	HIST 703
CUST 809	3	Geopolitics And Geoculture in the Era of Globalization	HIST 703

Directed Electives – 9 credits

Course	Credits	Title	Prerequisites
CUST 901	3	Open Seminar in Cultural Studies I: Film Theory	HIST 703
CUST 902	3	Open Seminar in Cultural Studies II: Media Semiotics and Performance	HIST 703
LITE 903	3	Writing the Caribbean: Recurring Themes in Contemporary Caribbean Literature	HIST 703
CUST 904	3	Culture and Performance in Caribbean Literature and Film: A Study of Transformation in Identity and Gender	HIST 703
LITE 905	3	Blurring Boundaries Between Fiction and History: The New Historical Novel in the Caribbean	HIST 703
CUST 906	3	Visual Culture	HIST 703

Research Component – 6 credits

Course	Credits	Title	Prerequisites
CUST 915	3	Doctoral Dissertation Research I	All core courses
CUST 916	3	Doctoral Dissertation Research II	CUST 915

Important Notes:

1. Subject to change.

Doctor of Philosophy in Interdisciplinary Studies of Puerto Rico and the Caribbean

Program's description

The program provides an interdisciplinary knowledge to the study of History, Literature and Arts, Social Sciences. The graduate program focuses on the development of the competencies required for the performance of research, to contribute significantly to knowledge, as well as demonstrate the abilities to interpret, discuss, analyze, and explain the areas of study proposed in Puerto Rico, the Antilles and the Caribbean Basin.

Admission GPA: 3.00

Graduation GPA: 3.00

Curricular Content

Core Component– 33 credits

Course	Credits	Title	Prerequisites
PCIS 800	3	Anthropological and Archaeological Analysis of the Aboriginal Societies of the Insular Caribbean	
PCIS 804	3	Puerto Rico and the Caribbean: From pre-coloniality to World War II (1945)	
PCIS 808	3	Identity and Cultural Roots	
PCIS 812	3	Contemporary Puerto Rican and Caribbean Literature Compendium (XX and XXI centuries)	
PCIS 816	3	Contemporary History of Puerto Rico and the Caribbean: From the Cold War to Late Neoliberalism	
PCIS 820	3	Women, Race and Class in the Caribbean and Latin America Spanish	
PCIS 824	3	Art and culture of the contemporary Caribbean	
PCIS 828	3	Law, Colonialism and Decolonization in Puerto Rico and the Caribbean, 20th and 21st Centuries	
PCIS 832	3	Contemporary poetry of the Hispanic Caribbean	
PCIS 836	3	Antillean Art Expressions: Comparative Study	
PCIS 840	3	Gender and sexuality in Latin America and the Caribbean: A historical Perspective	

Research Component – 9 credits

Course	Credits	Title	Prerequisites
PCIS 850	3	Research Methodology in Interdisciplinary Studies	
PCIS 860	3	Doctoral Thesis Seminar	
PCIS 864	3	Comprehensive Exam	PCIS 800, PCIS 804, PCIS 808, PCIS 812, PCIS 816, PCIS 820, PCIS 824, PCIS 828, PCIS 832, PCIS 836, PCIS 840
PCIS 868	3	Doctoral Dissertation	PCIS 800, PCIS 804, PCIS 808, PCIS 812, PCIS 816, PCIS 820, PCIS 824, PCIS 828, PCIS 832, PCIS 836, PCIS 840, PCIS 850, PCIS 864, PCIS 860 and 6 electives credits

Electives – 6 credits

Course	Credits	Title	Prerequisites
PCIS 833	3	Foundations of the Antillean Short Story: Juan Bosch, Alejo Carpentier y Emilio S. Belaval	
PCIS 818	3	United States and the Caribbean: Expansionism, Interventionism, and Hegemony in the 19th and 20th Centuries	
PCIS 822	3	Gender and society in contemporary Puerto Rico	

Important Notes:

1. All the courses of the program must be approved with B or above.
2. The students who were evaluated and received validation of credits must complete the remaining courses on the study list with a minimum of a 3.0 average.
3. Pass the doctoral degree exam.
4. Complete and defend original research in the form of a doctoral dissertation.
5. Subject to change.

DEPARTMENT OF EDUCATION

Master in Special Education with Specialty in Autism or Special Education K-12

Program's description

This program has been designed for the professional development of special education teachers. Candidates will acquire knowledge, skills and dispositions needed to assume leadership positions as teachers, supervisors, or consultants in the field of special education.

Admission GPA: 2.50

Graduation GPA: 3.00

Curricular Content

Core Component- 6 credits			
Course	Credits	Title	Prerequisites
EDUC 580	3	Educational Psychology: Human Growth and Development	
EDUC 530	3	Psychosocial and Educational Implications at Birth or Advent of a Student with Disabilities: Family, Society, Services and Education	
Specialty Component – 9 credits			
Course	Credits	Title	Prerequisites
EDUC 535	3	Inclusion and the Special Education Teamwork	EDUC 530
EDUC 539	3	Assessment and Instructional Design for Teaching Students with Disabilities	EDUC 535
EDUC 546	3	Asistive Technology in Special Education	EDUC 530
Specialty Options – 15 credits			
Course	Credits	Title	Prerequisites
Autism			
EDUC 653		Nature and Psychosocial Aspects of the Student with Autism	EDUC 530, EDUC 546
EDUC 654		Communication Methods of the Child with Autism	EDUC 530, EDUC 546
EDUC 655		Behavior Management of Students with Autism	EDUC 653, EDUC 654
EDUC 656		Methodology for Teaching Autistics Students	EDUC 653, EDUC 654
EDUC 657		Evaluation of Children with Autism	EDUC 656
Special Education K-12			
EDUC 658		Physical and Health Disabilities in Children and Adolescents	
EDUC 659		Sensory Problems in Childhood and Adolescence	EDUC 539
EDUC 660		The Education of Children and Youth with Cognitive Disabilities	EDUC 658, EDUC 659
EDUC 661		Behavioral and Emotional Disorders in Children and Young People	EDUC 658, EDUC 659
EDUC 662		Transitional Process for Special Education Students	EDUC 660, EDUC 661
Research Component – 9 credits			
EDUC 600		Educational Research Methods	24-30 credits
EDUC 630		Statistics for Educational Research	EDUC 600
EDUC 602 or		Research Seminar for Thesis or	EDUC 630 or EDUC 618
EDUC 617		Research Project in School Settings	EDUC 630
TEST 500N*		Comprehensive Exam	

Important Notes:

1. Courses will be offered in Part of Term, except those courses already identified to be offered in semester.
2. The courses identified EDUC correspond to the specialty option selected.
3. It is recommended that the student review the Teacher Certification Regulations of the Department of Education of the Commonwealth of Puerto Rico to ensure that they take the Courses for the certification they are interested in.
4. *The student may choose between the comprehensive exam or EDUC 604 Knowledge integration seminar. The EDUC 604 course carries a cost equivalent to 3 credits.
5. Subject to change.

Master Degree in Education with Specialty in Educational Administration

Program's description

The purpose of the Master of Education program with a specialty in Educational Administration is to prepare a professional with the theoretical and practical knowledge that allows him to assume responsibility for the multiple functions management involved in managing a contemporary educational unit or school.

Admission GPA: 2.50

Graduation GPA: 3.00

Curricular Content

Core Component- 6 credits			
Course	Credits	Title	Prerequisites
EDUC 504	3	Leadership, Communication and Teamwork	
EDUC 501	3	Principles and Curriculum Development	
Specialty Component – 33 credits			
Course	Credits	Title	Prerequisites
EDUC 503	3	Introduction to the Educational Enterprise	
EDUC 510	3	Fundamental Concepts of Education Management	
EDUC 690	3	Administration of the Fiscal Resources in Educative Institution	
EDUC 520	3	Puerto Rico School Laws and Regulations	
EDUC 691	3	Planning and Evaluation in Education	
EDUC 519	3	Human Resources Management at the Education Enterprise	
EDUC 506	3	Conflict Resolution in Schools	
EDUC 515	3	Practicum (School Administration)	27 specialty credits approved
EDUC 600	3	Educational Research Methods	24-30 credits
EDUC 630	3	Statistics for Educational Research	EDUC 600
EDUC 602 or	3	Research Seminar for Thesis or	EDUC 630
EDUC 617		Research Project in School Settings	
TEST 500N*	0	Comprehensive Exam	

Important Notes:

1. It is recommended that the student review the Teacher Certification Regulations of the Department of Education of the Commonwealth of Puerto Rico to ensure that they take the Courses for the certification they are interested in.
2. *The student may choose between the comprehensive exam or EDUC 604 Knowledge integration seminar. The EDUC 604 course carries a cost equivalent to 3 credits.
3. Subject to change.

Master Degree in Physical Education in Coaching or Health Promotion or Athletic Therapeutic

Program's description

This program has been designed for the professional development of candidates interested in working in diverse sports and physical education scenarios. Candidates can select one of three different track options: Athletic Therapeutic, Health Promotion or Coaching.

Admission GPA: 2.50

Graduation GPA: 3.00

Curricular Content

Core Component- 3 credits			
Course	Credits	Title	Prerequisites
EDUC 504	3	Leadership, Communication and Teamwork	
Specialty Component - 15 credits			
Course	Credits	Title	Prerequisites
PHED 500	3	Evaluation and Care of Athletic Injuries	
PHED 501	3	Advanced Exercise Physiology I	
PHED 502	3	Psychology Applied to Sports	
PHED 503	3	Theory And Methodology of Sports Training	
PHED 504	3	Sports Law and Physical Education	
TEST 500N*	0	Comprehensive Exam	
Specialty Options – 12 credits (Choose one option)			
<i>Coaching</i>			
PHED 526	3	Biomechanical and Metrological Aspects of Physical Exercise	
PHED 527	3	Physiology of Exercise II	
PHED 528	3	Sports Psychology of Training and Competition	
PHED 508	3	Analysis And Interpretation of Data in Sport and Performance	
<i>Health Promotion</i>			
PHED 529	3	Nutrition for Health Fitness	
PHED 530	3	Critical Issues in Health Fitness Management	
PHED 511	3	Assessment and Evaluation of Health Fitness Parameters	
PHED 531	3	Strategic Planning in Health Promotion	
<i>Athletic Training</i>			
PHED 532	3	Administration Issues in Athletic Training	
PHED 533	3	Sports Injuries Rehabilitation	
PHED 534	3	Athletic Training Practicum	
PHED 535	3	Evaluation And Care of Athletic Injuries	
Research Component - 9 credits			
Course	Credits	Title	Prerequisites
EDUC 600	3	Educational Research Methods	24-30 credits
EDUC 630	3	Statistics for Educational Research	EDUC 600
EDUC 602 or EDUC 617	3	Research Seminar for Thesis or Research Project in School Settings	EDUC 630

Important Notes:

- * The student may choose between the comprehensive exam or EDUC 604 Knowledge integration seminar. The EDUC 604 course carries a cost equivalent to 3 credits.
- Subject to change.

Master's Degree in Education Specialty in Management of Leisure Services

Program's description

A program of study for those interested in developing, implementing, managing and evaluating leisure services and sports programs in governmental agencies, municipalities and private institutions.

Admission GPA: 2.50

Graduation GPA: 3.00

Curricular Content

Core Component- 12 credits			
Course	Credits	Title	Prerequisites
REED 505	3	Interdisciplinary Studies of Sports Leisure	
REED 515	3	Assessment, Measuring and Evaluation of Leisure	
EDUC 600	3	Educational Research Methods	24-30 credits
EDUC 525	3	Statistics for Social and Pedagogical Evaluation and Research	
Specialty Component – 12 credits			
Course	Credits	Title	Prerequisites
REED 510	3	Managing Leisure Services	
REED 512	3	Sports And Leisure Programming	
REED 514	3	Managing Leisure and Sports Facilities	
COIS 625	3	Computerized Systems in Educational Administration	
Final Requirement – 12 credits			
Course	Credits	Title	Prerequisites
REED 525	3	Professional Seminar in Physical Education and Recreation	
REED 524	3	Research Seminar	EDUC 600, EDUC 525
REED 601	3	Practicum in Leisure Activities	
EDUC 709	3	Thesis: Documental Research	Program authorization

Important Notes:

1. Courses will be offered in Part of Term, except those courses already identified to be offered in semester.
2. Subject to change.

Master of Education in Curriculum and Teaching with Specialty in Primary Teaching K-3 or Elementary Teaching 4th-6th or Teaching Science or Reading and Writing or Educational Technology and Distance Education or Special Education

Program's description

The purpose of the Master of Education program with a specialty in Curriculum and Teaching is prepare a professional with the theoretical and practical knowledge that allows him to apply the principles and foundations of curriculum in the design, implementation and evaluation of educational programs. Areas of emphasis in this graduate program master's degrees provide an approach to the curricular aspects that affect the training of the curriculum specialist in the selected area of emphasis.

Admission GPA: 2.50

Graduation GPA: 3.00

Curricular Content

Core Component- 6 credits			
Course	Credits	Title	Prerequisites
EDUC 501	3	Principles and Curriculum Development	
EDUC 504	3	Leadership, Communication and Teamwork	
Specialty Component - 12 credits			
Course	Credits	Title	Prerequisites
EDUC 500	3	Learning Theories	
EDUC 505	3	Teaching Models and Systems	
EDUC 513	3	Educational Assessment, Measurement and Evaluation	
EDUC 619	3	Professional Experiences Seminar	
TEST 500N*	0	Comprehensive Exam	
Emphasis areas or options (12 credits)			
Course	Credits	Title	Prerequisites
Primary Teaching K-3			
EDUC 547	3	Language Acquisition and Development: Implications for Literacy	
EDUC 592	3	Integration of Arts at the Primary Level	
EDUC 593	3	Teaching Science at Primary School	
EDUC 594	3	Teaching Mathematics at Primary School	
Elementary Teaching 4th-6th			
EDUC 561	3	Computer Applications for Teaching	
EDUC 597	3	Curriculum And Metodology of Teaching Social Studies	
EDUC 598	3	Teaching Sciences at Elementary School	
EDUC 599	3	Teaching Mathematics at Elementary School	
Teaching Science			
EDUC 663	3	Curriculum and Teaching Methodology in Sciences	
EDUC 664	3	Learning Assesment in Sciences	
EDUC 665	3	Technology Integration into Science Teaching	
EDUC 666	3	Technology as a Resource in Science Education	
Reading and Writing			
EDUC 521	3	Technology as a Resource for Teaching Reading and Writing	
EDUC 547	3	Language Acquisition and Development: Implications for Literacy	
EDUC 590	3	Methods of Diagnosis and Assessment of Reading	
EDUC 595	3	Integration of Reading into the Curriculum	
EDUC 596	3	The Whole Language Approach and the Development of The Reading and Writing Processess	
EDUC 560	3	Teaching Reading and Writing Secondary School	
EDUC 608	3	Special Project in Reading	

Course	Credits	Title	Prerequisites
Educational Technology and Distance Education			
EDUC 640	3	Instructional Design Principles	
EDUC 641	3	Foundations of Educational Technology	
EDUC 642	3	Instructional Media	
EDUC 643	3	Foundations of Distance Education	
Special Education			
EDUC 530	3	Psychosocial and Educational Implications at Birth or Advent of a Student with Disabilities: Family, Society, Services and Education	
EDUC 535 o	3	Inclusion and the Special Education Teamwork	EDUC 530
EDUC 536	3	Contemporary Approaches to Early Intervention	
EDUC 537	3	Management And Educational Strategies for Students with Pervasive Developmental Disorders, Attention Deficit or Other Psychiatric Disorders	
EDUC 539	3	Assessment and Instructional Design for Teaching Students with Disabilities	EDUC 535
EDUC 546	3	Assistive Technology in Special Education	EDUC 530
Research Component - 9 credits			
Course	Credits	Title	Prerequisites
EDUC 600	3	Educational Research Methods	24-30 credits
EDUC 630	3	Statistics for Educational Research	EDUC 600
EDUC 602 o	3	Research Seminar for Thesis or	EDUC 630
EDUC 617		Research Project in School Settings	

Important Notes:

1. Courses will be offered in Part of Term, except those courses already identified to be offered in semester.
2. It is recommended that the student review the Teacher Certification Regulations of the Department of Education of the Commonwealth of Puerto Rico to ensure that they take the Courses for the certification they are interested in.
3. *The student may choose between the comprehensive exam or EDUC 604 Knowledge integration seminar. The EDUC 604 course carries a cost equivalent to 3 credits.
4. In the options that are detailed with more than 12 credits, the student must take only 12 credits of those mentioned in the form. The courses identified EDUC refer to the Courses corresponding to the option selected.
5. Subject to change.

Master in Education specialty in Teaching Fine Arts

Program's description

This program has been designed as a professional development alternative for Fine Arts teachers. Candidates can select one of four track options: Music, Dance, Visual Arts or Theater.

Admission GPA: 2.50

Graduation GPA: 3.00

Curricular Content

Core Component- 6 credits			
Course	Credits	Title	Prerequisites
EDUC 501	3	Principles and Curriculum Development	
EDUC 504	3	Leadership, Communication and Teamwork	
Specialty Component – 12 credits			
Course	Credits	Title	Prerequisites
EDUC 540	3	Fine Arts Teaching Methodology: Theories, Strategies and Resources	
EDUC 670	3	Use of Technology as a Resource for the Teaching of Fine Arts	
EDUC 671 or EDUC 687	3	Curricular Integration of Fine Arts into Secondary School or Integration of Fine Arts at Primary Level	
MSAA 701	3	Basic Fundamentals of Art Administration	
Specialty Options – 12 credits			
Music			
EDUC 557	3	Organization of Vocal Music Groups	
EDUC 558	3	Musical Production Seminar	
EDUC 559	3	Techniques for the Organization of Instrumental Groups	
EDUC 675	3	Music Workshops/Seminars	
Dance			
EDUC 571	3	Seminar for Dance Production: Body Movement and Expression	
EDUC 572	3	Development and Evolution of Dance	
EDUC 573	3	Methodology and Integration of Dance to Elementary Teaching	
EDUC 678	3	Dance Workshops/Seminars	
Visual Arts			
MSAA 710	3	Museum and Visual Arts Center Administration	
EDUC 544	3	Visual Arts Production Workshop	
EDUC 672	3	Techniques and Materials for Teaching Visual Arts	
EDUC 681	3	Visual Arts Workshops/Seminars	
Theater			
MSAA 709	3	Representational Arts Administration	
EDUC 574	3	Theatrical Techniques	
EDUC 673	3	Theatre Production Workshop	
EDUC 684	3	Theater Workshops/Seminars	
Research Component – 9 credits			
Course	Credits	Title	Prerequisites
EDUC 600	3	Educational Research Methods	24-30 credits
EDUC 630	3	Statistics for Educational Research	EDUC 600
EDUC 602 or EDUC 686	3	Research Seminar for Thesis or Research Project in the Educational Settings	EDUC 630
TEST 500N*	0	Comprehensive Exam	

Important Notes:

1. Courses will be offered in Part of Term, except those courses already identified to be offered in semester.
2. It is recommended that the student review the Teacher Certification Regulations of the Department of Education of the Commonwealth of Puerto Rico to ensure that they take the Courses for the certification they are interested in.
3. * The student may choose between the comprehensive exam or EDUC 604 Knowledge integration seminar. The EDUC 604 course carries a cost equivalent to 3 credits.
4. Subject to change.

Master in Education with specialty in Library Services and Information Technology

Program's description

This program has been designed for candidates interested in developing a professional career in librarianship. The program allows candidates to choose between two specialties: school library administration and information technology.

Admission GPA: 2.50

Graduation GPA: 3.00

Curricular Content

Core Component - 6 credits			
Course	Credits	Title	Prerequisites
EDUC 713	3	The Information Profession Evolution	
EDUC 578	3	Ethical and Legal Principles in Information Systems	1
Specialty Component - 24 credits			
Course	Credits	Title	Prerequisites
EDUC 524	3	References Information Services	
EDUC 711	3	Information Services in Public Libraries	EDUC 524
EDUC 527	3	Development of Bibliographical Collections	
EDUC 579	3	Organization of Bibliographical Resources	EDUC 527
Specialty Options			
Option I: School Library			
EDUC 523	3	School Library Management	6 core credits and 12 specialty credits
EDUC 528	3	Library Services for Children and Adolescents	
EDUC 708	3	Information Literacy Skills Development	33 credits
EDUC 529	3	Clinical Experience for the School Library	
Option II: Information Technology			
EDUC 706	3	CDROM's and Online Databases as Research Tools	EDUC 713, 578, 524, 711
EDUC 707	3	Organization of Bibliographic Resources in Automated Systems	EDUC 713, 578, 524, 711
EDUC 708	3	Information Literacy Skills Development	6 core credits and 12 specialty credits
EDUC 710	3	The Internet as a Research Tool	EDUC 713, 578, 524, 711
Research Component - 9 credits			
EDUC 600	3	Educational Research Methods	24-30 credits
EDUC 630	3	Statistics for Educational Research	EDUC 600
EDUC 602 or	3	Research Seminar for Thesis or	EDUC 630
EDUC 617	3	Research Project in School Settings	
TEST 500N*	0	Comprehensive Exam	

Important Notes:

1. Courses will be offered in Part of Term, except those courses already identified to be offered in semester (*).
2. It is recommended that the student review the Teacher Certification Regulations of the Department of Education of the Commonwealth of Puerto Rico to ensure that they take the Courses for the certification they are interested in.
3. * The student may choose between the comprehensive exam or EDUC 604 Knowledge integration seminar. The EDUC 604 course carries a cost equivalent to 3 credits.
4. Subject to change.

Master in Education Major in Teaching English as a Second Language

Program's description

Principles, theories and practice of second language acquisition, learning and teaching. It seeks to prepare educators who can assume positions of leadership in ESL education as teachers or English supervisors in public or private schools and as professors in institutions of higher education.

Admission GPA: 2.50

Graduation GPA: 3.00

Curricular Content

Core Component- 9 credits			
Course	Credits	Title	Prerequisites
EDUC 501	3	Principles and Curriculum Development	
EDUC 504	3	Leadership, Communication and Teamwork	
EDUC 619	3	Professional Experiences Seminar	
Specialty Component – 21 credits			
Course	Credits	Title	Prerequisites
EDUC 550	3	Second Language Acquisition	
EDUC 553	3	Language, Cognition and ESL Curriculum Development	
EDUC 551	3	Reading Processes in Second Language Settings	
EDUC 564	3	Applied Linguistics for ESL Teachers	
EDUC 566	3	Methods of Teaching as a Second Language	
EDUC 563	3	The Teaching of Writing: Theory and Practice	
EDUC 554	3	The Use of Computers in ESL Teaching	
TEST 500N*	0	Comprehensive Exam	
Research Component – 9 credits			
Course	Credits	Title	Prerequisites
EDUC 600	3	Educational Research Methods	24-30 credits
EDUC 630	3	Statistics for Educational Research	EDUC 600
EDUC 602 o	3	Research Seminar for Thesis or	EDUC 630
EDUC 617		Research Project in School Settings	

Important Notes:

1. Courses will be offered in Part of Term, except those courses already identified to be offered in semester (*).
2. * The student may choose between the comprehensive exam or EDUC 604 Knowledge integration seminar. The EDUC 604 course carries a cost equivalent to 3 credits.
3. It is recommended that the student review the Teacher Certification Regulations of the Department of Education of the Commonwealth of Puerto Rico to ensure that they take the Courses for the certification they are interested in.
4. Subject to change.

Master in Education specialty in Counseling

Program's description

This program has been designed to prepare candidates interested in becoming counselors in diverse occupational scenarios such as schools, universities, government agencies or private corporations.

Admission GPA: 2.50

Graduation GPA: 3.00

Curricular Content

Core Component- 9 credits			
Course	Credits	Title	Prerequisites
EDUC 580	3	Educational Psychology: Human Growth and Development	
EDUC 581	3	Introduction to Counseling Services	
EDUC 582	3	Legal and Ethical Issues in Counseling	
Specialty Component – 15 credits			
Course	Credits	Title	Prerequisites
EDUC 583	3	Assessment Instruments and Techniques	EDUC 581
EDUC 584	3	Individual Counseling Techniques	EDUC 580, 581, 582, 583
EDUC 585	3	Group Counseling Techniques	EDUC 580, 581, 582, 583, 584
EDUC 586	3	Career and Life Counseling	EDUC 580, 581, 582, 583, 584
EDUC 587	3	Internship	EDUC 580, 581, 582, 583, 584
TEST 500N*	0	Comprehensive Exam	
Research Component – 9 credits			
Course	Credits	Title	Prerequisites
EDUC 600	3	Educational Research Methods	24-30 credits
EDUC 630	3	Statistics for Educational Research	EDUC 600
EDUC 602 or EDUC 617	3	Research Seminar for Thesis or Research Project in School Settings	EDUC 630
Directed Electives – 6 credits			
Course	Credits	Title	Prerequisites
EDUC 537	3	Management and Educational Strategies for Students with Pervasive Developmental Disorders, Attention Deficit or Other Psychiatric Disorders	
EDUC 618	3	Children and Adolescents Counseling	
EDUC 645	3	Introduction to School Counseling	
EDUC 646	3	Development and Management of School Counseling	
EDUC 649	3	Counseling of Student Affairs in Higher Education	
EDUC 650	3	Counseling for Student Development in Education	
EDUC 651	3	Prevention Counseling: Student Experiences	
EDUC 667	3	Psychopathology	
EDUC 668	3	Introduction to Family Counseling	

Important Notes:

1. Courses will be offered in Part of Term, except those courses already identified to be offered in semester.
2. * The student may choose between the comprehensive exam or EDUC 604 Knowledge integration seminar. The EDUC 604 course carries a cost equivalent to 3 credits.
3. It is recommended that the student review the Teacher Certification Regulations of the Department of Education of the Commonwealth of Puerto Rico to ensure that they take the Courses for the certification they are interested in.

4. Practice Internship: it is a supervised clinical experience in which the student applies the knowledge, skills, theories and competencies acquired and developed during their study period. The student will complete 250 hours in direct interaction with clients in the selected scenario. The student will have to make the necessary arrangements to comply with the required hours and with the identification of the internship center where the same will be carried out. The student must have taken the following courses: 21 core and specialty credits (EDUC 580, 581, 582, 583, 584, 585, 586).
5. Subject to change.

Master's in Arts in Curriculum and Teaching with specialty in Special Education

Program's description

These masters are aimed at teachers who want to develop in the Special Education field with the idea of deemed them as teachers highly qualified in publics and private schools. It has an emphasis in appropriate practices that characterize each level of instruction and contents.

Admission GPA: 2.50

Graduation GPA: 3.00

Curricular Content

Core Component- 18 credits			
Foundations of Education - 3 credits			
Course	Credits	Title	Prerequisites
EDUG 525*	3	Foundations of Education	
Educational Research - 6 credits			
EDUG 531*	3	Statistics Applied to Education	
INTG 500*	3	Research Methodology	
Curriculum - 9 credits			
EDUG 600	3	Curriculum Theory	
EDUG 601	3	Curriculum Design and Development	
EDUG 615	3	Curriculum Evaluation	
Specialty Component - 18 credits			
Course	Credits	Title	Prerequisites
SPEG 601	3	Legal Aspects and Inclusion in Special Education	
SPEG 602	3	Observation, Evaluation and Assessment in Special Education	
SPEG 603	3	Methodology for the Teaching of Students with Special Needs	
SPEG 604	3	Language Development and the Reading Process in Special Education Students	
SPEG 605	3	Nature, Needs, And Behavior Management of Special Education Students	
SPEG 607	3	Problems and Trends in Learning Using Assistive Technology	
Research Component - 3 credits			
Course	Credits	Title	Prerequisites
EDUG 680*	3	Research Project	

Important Notes:

1. *16 weeks course (semester). EDUG 680 could take more than one semester.
2. The Course offer in any session (Part of Term) is subject to availability in the programming and to the minimum number of officially enrolled students necessary for the permanence of the corresponding section (8 students).
3. Those interested in opting for the Teaching Certification by the Department of Education of Puerto Rico in the area of Special Education must take the Teaching Practice course, as well as other requirements for the Certificate that the Department of Education of Puerto Rico requires.
4. Subject to change.

Master's in Education with specialty in Special Education

Program's description

This program has been designed for the professional development of special education teachers. Candidates will acquire knowledge, skills and dispositions needed to assume leadership positions as teachers, supervisors, or consultants in the field of special education.

Admission GPA: 2.50

Graduation GPA: 3.00

Curricular Content

Core Component- 9 credits			
Course	Credits	Title	Prerequisites
EDUC 512	3	Educational Strategies and Innovations	
EDUC 610	3	Education of the Exceptional Child	
COIS 600	3	Computer as an Instructional Resource	
Specialty Component – 18 credits			
Course	Credits	Title	Prerequisites
EDUC 611	3	Education of the Exceptional Child in Regular Classrooms	
EDUC 612	3	Role Model for Children with Mild and Severe Disabilities	
EDUC 613	3	Preschool Education of the Exceptional Child	
EDUC 616	3	Assessment, Measurement, and Evaluation in Special Education	
EDUC 601	3	Curriculum and Teaching Methods in Special Education	
EDUC 531	3	Legal Issues and Trends in Special Education	
Directed Electives – 3 credits			
Course	Credits	Title	Prerequisites
EDUC 532	3	Administration and Supervision of Special Education Programs	
EDUC 534	3	Teaching Of Reading and Writing in Special Education	
EDUC 538	3	Teaching Children with Emotional Disturbances	
EDUC 576	3	Teaching Models and Systems	
Research Component – 9 credits			
Course	Credits	Title	Prerequisites
EDUC 600	3	Educational Research Methods	24-30 credits
EDUC 603	3	Research Seminar	EDUC 600
EDUC 709	3	Thesis: Documental Research	Program authorization

Important Notes:

1. Courses will be offered in Part of Term, except those courses already identified to be offered in semester.
2. Subject to change.

Master of Arts in Education in School and Child Psychology

Program's description

The program emphasizes a professional that is concerned with the science and practice of psychology with infants, children, youth, families; learners of all ages; and the schooling process. The program prepares them to provide a range of psychological services, such as: diagnosis, assessment, intervention, prevention, health promotion, and program development and evaluation services. The focus is on the developmental processes of children and youth within the context of schools, families and other ecological systems. The program prepares them to intervene at different levels to ensure and promote a healthy development.

Admission GPA: 2.50

Graduation GPA: 3.00

Curricular Content

Core Component- 21 credits			
Course	Credits	Title	Prerequisites
SPSY 500	3	Psychology of Personality	
SPSY 502	3	Psychology of Learning and Motivation	
SPSY 506	3	Research Methods	STAG 504
SPSY 508	3	Psychology of Human Development	
SPSY 510	3	Physiological Aspects of Human Behavior	
SPSY 530	3	Ethical, Legal and Professional Aspects of Psychology	
STAG 504	3	Graduate Statistics	
Specialty Component - 30 credits			
Course	Credits	Title	Prerequisites
ECEG 623*	3	Functional diversity and early interventions	
SPSY 532*	3	Principles of Evaluation and Psychological Measurement	
SPSY 534	3	Cognitive Evaluation	SPSY 502; SPSY 508; SPSY 532; STAG 504 SPSY 500; SPSY 534
SPSY 535	3	Socioemotional Evaluation	
SPSY 629	3	Research Proposal	SPSY 506 and program authorization
SPSY 630	3	Counseling, Psychotherapy, and Psychoeducation Interventions	
SPSY 631	3	Emotional and Behavioral Disorders and Intervention	SPSY 500; SPSY 508; SPSY 510
SPSY 632	3	Theories and Social Systems in The Family, School, and Community	SPSY 530
SPSY 633*	3	Prevention and Crisis Intervention	
SPSY 634	3	Consulting and Collaboration Interventions	
Internship - 6 credits			
Course	Credits	Title	Prerequisites
SPSY 635	3	Internship I	All courses and program authorization
SPSY 636	3	Internship I	SPSY 635
Research Component - 3 credits			
Course	Credits	Title	Prerequisites
SPSY 637	3	Research Project	SPSY 635; SPSY 636 (concurrent)

Important Notes:

1. *8 weeks course.
2. Students must obtain an academic evaluation with the program coordinator before completing the enrollment process.

3. Courses must be passed with a minimum grade of B.
4. Authorization from the program is required to enroll SPSY 636 and SPSY 637 concurrently.
5. Subject to change.

Master's Degree in Education Specialty in Educational and Administration Supervision

Program's description

A program that aims to develop the educational administrator in managerial areas, such as: legal aspects, funds management, budget preparation, human resources administration leadership, strategic planning and the latest trends in the field.

Admission GPA: 2.50 (See admission requirements for accelerated adult program.)

Graduation GPA: 3.00

Curricular Content

Core Component- 12 credits			
Course	Credits	Title	Prerequisites
EDUC 512	3	Educational Strategies and Innovations	
EDUC 501	3	Principles and Curriculum Development	
EDUC 509	3	Learning Theories and Cognitive Development	
EDUC 600	3	Educational Research Methods	30 credits
Specialty Component – 18 credits			
Course	Credits	Title	Prerequisites
EDUC 620	3	Concepts, Processes and Principles of Educational Administration	
EDUC 621	3	Educational Theories, Practices and Trends	
EDUC 622	3	Leadership: Future Outlook in Educational Administration	
EDUC 623	3	Educational Policy, Fund Management and Processes	
EDUC 624	3	Contemporary and Futuristic Supervisory Practices	EDUC 620
COIS 625	3	Computerized Systems in Educational Administration	
Directed Electives – 3 credits			
Course	Credits	Title	Prerequisites
EDUC 517	3	Supervision of Instruction in Teaching Practice	
EDUC 507	3	Philosophical, Critical Thinking, and Education	
EDUC 541	3	History of Education	
EDUC 542	3	Comparative Education	
EDUC 543	3	Culture and Education	
EDUC 545	3	Informatics and Society	
COIS 600	3	Computer as an Instructional Resource	
EDUC 610	3	Education of the Exceptional Child	
Research Component – 6 credits			
Course	Credits	Title	Prerequisites
EDUC 702 o	3	Practicum in Administration and Supervision (Elementary K-6)	Specialty courses
EDUC 704	3	Practicum in Administration and Supervision (Secondary 7-12)	Specialty courses
EDUC 709	3	Thesis: Documental Research	Program authorization

Important Notes:

1. Courses will be offered in Part of Term, except those courses already identified to be offered in semester.
2. Subject to change.

Master's in Education specialty in Sports Entrepreneurship

Program's description

A program that aims to develop entrepreneurial professionals with the necessary skills to perform successfully in the field of sports. Graduates of the program are prepared to develop their own companies, organizations and sports activities for the benefit of society with a business vision, considering concepts such as entrepreneurship, leadership, sport in society, management, media and promotion in sport, organization and evaluation in sport.

Admission GPA: 2.50

Graduation GPA: 3.00

Curricular Content

Core Component- 12 credits			
Course	Credits	Title	Prerequisites
EDUC 525	3	Statistics for Social and Pedagogical Evaluation and Research	
REED 514	3	Managing Leisure and Sports Facilities	
COIS 625	3	Computerized Systems in Educational Administration	
ENMA 500	3	Foundations of Entrepreneurship	
Specialty Component - 21 credits			
Course	Credits	Title	Prerequisites
SEED 510	3	Sports, Society and Sustainable Development	
SEED 511	3	Sports Entrepreneurship as Self-Management	
SEED 512	3	Entrepreneurship in Sports Organizations	
SEED 611	3	Sports Management	SEED 511, SEED 512
SEED 612	3	Research-Evaluation of the Sports Management	EDUC 525
SEED 520	3	Sports Tourism Commercial Recreation	
SEED 613	3	Media, Advertising and Sports	
Final Requirement - 3 credits			
Course	Credits	Title	Prerequisites
SEED 615	3	Capstone Project on Sports Entrepreneurship	All courses

Important Notes:

1. Subject to change

Master's Degree in Education Specialty in Teaching Physical Education

Program's description

This program has been designed for the professional development of candidates interested in working in physical education scenarios or to coach sports at various educational levels.

Admission GPA: 2.50

Graduation GPA: 3.00

Curricular Content

Core Component- 12 credits			
Course	Credits	Title	Prerequisites
PHED 505	3	Leisure Time and Physical Education	
PHED 515	3	Assessment, Measurement, and Evaluation in Physical Education	EDUC 525
EDUC 600	3	Educational Research Methods	30 credits
EDUC 525	3	Statistics for Social and Pedagogical Evaluation and Research	
Specialty Component – 6 credits			
Course	Credits	Title	Prerequisites
REED 511	3	Scientific Foundations of Physical Activities	
COIS 600	3	Computer as an Instructional Resource	
Research Component – 9 credits			
Course	Credits	Title	Prerequisites
PHED 525	3	Professional Seminar in Physical Education and Recreation	Have completed more than 24 credits including PHED 505, PHED 506, PHED 509 and EDUC 505, EDUC 525
PHED 524	3	Research Seminar	EDUC 505
EDUC 709	3	Thesis: Documental Research	Program authorization
Directed Electives Elementary Level – 9 credits**			
Course	Credits	Title	Prerequisites
PHED 506	3	Teaching Methodology for Elementary Physical Education	
PHED 509	3	Curriculum Development in Physical Education for Elementary Schools	
PHED 600	3	Practicum Of Physical Education in Elementary School	Have completed all Specialty Courses with no less than C
Directed Electives Sencondary Level – 9 credits**			
Course	Credits	Title	Prerequisites
PHED 507	3	Teaching Methodology for Secondary Physical Education	
PHED 510	3	Curriculum Development in Secondary Physical Education	PHED 507
PHED 601	3	Practicum of Physical Education in Secondary School	Have completed all Specialty Courses with no less than C
Directed Electives Adults Level – 9 credits**			
Course	Credits	Title	Prerequisites
PHED 508	3	Analysis and Interpretation of Data in Sport and Performance	
PHED 511	3	Assessment and Evaluation of Health Fitness Parameters	PHED 508
PHED 602	3	Practicum of Physical Education in-Adult-Level	Have completed all Specialty Courses with no less than C

Important Notes:

1. Courses will be offered in Part of Term, except those courses already identified to be offered in semester.
2. ** The student must choose the level.
3. Subject to change.

Master's Degree in Education Specialty in Teaching Adapted Physical Education

Program's description

A program that aims to develop in those interested in becoming an adapted Physical educator for special populations in public or private scenarios.

Admission GPA: 2.50

Graduation GPA: 3.00

Curricular Content

Core Component- 12 credits			
Course	Credits	Title	Prerequisites
PHED 505	3	Leisure Time and Physical Education	
PHED 516	3	Assessment, Measurement and Evaluation in Adapted Physical Education	
EDUC 600	3	Educational Research Methods	24-30 credits
EDUC 525	3	Statistics for Social and Pedagogical Evaluation and Research	
Specialty Component – 15 credits			
Course	Credits	Title	Prerequisites
PHED 512	3	Principles and Foundations of Adapted Physical Education	
COIS 600	3	Computer as an Instructional Resource	
PHED 513	3	Methods and Techniques of Programming and Teaching in Adapted Physical Education	PHED 512
PHED 514	3	Methods and Techniques in Recreational Therapy	
EDUC 532	3	Administration and Supervision of Special Education Programs	
Research Component – 9 credits			
Course	Credits	Title	Prerequisites
PHED 524	3	Research Seminar	EDUC 600
PHED 603	3	Practicum in Adapted Physical Education	
EDUC 709	3	Thesis: Documental Research	Program authorization

Important Notes:

1. Courses will be offered in Part of Term, except those courses already identified to be offered in semester.
2. Subject to change

Master's in Education specialty in Curriculum and Teaching

Program's description

This program has been designed for candidates interested in a professional development alternative that will further enhance their teaching skills to serve as professional curriculum specialists at different programs or educational levels.

Admission GPA: 2.50 (See admission requirements for accelerated adult program.)

Graduation GPA: 3.00

Curricular Content

Core Component- 12 credits			
Course	Credits	Title	Prerequisites
EDUC 512	3	Educational Strategies and Innovations	
EDUC 501	3	Principles and Curriculum Development	
EDUC 509	3	Learning Theories and Cognitive Development	
EDUC 600	3	Educational Research Methods	24-30 credits
Specialty Component – 18 credits			
Course	Credits	Title	Prerequisites
EDUC 533	3	Evaluation of Curriculum and Instruction	EDUC 513, EDUC 526, EDUC 576
EDUC 513	3	Educational Assessment, Measurement and Evaluation	
EDUC 526	3	Curriculum Design and Planning	EDUC 501, EDUC 504
EDUC 576	3	Teaching Models and Systems	
EDUC 502	3	Classroom and School Management as Learning Communities	
COIS 600	3	Computer as an Instructional Resource	
Directed Electives – 3 credits			
Course	Credits	Title	Prerequisites
EDUC 507	3	Philosophical, Critical Thinking, And Education	
EDUC 532	3	Administration And Supervision of Special Education Programs	
EDUC 542	3	Comparative Education	
EDUC 543	3	Culture and Education	
EDUC 545	3	Informatics and Society	
EDUC 610	3	Education of the Exceptional Child	
EDUC 525	3	Statistics for Social and Pedagogical Evaluation and Research	
Research Component – 3 credits			
Course	Credits	Title	Prerequisites
EDUC 709	3	Thesis: Documental Research	Program authorization

Important Notes:

1. Courses will be offered in Part of Term, except those courses already identified to be offered in semester.
2. Subject to change

Doctor of Education specialty in Educational Leadership

Program's description

The Doctorate in Education program with a specialty in Educational Leadership aims to prepare a professional with the theoretical and practical knowledge that allows him to apply the organizational processes and leadership theories that promote the development of strategies, habits of mind, and values for leadership creative and highly effective in the educational company.

Admission GPA: 3.00

Graduation GPA: 3.00

Curricular Content

Core Component- 9 credits			
Course	Credits	Title	Prerequisites
EDUC 714	3	Historical and Philosophical Perspectives in Education	
EDUC 715	3	Social, Cultural and Political Dimensions of Educational Organizations	
EDUC 716	3	Contemporary Problems and Trends in Education	
EDUC 717	3	Legal Issues in Education	
EDUC 718	3	Ethics and Education	
Specialty Component - 21 credits			
Course	Credits	Title	Prerequisites
Organizational Processes (9 credits)			
EDUC 801	3	Project Management in Education	
EDUC 802	3	Financial Affairs in Educational Settings	
EDUC 803	3	Evaluation of Instrutional Programs: Theory and Application	
Leadership (12 credits)			
EDUC 804	3	Leadership: Models and Strategies	
EDUC 805	3	Instructional Leadership	
EDUC 806	3	Leadership and Organizational Change	
EDUC 807	3	Leadership, Community Relations and Collaborative Alliances	
Electives - 6 credits			
Course	Credits	Title	Prerequisites
EDUC XXX	3		
EDUC XXX	3		
Research Component - 15 credits			
Course	Credits	Title	Prerequisites
EDUC 901	3	Research Methods in Education	
EDUC 902	3	Statistical Methods in Education	
EDUC 903 or	3	Qualitative Research or	EDUC 901, EDUC 902
EDUC 904		Quantitative Research	
EDUC 905	3	Dissertation I	EDRE 900 or EDUC 901 and EDUC 902
EDUC 906	3	Dissertation II	EDUC 905

Important Notes:

- Free electives, 6 credits, can take elective Courses of the Learning Environments of the doctoral program of Curriculum, Teaching and Learning Environments.
- Subject to change.
- All students enrolled in the Course EDUC 905 Dissertation I and EDUC 906 Dissertation II who have not completed the requirements established in the course will be awarded an IP (In Progress). This means that students enroll in the continuation courses EDUC 905 A and EDUC 906 A, respectively, for a cost equivalent to 3 credits for each academic term that enrolls the continuation.

Course	Credits	Prerequisites
EDUC 905 A Dissertation I (Continuación)	3	EDUC 905
EDUC 906 A Dissertation II (Continuación)	3	EDUC 906

Doctor of Education specialty in Curriculum, Teaching and Learning Environments

Program's description

The purpose of the Doctorate in Education program with a specialty in Curriculum, Teaching and Learning Environments is to prepare a professional with the theoretical and practical knowledge that allows him to apply the principles and foundations of the curriculum in the design, implementation and evaluation of educational programs. The environments of learning in this doctoral program provide an approach to the curricular aspects that affect the formation of the curriculum specialist in the selected study environment.

Admission GPA: 3.00

Graduation GPA: 3.00

Curricular Content

Core Component- 9 credits			
Course	Credits	Title	Prerequisites
EDUC 714	3	Historical and Philosophical Perspectives in Education	
EDUC 715	3	Social, Cultural and Political Dimensions of Educational Organizations	
EDUC 716	3	Contemporary Problems and Trends in Education	
EDUC 717	3	Legal Issues in Education	
EDUC 718	3	Ethics and Education	
EDUC 725	3	Globalization and Internationalization: Challenge for 21st Century Education	
Specialty Component - 27 credits			
Course	Credits	Title	Prerequisites
Curriculum (9 credits)			
EDUC 814	3	Curriculum Theories and Design	
EDUC 815	3	Curriculum Planning and Development	
EDUC 803	3	Evaluation of Instrutinal Programs: Theory and Application	
Teaching (9 credits)			
EDUC 812	3	Teaching, Learning, and Cognition	
EDUC 813	3	Teaching and Learning Models and Styles	
EDUC 809	3	Instructional Systems Design	
Learning Environments (9 credits)			
Student must choose 2 courses and EDUC 828 which is a semester course and requirement.			
Learning Environment 1: Special Education			
EDUC 816	3	Creating Learning Environments for Diverse Populations	
EDUC 817	3	Classroom Behavior Managent	
EDUC 818	3	Early Identification of High-Risk Students	
Learning Environment 2: Second Language Adquisition			
EDUC 819	3	Language Development Issues in Public and Private Schools in Puerto Rico	
EDUC 820	3	Teaching in Multicultural Enviroments	
EDUC 821	3	Issues In Writing English as a Second Language	
Learning Environment 3: Technology in Education			
EDUC 808	3	Applications and Use Technology Education	
EDUC 810	3	Technology Media in Education	
EDUC 811	3	Theory and Practice of Distance Education	
Learning Environment 4: Library and Information Systems			
EDUC 822	3	Electronic Databases and Information Services	
EDUC 823	3	Advanced Organization of Bibliographic Resources	
EDUC 824	3	Seminar: Special Topics in Library and Information Services	
Learning Environment 5: Art, Culture and Education			
EDUC 825	3	Anthropological and Cultural Concepts in the Curriculum of Puerto Rico	

Course	Credits	Title	Prerequisites
EDUC 826	3	Educational Research on the Teaching of Popular Arts and Fine Arts	
EDUC 827	3	Artistic and Cultural Expression	
Learning Environment 6: Children, Family and Society			
EDUC 720	3	Contemporary Theories of Childhood Development	
EDUC 721	3	Preschool/Primary Teaching in the 21st Century: Trends and Innovations	
Learning Environment 7: Higher Education			
EDUC 723	3	Organization and Governance in Higher Education	
EDUC 724	3	Student Services in Higher Education Institutions	
EDUC 800	3	Leadership and Administration in Higher Education	
Course in Learning Environments (required)			
EDUC 828	3	Seminar and Practicum in Higher Education Curriculum and Teaching <i>The student can substitute one of the Courses of the Learning Environment that they have selected for this semester course.</i>	
Research Component - 15 credits			
Course	Credits	Title	Prerequisites
EDUC 901	3	Research Methods in Education	
EDUC 902	3	Statistical Methods in Education	
EDUC 903 or EDUC 904	3	Qualitative Research or Quantitative Research	EDUC 901, EDUC 902
EDUC 905	3	Dissertation I	EDUC 901 and EDUC 902
EDUC 906	3	Dissertation II	EDUC 905

Important Notes:

1. Subject to change.
2. All students enrolled in the Course EDUC 905 Dissertation I and EDUC 906 Dissertation II who have not completed the requirements established in the course will be awarded an IP (In Progress). This means that students enroll in the continuation courses EDUC 905 A and EDUC 906 A, respectively, for a cost equivalent to 3 credits for each academic term that enrolls the continuation.

Course	Credits	Prerequisites
EDUC 905 A Dissertation I (Continuación)	3	EDUC 905
EDUC 906 A Dissertation II (Continuación)	3	EDUC 906

3.

Doctorate Degree in Education specialty in Teaching

Program's description

It is designed to develop dynamic, thoughtful, collaborative, and highly effective educational leaders in various areas of expertise. Provides theoretical and practical knowledge, skills, work ethic, vision and innovative spirit necessary to become leaders that will allow the development of other leadership competencies and knowledge related to their duties and aspirations, contributing effectively in a pluralistic society.

Admission GPA: 3.00

Graduation GPA: 3.00

Curricular Content

Emphasis Area: Learning - 12 credits

Course	Credits	Title	Prerequisites
EDLE 808	3	Human Behavior Fundamentals Applied to Learning	
EDLE 811	3	Society and Learning	
EDLE 816	3	Axiological and Philosophical Perspectives on Learning	
EDLE 911	3	Evaluation of Learning	EDLE 808

Emphasis Area: Teaching - 12 credits

Course	Credits	Title	Prerequisites
EDTE 824	3	Learning Foundations: Models and Practices	
EDCO 830	3	Curricular Design and Evaluation	
EDCO 831	3	Development of Educational Programs and Projects	
EDCO 836	3	Instructional Design and Technology	EDLE 816

Emphasis Area: Research - 15 credits

Course	Credits	Title	Prerequisites
EDRE 859	3	Historical and Philosophical Foundations of Educational Research	EDLE 816
EDRE 863	3	Qualitative Research	EDRE 865
EDRE 865	3	Experimental and Non-Experimental Quantitative Research	
EDRE 874	3	Descriptive Statistics and Use of Software	
EDRE 872	3	Inferential Statistics	EDRE 874

Final Requirements - 3 credits

Course	Credits	Title	Prerequisites
EDUC 985	0	Comprehensive Test	All courses
EDUC 905	3	Dissertation I	EDUC 985

Important Notes:

1. Courses will be offered in the term mode (part of term), except those courses already identified to be offered in semester (*).
2. Many of the courses can be delivered remotely (online).
3. Subject to change.

Doctorate Degree in Philosophy of Education specialty in Teaching

Program's description

The Ph. D. seeks to develop educational professionals with the ability to conduct research with greater emphasis on trends, principles and theoretical approaches, as well as in the search for new knowledge through the application of sophisticated research models at the university level. It includes the search for intellectual enrichment and the updating of knowledge, the use of the global cybernetic system and computer science to solve human problems, related to the teaching and learning process.

Admission GPA: 3.00

Graduation GPA: 3.00

Curricular Content

Emphasis Area: Learning - 12 credits

Course	Credits	Title	Prerequisites
EDLE 808	3	Human Behavior Fundamentals Applied to Learning	
EDLE 811	3	Society and Learning	
EDLE 816	3	Axiological and Philosophical Perspectives on Learning	
EDLE 911	3	Evaluation of Learning	EDLE 808

Emphasis Area: Teaching - 15 credits

Course	Credits	Title	Prerequisites
EDTE 824	3	Learning Foundations: Models and Practices	
EDCO 830	3	Curricular Design and Evaluation	
EDCO 831	3	Development of Educational Programs and Projects	
EDCO 836	3	Instructional Design and Technology	EDLE 816
EDCO 963	3	Postsecondary Education in Puerto Rico: Teaching and Andragogy	

Emphasis Area: Research - 21 credits

Course	Credits	Title	Prerequisites
EDRE 859	3	Historical and Philosophical Foundations of Educational Research	EDLE 816
EDRE 863	3	Qualitative Research	EDRE 865
EDRE 865	3	Experimental and Non-Experimental Quantitative Research	
EDRE 864	3	Combined Methods Research	Complete the fundamentals and specialty components of the program. Have taken quantitative and qualitative research methods.
EDRE 874	3	Descriptive Statistics and Use of Software	
EDRE 872	3	Inferential Statistics	EDRE 874
EDRE 873	3	Institutional Research and Assessment	EDRE 863

Final Requirements - 3 credits

Course	Credits	Title	Prerequisites
EDUC 985	0	Comprehensive Test	All courses
EDUC 905	3	Dissertation I	EDUC 985

Important Notes:

1. Courses will be offered in Part of Terms, except those courses already identified to be offered in semester (*).
2. Many of the courses can be delivered remotely (online).
3. Subject to change.

Doctorate Degree in Education specialty in Physical Education

Program's description

Develop physical educators with the ability to critically consume scientific literature and apply research to the development of this discipline of studies at the primary and secondary levels.

Admission GPA: 3.00

Graduation GPA: 3.00

Curricular Content

Fundamentals Component - 12 credits

Course	Credits	Title	Prerequisites
EDLE 816	3	Axiological and Philosophical Perspectives on Learning	
FOPE 800	3	Philosophy, Free Time, Quality of Life and Physical Education	EDLE 816
FOPE 801	3	Historical And Empirical Analysis of School and Higher Education Physical Education	EDLE 816
FOPE 802	3	Multidisciplinary Analysis of Physical Activity in Society	EDLE 816, FOPE 800

Specialty Component - 12 credits

Course	Credits	Title	Prerequisites
TEPE 803	3	Multidisciplinary Study of Learning in Physical Education	EDLE 816, FOPE 800, FOPE 801, FOPE 802
TEPE 804	3	Models of Teaching in Physical Education	EDLE 816, FOPE 800, FOPE 801, FOPE 802, TEPE 803
TEPE 805	3	Curriculum Design and Evaluation	EDLE 816, FOPE 800, FOPE 801, FOPE 802, TEPE 803, TEPE 804
TEPE 806	3	Models of Learning Assessment	EDLE 816, FOPE 800, FOPE 801, FOPE 802, TEPE 803

Research Component - 15 credits

Course	Credits	Title	Prerequisites
EDRE 859	3	Historical and Philosophical Foundations of Educational Research	EDLE 816
EDRE 865	3	Experimental and Non-Experimental Quantitative Research	
EDRE 863	3	Qualitative Research	EDRE 865
EDRE 864	3	Combined Methods Research	Complete the fundamentals and specialty components of the program. Have taken quantitative and qualitative research methods
EDRE 874	3	Descriptive Statistics and Use of Software	

Final Requirement - 3 credits

Course	Credits	Title	Prerequisites
EDUC 985	0	Comprehensive Test	All courses
EDUC 905	3	Dissertation I	EDUC 985

Important Notes:

1. Courses will be offered in Part of Term, except those courses already identified to be offered in semester.
2. Subject to change.

Doctorate Degree in Philosophy Specialty in Physical Education

Program's description

Prepare researchers who can generate new knowledge that contributes to the development of physical education, without excluding or distancing them from their university teaching function.

Admission GPA: 3.00

Graduation GPA: 3.00

Curricular Content

Fundamentals Component - 12 credits

Course	Credits	Title	Prerequisites
EDLE 816	3	Axiological and Philosophical Perspectives on Learning	
FOPE 800	3	Philosophy, Free Time, Quality of Life and Physical Education	EDLE 816
FOPE 801	3	Historical And Empirical Analysis of School and Higher Education Physical Education	EDLE 816
FOPE 802	3	Multidisciplinary Analysis of Physical Activity in Society	EDLE 816, FOPE 800

Specialty Component - 12 credits

Course	Credits	Title	Prerequisites
TEPE 803	3	Multidisciplinary Study of Learning in Physical Education	EDLE 816, FOPE 800, FOPE 801, FOPE 802
TEPE 804	3	Models of Teaching in Physical Education	EDRE 816, FOPE 800, FOPE 801, FOPE 802, TEPE 803
TEPE 805	3	Curriculum Design and Evaluation	EDLE 816, FOPE 800, FOPE 801, FOPE 802, TEPE 803, TEPE 804
TEPE 806	3	Models of Learning Assessment	EDLE 816, FOPE 800, FOPE 801, FOPE 802, TEPE 803

Research Component - 15 credits

Course	Credits	Title	Prerequisites
EDRE 863	3	Qualitative Research	EDRE 865
EDRE 865	3	Experimental and Non-Experimental Quantitative Research	
EDRE 864	3	Combined Methods Research	Complete the fundamentals and specialty components of the program. Have taken quantitative and qualitative research methods
EDRE 874	3	Descriptive Statistics and Use of Software	
EDRE 872	3	Inferential Statistics	EDRE 874

Electives: Adapted Physical Education - 12 credits

Course	Credits	Title	Prerequisites
ADPE 800	3	Foundations Of Adapted Physical Education	
ADPE 801	3	Curriculum Considerations of Inclusive Physical Education	
ADPE 802	3	Methodological Approaches and Strategies for Special Populations in Adapted Physical Education	
ADPE 803	3	Evaluation Seminar in Adapted Physical Education	

Electives: Education in Recreation and Free Time - 12 credits

Course	Credits	Title	Prerequisites
REED 800	3	Seminar on Recreation as a Profession	
REED 801	3	Seminar for the Development and Evaluation of Recreational Services	REED 800
REED 802	3	Recreation for Special Population	REED 800, REED 801
REED 803	3	Research Seminar in Recreation	Have completed 12 research credits in the doctoral program

Electives: Spots Science - 12 credits

Course	Credits	Title	Prerequisites
SPSC 800	3	Historical and Socio-Cultural Analysis of Sport and Physical Activity	
SPSC 801	3	Psychology Applied to Sport and Physical Activity	
SPSC 802	3	Analysis of Psychosocial Development Through Sport	
SPSC 803	3	Sports Management and Administration	

Electives: Measurement and Evaluation in Physical Education - 12 credits

Course	Credits	Title	Prerequisites
MEPE 800	3	Quantitative Evaluation	
MEPE 801	3	Qualitative Evaluation	
MEPE 802	3	Construction of Evaluation Instruments	Have completed 30 credits leading to the doctoral degree
MEPE 803	3	Validation of Assessment and Measurement Instruments	MEPE 802

Final Requirement - 3 credits

Course	Credits	Title	Prerequisites
EDUC 985	0	Comprehensive Test	All courses
EDUC 906	3	Dissertation	EDUC 985

Important Notes:

1. Courses will be offered in Part of Term, except those courses already identified to be offered in semester.
2. Subject to change.

Graduate Certificate in Autism

Program's description

The Autism Professional Certificate has been designed for the development of professionals in the field of education, health or other disciplines interested in the wellbeing of people with the autism spectrum. Candidates will develop or strengthen knowledge, skills and dispositions needed to interact effectively with autistic people in a professional or personal setting. It offers a formation experience that will allow candidates to assume leadership roles as teachers, supervisors, or consultants in the field of special education.

Admission GPA: 2.50

Graduation GPA: 3.00

Curricular Content

Specialty Component - 24 credits			
Course	Credits	Title	Prerequisites
EDUC 530	3	Psychosocial and Educational Implications at Birth or Advent of a Student with Disabilities: Family, Society, Services and Education	
EDUC 537	3	Management And Educational Strategies for Students with Pervasive Developmental Disorders, Attention Deficit or Other Psychiatric Disorders	
EDUC 546	3	Asistive Technology in Special Education	EDUC 530
EDUC 653	3	Nature and Psychosocial Aspects of the Student with Autism	EDUC 530, EDUC 546
EDUC 654	3	Communication Methods of the Child with Autism	EDUC 530, EDUC 546
EDUC 655	3	Behavior Management of Students with Autism	EDUC 653, EDUC 654
EDUC 656	3	Methodology for Teaching Autistics Students	EDUC 653, EDUC 654
EDUC 657	3	Evaluation of children with autism	EDUC 656

Important Notes:

1. Possess preparation in the field of education that includes a basic course on the exceptional child.
2. Pass the courses with a minimum grade of C.
3. Subject to change.

Professional Certificate in Sign Language

Program's description

With this certificate, students will develop intermediate skills in the sign language used in the deaf community to facilitate communication between hearing and deaf people. Sociocultural and linguistic aspects in which deaf people interact, as well as their specific needs are addressed to ensure their full inclusion in the general community. The student will develop sign language skills, sign language linguistic knowledge, and the history of sign language interpreting. The student may serve as a sign language communicator for deaf people in the public or private sector.

Admission GPA: 2.00

Graduation GPA: 2.00

Curricular Content

Major Component - 24 credits			
Course	Credits	Title	Prerequisites
SIGN 102	3	Sign Language I: Foundations, Spelling and Numbers	
SIGN 103	3	Sign Language II: Conversation	SIGN 102
SIGN 104	3	Sign Language III: Narratives	SIGN 103
SIGN 106	3	Visual Gestural Communication and Clasifiers	SIGN 102
SIGN 121	3	Historic and Socio-Cultural Aspects of the Puerto Rican Deaf Culture	
SIGN 201	3	Sign Language Linguistics	
SIGN 203	3	Introduction to Sign Language Interpreting	SIGN 102, SIGN 121
SIGN 416	3	Psychosocial Aspects of Deafness	SIGN 121

Important Notes:

1. New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
2. Subject to change.

DEPARTMENT OF CRIMINAL JUSTICE AND PUBLIC SAFETY

Master in Criminal Justice and Criminology

Program's description

The master degree in Criminal Justice and Criminology integrates the study of the components of the justice system, the analysis of deviant behavior, and the application of research methodology to gain a better comprehension of the necessary strategies needed to prevent and manage criminal conduct. With this new name and structure, the master prepares professionals to know the criminal justice system, its components, processes and what takes place within each of them. The program offers students the necessary tools to analyze the relevant theories on criminal etiology, and consider prevention, intervention and management strategies for criminal behavior, by applying the scientific methods, qualitative and quantitative research, drafting and preparation of proposals, scenario development and interpretation of data. The program also provides an opportunity to master the strategies and steps to effectively work a crime scene and understand the basics of evidence analysis.

Admission GPA: 3.00

Graduation GPA: 3.00

Curricular Content

Core Component- 15 credits			
Course	Credits	Title	Prerequisites
CJGR 502	3	Foundations, Organization and Criminal Justice System Administration	
CJGR 515	3	Legal, Ethical, and Moral Issues of Criminal Justice	
CJGR 602	3	Criminology and Deviant Behavior	
CJGR 607	3	Information Technologies Applied to Criminal Justice	
CJGR 611	3	Principles of Forensic Investigation Applied to Criminal Justice	
Specialty Component– 27 credits			
Course	Credits	Title	Prerequisites
CJGR 615	3	Penology	
CJGR 620	3	Victimology	
CJGR 627	3	Statistics Applied to Criminal Justice	
CJGR 633	3	Cyber Criminology	
CJGR 636	3	Correctional Philosophy and Offender Rehabilitation	
CJGR 637	3	Forensic Behavioral Criminology	
CJGR 646	3	Forensic Criminalistic	CJGR 611
CJGR 648 or		Criminal Justice and Criminology Research Project or	All courses
CJGR 651	3	Integrated Seminar of Comprehensive Examination in Criminal Justice and Criminology	
INTG 500	3	Research Methods	

Important Notes:

1. Courses are taken in terms of eight weeks (Part of Term), except CJGR 648 and CJGR 651, which are taken in semesters.
2. Students can enroll only twelve credits per semester.
3. Subject to change.

Master of Public Affairs specialty in Forensic Sciences

Program's description

The graduate of the Master of Public Affairs with specialization in Forensic Sciences will be able to administer, design and coordinate criminal investigation projects, protection and analysis of the evidence collected and guarded at the scene of crime as well as expertise in judicial processes in the areas of physical aspects of evidence, Forensic photography and drawing of sketches, analysis of doubtful documents and for the clarification of crimes. (Gurabo, Ponce and Barceloneta)

Admission GPA: 3.00 (See admission requirements for accelerated adult program.)

Graduation GPA: 3.00

Curricular Content

Core Component- 21 credits

Course	Credits	Title	Prerequisites
MSPA 500	3	Theory, Practice and Change in The Administration of Public Policy	
MSPA 510	3	Research Techniques and Quantitative Methods Applied to Public Administration	
MSPA 520	3	Administrative Law and Ethics	MSPA 500
MSPA 530	3	Planning and Evaluation: Theories, Methods and Techniques	MSPA 510
MSPA 540	3	Seminar: Human Resources Development, Planning and Evaluation	MSPA 520
MSPA 550	3	Fiscal Resources Management	MSPA 530
MSPA 725	3	Knowledge Integration Seminar	

Specialty Component – 18 credits

Course	Credits	Title	Prerequisites
FORS 730	3	Forensic Investigation and Identification	
FORS 735	3	Investigation and Collection of Evidence at the Crime Scene	
FORS 740	3	Forensic Photography and Forensic Sketch	
FORS 745	3	Expert Witness in Court	
FORS 750	3	Examination of Questioned Documents	
MSPA 710 or MSPA 720	3	Research Seminar or Practicum in Public Affairs	Program authorization

Important Notes:

1. Subject to change

Master of Public Affairs specialty in Conflict Mediation

Program's description

Graduates of the Master of Public Affairs with specialization in Conflict Mediation are prepared to work as neutral interveners or mediators in family and labor conflicts in administrative and judicial procedures. Students will develop attitudinal, cognitive and attitudinal skills to facilitate obtaining agreement of parties in conflict. Students will develop skills needed to conduct conflict resolution in an ethical and confidential process, so as to assist parties in talking about their disagreements. Conflict mediation is a confidential and voluntary process that aims to reach win/win solutions for people who are in conflict with one another.

Admission GPA: 3.00

Graduation GPA: 3.00

Curricular Content

Core Component- 21 credits			
Course	Credits	Title	Prerequisites
MSPA 500	3	Theory, Practice and Change in The Administration of Public Policy	
MSPA 510	3	Research Techniques and Quantitative Methods Applied to Public Administration	
MSPA 520	3	Administrative Law and Ethics	MSPA 500
MSPA 530	3	Planning and Evaluation: Theories, Methods and Techniques	MSPA 510
MSPA 540	3	Seminar: Human Resources Development, Planning and Evaluation	MSPA 520
MSPA 550	3	Fiscal Resources Management	MSPA 530
MSPA 725	3	Knowledge Integration Seminar	
Specialty Component – 17 credits			
Course	Credits	Title	Prerequisites
CMED 600	4	Alternative Methods in Conflict Resolution: Foundations, Theories, and Principles in Public Affairs	
CMED 610	3	Judicial System of Puerto Rico and Alternative Methods for Conflict Resolution	
CMED 620	3	Mediation: Legal and Psychosocial Aspects Related to Violence in the Family	
CMED 640	3	Applied Mediation to Labor Cases	CMED 600
CMED 660	4	Practicum: Strategies and Techniques Applied to Public Affairs	CMED 600
Directed Electives - 3 credits			
Course	Credits	Title	Prerequisites
SPSY 613	3	Conflict Mediation Prevention	
CRJU 635	3	Mental Health and Law	
MHSA 672	3	Labor Law	
CRJU 510	3	Law and Society	

Important Notes:

1. Subject to change.

Master in Public Affairs specialty in Human Services

Program's description

Graduates of the Master of Public Affairs with specialization in Human Services will be able to manage, design, plan and evaluate programs of services related to personal and social development of individuals, families and communities to improve the quality of life of society. In addition, they will develop leadership skills that will enable them to organize communities and thus become agents of social change. They will be able to participate effectively and efficiently in the processes of public policy formulation. They will know strategies for the search of funds, preparation and administration of proposals for the operationalization of objectives and programmatic.

Admission GPA: 3.00

Graduation GPA: 3.00

Curricular Content

Core Component- 21 credits			
Course	Credits	Title	Prerequisites
MSPA 500	3	Theory, Practice and Change in The Administration of Public Policy	
MSPA 510	3	Research Techniques and Quantitative Methods Applied to Public Administration	
MSPA 520	3	Administrative Law and Ethics	MSPA 500
MSPA 530	3	Planning and Evaluation: Theories, Methods and Techniques	MSPA 510
MSPA 540	3	Seminar: Human Resources Development, Planning and Evaluation	MSPA 520
MSPA 550	3	Fiscal Resources Management	MSPA 530
MSPA 725	3	Knowledge Integration Seminar	
Specialty Component – 15 credits			
Course	Credits	Title	Prerequisites
MHSA 604	3	Human Services Administration: Organizations, Policies and Alternatives	
MHSA 608	3	Leadership and Community Development	
MHSA 612	3	Seminar: Program Design in Human Services	
MHSA 622	3	Grant Writing and Fundraising	
MSPA 710 or MSPA 720	3	Research Seminar or Practicum in Public Affairs	Program authorization

Important Notes:

1. Subject to change.

Graduate Certificate in Public Affairs in Human Services

Program's description

Graduates this program will be able to manage, design, plan and evaluate programs of services related to personal and social development of individuals, families and communities to improve the quality of life of society. In addition, they will develop leadership skills that will enable them to organize communities and thus become agents of social change. They will be able to participate effectively and efficiently in the processes of public policy formulation. They will know strategies for the search of funds, preparation and administration of proposals for the operationalization of objectives and programmatic goals.

Admission GPA: 3.00

Graduation GPA: 3.00

Curricular Content

Specialty Component - 18 credits			
Course	Credits	Title	Prerequisites
MHSA 604	3	Human Services Administration: Organizations, Policies and Alternatives	
MHSA 608	3	Leadership and Community Development	
MHSA 612	3	Seminar: Program Design in Human Services	
MHSA 622	3	Grant Writing and Fundraising	
MSPA 710	3	Research Seminar	Program authorization
MHSA 652	3	Seminar: Contemporary Issues in Human Services Management	
MHSA 653	3	General Principles of Counseling	
MHSA 654	3	Legal Aspects in Human Services Administration	
MHSA 655	3	Counseling Techniques and the Help Process	
MHSA 656	3	Grants Management	
MHSA 658	3	Intergovernmental Relations	
MHSA 668	3	Seminar: Human Behavior in Organizations	
MHSA 672	3	Labor Law	
MHSA 674	3	Human Development	
MHSA 676	3	Total Quality Management in Human Services Organizations	

Important Notes:

1. Students will select 18 credits according to their professional interests.
2. Subject to change.

Graduate Certificate in Community Development

Program's description

The Graduate Certificate in Community Development aims to provide students the competencies for community development from a theoretical and practical perspective. The program aims to train students in the use of theories, techniques, methods, procedures, knowledge and management competencies to perform optimally in the design or program and writing proposals of funds for the community development. Likewise, the graduates of the program will know and apply the values, models and techniques of voluntarism, citizen participation and strategic leadership.

Admission GPA: 3.00

Graduation GPA: 3.00

Curricular Content

Specialty Component - 15 credits			
Course	Credits	Title	Prerequisites
CDEV 500	3	Strategic Leadership: Theories and Approaches to Community Development	
CDEV 510	3	Citizen Participation, Volunteer Recruitment, and Administration: Values, Models, and Techniques	
CDEV 515	3	Planification and Evaluation: Theories, Methods and Techniques	
CDEV 520	3	Entrepreneurship, Proposal Writing and Fundraising	
CDEV 525	3	Design, Budget Management and Evaluation of Service Programs for Community Development	
Directed Electives – 3 credits			
Course	Credits	Title	Prerequisites
CMED 620	3	Mediation: Legal and Psychosocial Aspects Related to Violence in the Family	
SOWO 506	3	Analysis of Social Reality, Oppression and Social Justice	
MHSA 656	3	Grants Management	

Important Notes:

1. Subject to change.

Professional Certificate in Public Affairs in Forensic Sciences

Program's description

The Graduate Certificate program in Public Affairs with a specialty in Forensic Sciences is designed to make the graduate student, a professional trained to administer, design, and coordinate criminal investigation projects, protection and analysis of the evidence collected and guarded at the crime scene. as well as expertise in judicial processes, in the areas of physical aspects of the evidence, forensic photography and drafting of sketches, analysis of doubtful documents and for the clarification of crimes.

Admission GPA: 3.00

Graduation GPA: 3.00

Curricular Content

Specialty Component - 18 credits			
Course	Credits	Title	Prerequisites
FORS 730	3	Forensic Investigation and Identification	
FORS 735	3	Investigation and Collection of Evidence at the Crime Scene	
FORS 740	3	Forensic Photography and Forensic Sketch	
FORS 745	3	Expert Witness in Court	
FORS 750	3	Examination of Questioned Documents	
MSPA 710	3	Research Seminar or	Program authorization
Electives - 3 credits			
Course	Credits	Title	Prerequisites
FORS 760	3	Forensic Psychology	
CRJU 600	3	Victim: Crime, Practices, and Society	
CRJU 630	3	Techniques for the Organization and Administration of the Police	
CRJU 635	3	Mental Health and Law	
CRJU 640	3	Addiction Problems: Legal and Psychosocial Aspects	
CRJU 645	3	Comparative Correctional Systems	
CRJU 715	3	Seminar: Particular Situations in the Administration of Correctional Programs	

Important Notes:

1. Subject to change.

DEPARTMENT OF COMMUNICATIONS

Master of Communications specialty in Public Relations

Program's description

The Master in Communications with a specialty in Public Relations prepares comprehensive public relations professionals, capable of building and maintaining relationships between organizations and their audiences; with knowledge about the new digital platforms that exist in the field of Communications. It offers students' knowledge about new trends in the field of public relations, focused on a globalized and changing world. Curriculum design focuses on theory and practice.

Admission GPA: 3.00

Graduation GPA: 3.00

Curricular Content

Core Component- 15 credits			
Course	Credits	Title	Prerequisites
COMM 510	3	Contemporary Theories of Communication	
COMM 515	3	Research Methods in Communications	
COMM 517	3	Communications and New Media	
COMM 511	3	Development and Management of Media Enterprises	
COMM 520	3	Advanced Writing for the Media	
Specialty Component - 15 credits			
Course	Credits	Title	Prerequisites
COMM 530	3	Identity and Corporate Image	COMM 510
COMM 535	3	Crisis Communication	COMM 510
COMM 537	3	Strategic Communication in Public Relations	COMM 510, COMM 520
COMM 538	3	Strategic Direction of Public Relations and Digital Convergence	COMM 510, COMM 520
COMM 550 or COMM 552	3	Project or Thesis*	All courses
Electives- 3 credits			
Course	Credits	Title	Prerequisites
Elective	3		

Important Notes:

1. * This course is offered in semester (15 weeks).
2. Subject to change.

DEPARTMENT OF PSYCHOLOGY

Master of Psychology specialty in Counseling Psychology

Program's description

The objectives of the program are to train psychologically competent health service providers to provide assessment and counseling services both in private practice and within a mental health organization or hospital. The curriculum and core training of the program were developed in accordance with the American Psychological Association (APA). Accreditation criteria and improvement of the pre-required master's degree in knowledge and skills of psychology acquired in said program. (Gurabo and Barceloneta)

Admission GPA: 3.00

Graduation GPA: 3.00

Curricular Content

Core Component- 25 credits

Course	Credits	Title	Prerequisites
PSYC 500	3	Human Growth and Lifespan Development	
PSYC 501	3	Social Basis of Behavior	
PSYC 503	3	Theories of Personality	
PSYC 510	3	Motivation and Learning	
PSYC 520	3	Biological Basis of Behavior	
PSYC 508	3	Test Construction: Theory and Application	PSYC 502
PSYC 507-v	1	Introduction of Professional Issues in Psychology Seminar	
PSYC 502	3	Applied Statistics in Psychology	
PSYC 530	3	Method and Techniques in Psychological Research	PSYC 502

Specialty Component - 16 credits

Course	Credits	Title	Prerequisites
PSYC 504	3	Psychopathology	
PSYC 505**	4	Cognitive Assessment	PSYC 502, PSYC 508
CPSY 601	3	Found Tech Counseling and Psychology	PSYC 500, PSYC 503, PSYC 504, PSYC 510
CPSY 602	3	Counseling Models and Techniques	CPSY 601
CPSY 730	3	Ethics	

Professional Component - 8 credits

Course	Credits	Title	Prerequisites
PSYC 550**	3	Practicum I	CPSY 601
PSYC 551**	3	Practicum II	PSYC 550
PSYC 574**	1	Practicum III	PSYC 551
PSYC 599**	1	Practicum IV	PSYC 574
TEST 500-1*	0	Comprehensive Exam Part I Psychological Counseling	PSYC 500, PSYC 501, PSYC 503, PSYC 504, PSYC 505, PSYC 508, PSYC 510, PSYC 520, PSYC 502, PSYC 530, CPSY 601, CPSY 602, CPSY 730
TEST 500-2*	0	Comprehensive Exam Part II Psychological Counseling	PSYC 500, PSYC 501, PSYC 503, PSYC 504, PSYC 505, PSYC 508, PSYC 510, PSYC 520, PSYC 502, PSYC 530, CPSY 601, CPSY 602, CPSY 730

Directed Electives - 6 credits

Course	Credits	Title	Prerequisites
CPSY 615	3	Cognitive Therapy	PSYC 504, PSYC 510, CPSY 601
CPSY 603	3	Systemic Counseling	

Course	Credits	Title	Prerequisites
CPSY 605	3	Psychological Interventions with Children and Adolescents	
CPSY 738	3	Sexual Counseling and Therapy	
CPSY 720	3	Psychological Counseling in Cases of Drug/Alcohol Abuse	
CPSY 625	3	Sexual Assault Counseling	
CPSY 630	3	Career and Occupations Counseling	
CPSY 700	3	Atypical Sexual Behaviors	
CPSY 710	3	Animals as Co-therapist	
CPSY 728	3	Psychological Intervention with LGBTTT Individual	
PSYC 730	4	Projective Personality Assessment	
PSYC 704	3	Psychopharmacology	
PSYC 619	3	Behavior Modification	
PSYC 617	3	Hypnosis	

Important Notes:

1. For the practice courses, you must refer to the practice manual for the hours and minimum requirements for approval.
2. PSYC 574 and PSYC 599 require placement in a practice center and completion of the minimum hours established in the program's practice manual.
3. The comprehensive exam is taken only once. The exam is offered once per semester.
4. * Master's level student course.
5. **Courses are offered in semester.
6. Minimum passing grade for the courses is B.
7. Subject to change.

Master of Arts specialty in Counseling Psychology

Program's description

This master's degree has a scientific-professional approach following the model proposed by the American Psychological Association (APA). This program highlights the integration of science and practice. Students are prepared to carry out their functions in different work settings, such as: academic departments in universities, health care centers, community services, counseling services in universities, independent practice, professional consulting and rehabilitation services. (Cupey and Aguadilla)

Admission GPA: 3.00

Graduation GPA: 3.00

Curricular Content

Core Component- 25 credits

Course	Credits	Title	Prerequisites
PSYC 500	3	Human Growth and Lifespan Development	
PSYC 501	3	Social Basis of Behavior	
PSYC 503	3	Theories of Personality	
PSYC 510	3	Motivation and Learning	
PSYC 520	3	Biological Basis of Behavior	
PSYC 508	3	Test Construction: Theory and Application	PSYC 502
PSYC 507-v	1	Introduction of Professional Issues in Psychology Seminar	
PSYC 502	3	Applied Statistics in Psychology	
PSYC 530	3	Method and Techniques in Psychological Research	PSYC 502

Major Component - 16 credits

Course	Credits	Title	Prerequisites
PSYC 504	3	Psychopathology	
PSYC 505**	4	Cognitive Assessment	PSYC 502, PSYC 508
CPSY 601	3	Found Tech Counseling and Psychology	PSYC 500, PSYC 503, PSYC 504, PSYC 510
CPSY 602	3	Counseling Models and Techniques	CPSY 601
CPSY 730	3	Ethics	

Professional Component - 8 credits

Course	Credits	Title	Prerequisites
PSYC 550**	3	Practicum I	CPSY 601
PSYC 551**	3	Practicum II	PSYC 550
PSYC 574**	1	Practicum III	PSYC 551
PSYC 599**	1	Practicum IV	PSYC 574
TEST 500-1*	0	Comprehensive Exam Part I Psychological Counseling	PSYC 500, PSYC 501, PSYC 503, PSYC 504, PSYC 505, PSYC 508, PSYC 510, PSYC 520, PSYC 502, PSYC 530, CPSY 601, CPSY 602, CPSY 730
TEST 500-2*	0	Comprehensive Exam Part II Psychological Counseling	PSYC 500, PSYC 501, PSYC 503, PSYC 504, PSYC 505, PSYC 508, PSYC 510, PSYC 520, PSYC 502, PSYC 530, CPSY 601, CPSY 602, CPSY 730

Directed Electives - 6 credits

Course	Credits	Title	Prerequisites
CPSY 615	3	Cognitive Therapy	
CPSY 603	3	Systemic Counseling	
CPSY 605	3	Psychological Interventions with Children and Adolescents	
CPSY 738	3	Sexual Counseling and Therapy	
CPSY 720	3	Psychological Counseling in Cases of Drug/Alcohol Abuse	
CPSY 625	3	Sexual Assault Counseling	
CPSY 630	3	Career and Occupations Counseling	
CPSY 700	3	Atypical Sexual Behaviors	
CPSY 710	3	Animals as Co-therapist	

Course	Credits	Title	Prerequisites
CPSY 728	3	Psychological Intervention with LGBTTT Individual	
PSYC 730	4	Projective Personality Assessment	
PSYC 704	3	Psychopharmacology	
PSYC 619	3	Behavior Modification	
PSYC 617	3	Hypnosis	

Important Notes:

1. For the practice courses, you must refer to the practice manual for the hours and minimum requirements for approval.
2. PSYC 574 and PSYC 599 require placement in a practice center and completion of the minimum hours established in the program's practice manual.
3. The comprehensive exam is taken only once. The exam is offered once per semester.
4. *Master's level student course.
5. **Courses are offered in semester.
6. Minimum passing grade for the courses is B.
7. Subject to change.

Doctor of Psychology specialty in Counseling Psychology

Program's description

The Doctoral degree in Counseling Psychology will facilitate the management of personal and interpersonal functioning across the life span with a focus on emotional, social, and vocational aspects. As health services providers, counseling psychologists focus on typical, as well as atypical or dysfunctional development as it applies to humans as individuals, families, groups, and systems. Through the integration of theory, research and practice candidates will learn different techniques to help people improve their wellbeing, alleviate distress and maladjustment, resolve crisis, and increase their ability to live more highly functioning lives.

Admission GPA: 3.00

Graduation GPA: 3.00

Curricular Content

Psychology Component - 27 credits

Course	Credits	Title	Prerequisites
PSYC 500	3	Human Growth & Lifespan Development	
PSYC 501	3	Social Basis of Behavior	
PSYC 503	3	Theories of Personality	
PSYC 504	3	Psychopathology	
PSYC 508	3	Test Construction: Theory & Application	PSYC 502
PSYC 520	3	Biological Basis of Behavior	
PSYC 806	3	History and Systems in Psychology	
PSYC 810	3	Advanced Psychopathology	PSYC 504
PSYC 815	3	Cognitive and Affective Bases of Behavior	PSYC 520
PSYC 831	0	APA Style: Advanced	

Specialty Component – 30 credits

Course	Credits	Title	Prerequisites
CPSY 601	3	Found Tech Counseling Psychology	
CPSY 804	2	Professional Issues in Counseling Psychology	CPSY 601
CPSY 832	3	Evidence Based Practices in Individual Counseling	
CPSY 833	3	Advanced Group Counseling	CPSY 804
CPSY 834	3	Marriage and Family Counseling	CPSY 804
PSYC 505	4	Cognitive Assessment*	PSYC 502, PSYC 508
PSYC 801	3	Ethics and Professional Standards	
PSYC 820	3	Objective Personality Assessment	PSYC 505
PSYC 840	3	Diversity: Culture, Ethnicity, Gender & Race	
PSYC 938	3	Consultation & Supervision	

Practicum Component - 14 credits

Course	Credits	Title	Prerequisites
PSYC 552	3	Practicum I*	
PSYC 554	3	Practicum II*	PSYC 552
CPSY 904*	2	Advanced Practicum I*	PSYC 554
CPSY 907*	2	Advanced Practicum II*	PSYC 904
CPSY 908*	2	Advanced Practicum III*	PSYC 907
CPSY 909*	2	Advanced Practicum IV*	PSYC 908

Research Component - 9 credits

Course	Credits	Title	Prerequisites
PSYC 502	3	Applied Statistics in Psychology	
PSYC 530	3	Method and Techniques in Psychological Research	
PSYC 930	3	Qualitative & Quantitative Methods & Statistical Design	PSYC 502, PSYC 530
TEST 500-1	0	Comprehensive Exam	
TEST 800-1	0	Doctoral Candidacy Exam	

Directed Electives - 9 credits

Course	Credits	Title	Prerequisites
CPSY 603	3	Systemic Counseling	
CPSY 605	3	Psychological Interventions with Children and Adolescents	
CPSY 615	3	Cognitive Therapy	
CPSY 625	3	Sexual Assault Counseling	
CPSY 630	3	Career and Occupations Counseling	
CPSY 700	3	Atypical Sexual Behaviors	
CPSY 710	3	Animals as Co-therapist	
CPSY 720	3	Psychological Counseling in Cases of Drug/Alcohol Abuse	
CPSY 728	3	Psychological Intervention with LGBTT Individual	
CPSY 738	3	Sexual Counseling and Therapy	
PSYC 704	3	Psychopharmacology	
PSYC 725	3	Neuropsychological Evaluation	
PSYC 730	4	Projective Personality Assessment	
PSYC 936	3	Program Evaluation Methods	
CPSY 701	3	Transpersonal Psychology	

Doctoral Project - 2 credits

Course	Credits	Title	Prerequisites
CPSY 957*	1	Doctoral Project I	
CPSY 958*	1	Doctoral Project II	CPSY 957

Internship - 3 to 4 credits

Course	Credits	Title	Prerequisites
CPSY 962	1 to 3	Internship – Full time, one year (2,000 hours) or	CPSY 957, TEST 500-1, TEST 800-1
CPSY 961**	1 to 4	Internship – Part Time, two years (2,000 hours)	CPSY 957, TEST 500-1, TEST 800-1

Important Notes:

1. *Semester courses
2. Candidacy Exam must be approved before the beginning of the internship. Student must approve the doctoral project proposal before the beginning of the internship.
3. Students registered in CPSY 962 must register one credit per semester including summer.
4. **Part time internship requires an additional credit: total of 95 credits and registered one credit per semester for four semesters.
5. Subject to change.

Clinical Psychology Doctorate (PsyD)

Program's description

The objectives of the program are to encourage our graduates to provide health services in harmony with the conceptual and theoretical foundations, intervention models, research methodology, and a sense of commitment to comply with ethical standards and respect for individual, social diversity. and culture; train future professional clinical psychologists who develop and/or provide specialized psychological and prevention services that include and integrate areas such as diagnosis, psychological evaluation, education, research, supervision, consulting and up-to-date psychotherapeutic interventions; train future professional clinical psychologists who work within a transdisciplinary and multidisciplinary context, establishing excellent interpersonal relationships with various professionals in the health field.

Admission GPA: 3.00

Graduation GPA: 3.00

Curricular Content

Major Component (Master Level) - 45 credits			
Course	Credits	Title	Prerequisites
PSCL 750	3	Theoretical Foundation of Human Development through the Life Cycle	
PSCL 751	3	Ethical Behavior in the Profession of Psychology	
PSCL 752	3	Theoretical Aspects of Personality	
PSCL 753	3	Applied Biological Psychology	
PSCL 754	3	Psychology of Learning and Motivation	
PSCL 755	3	Advanced Psychopathology I	
PSCL 756	3	Theories in Advanced Social Psychology	
PSCL 757	3	History and System of Psychology	
PSCL 759	3	Statistical Methods I	
PSCL 761	3	Advanced Psychopathology II	PSCL 755
PSCL 762	3	Statistical Methods	PSCL 759
PSCL 763	2	Methodological Aspects of Intelligence Assessment and Measurement	PSCL 752, PSCL 755, PSCL 759 y concurrent with PSCL 763-L
PSCL 763-L	1	Methodological Aspects of Intelligence Assessment and Measurement (Lab)	Concurrent with PSCL 763
PSCL 764	3	Theoretical Bases in Test Construction	PSCL 759
PSCL 765	3	Multicultural Aspects and Diversity	PSCL 756
PSCL 766	2	Methodological Aspects of Personality Assessment and Measurement	PSCL 752, PSCL 755, PSCL 759 y concurrent with PSCL 766-L
PSCL 766-L	1	Methodological Aspects of Personality Assessment and Measurement (Lab)	Concurrent with PSCL 766
Electives – 2 credits			
Course	Credits	Title	Prerequisites
PSCL 778	2	Foundations of Thanatology	
PSCL 781	2	Public Health and Mental Health Interventions	
PSCL 782	2	Foundations of Neuropsychology	
PSCL 785	2	Health Psychology	
Seminars - 0 credits			
Course	Credits	Title	Prerequisites
PSCL 720	0	APA Seminar	
Practicum - 4 credits			
Course	Credits	Title	Prerequisites
PSCL 711	1	Practice I	
PSCL 712 ¹	1	Practice II (A & B)	PSCL 711
PSCL 713	1	Practice III	PSCL 712 (A y B)
PSCL 714 ²	1	Practice IV (A & B)	PSCL 713

Comprehensive Exam - 0 credits

Course	Credits	Title	Prerequisites
PSCL 770	0	Comprehensive Test (Part I)	
PSCL 771	0	Comprehensive Test (Part II)	

Specialty Component (Doctoral Level) - 27 credits

Course	Credits	Title	Prerequisites
PSCL 858	3	Consulting and Supervision	
PSCL 860	3	Group Therapy	
PSCL 867	3	Psychological Interventions for Trauma Focused Children and Adolescents	PSCL 755, PSCL 761
PSCL 869	3	Program Design and Evaluation	PSCL 858
PSCL 870	3	Family Psychotherapy	PSCL 759
PSCL 871	3	Research Methods	PSCL 759, PSCL 762
PSCL 872	3	Psychopharmacology	
PSCL 874	3	Clinical-Forensic Assessment in Family Cases and Expert Reporting	PSCL 870
PSCL 875	3	Clinical-Forensic Assessment in Child and Adolescent Cases and Expert Reporting	PSCL 867

Electives - 2 credits

Course	Credits	Title	Prerequisites
PSCL 877	2	Foundations of Forensic Psychology	
PSCL 879	2	Interventions With GBTTQ Families Focused on Trauma	
PSCL 880	2	Evidence-Based Psychological Treatments for Families with Problematic Drug and Alcohol Use	
PSCL 883	2	Writing Research Articles	PSCL 871
PSCL 884	2	Animal- Assisted Therapy Aimed to Trauma Management	

Practicum - 2 credits

Course	Credits	Title	Prerequisites
PSCL 815	1	Practicum V	PSCL 714 (A and B)
PSCL 816 ³	1	Practicum V (A and B)	PSCL 815

Doctoral Exam - 0 credits

Course	Credits	Title	Prerequisites
PSCL 830	0	Comprehensive Exam (Part I)	Core courses, specialty courses and the six practices
PSCL 831	0	Comprehensive Exam (Part II)	Core courses, specialty courses and the six practices

Doctoral Internship - 4 credits

Course	Credits	Title	Prerequisites
PSCL 832	2	Doctoral Internship (Part I)	PSCL 830, 831
PSCL 833	2	Doctoral Internship (Part II)	PSCL 832

Doctoral Dissertation - 4 credits

Course	Credits	Title	Prerequisites
PSCL 834	2	Doctoral Dissertation (Part I)	PSCL 832, 833
PSCL 835	2	Doctoral Dissertation (Part II)	PSCL 834

Important Notes:

1. This practice begins the Second Semester of the First Year and ends in the second week of July.
2. This practice begins the Second Semester of the Second Year and ends in the second week of July.
3. Electives: PSCL 778, PSCL 781, PSCL 782, PSCL 785
4. Electives: PSCL 877, PSCL 879, PSCL 880, PSCL 883, PSCL 884
5. It is important to remember that when establishing the separation of credits by levels (master's or doctoral), it must be taken into consideration that the 700 codes are for the master's level and the 800 codes are for the doctoral level.
6. Subject to change.

Postgraduate Certificate in Forensic Psychology

Program's description

Students will have the option to train in civil and criminal areas, and in both Puerto Rico and Federal rules, procedures and case law. Upon completion of the course sequence, the student will be awarded a certificate of proficiency, which will identify specialized knowledge and supervised practice in the field of Forensic Psychology. The certification in Forensic Psychology will meet specialization requirements established by the Puerto Rico Licensing Board for Psychologists.

Admission GPA: 3.00

Graduation GPA: 3.00

Curricular Content

Psychology Courses - 6 credits			
Course	Credits	Title	Prerequisites
FPSY 880	3	Psychology and Law: Criminal	
FPSY 886	3	Psychology and Law: Civil	
Specialty Courses - 8 credits			
Course	Credits	Title	Prerequisites
FPSY 889	4	Forensic Mental Health Assessment	
FPSY 891	4	Psychology and Law: Expert Testimony	

Important Notes:

1. Applicants must be licensed to practice psychology in Puerto Rico.
2. Subject to change.

Graduate Certificate in Assisted Interventions with Animals

Program's description

The new certificate aims to educate how the relationships and interactions produced between humans and animals, especially companion animals, are a factor of well-being and resilience in the lives of many human beings. It will address the main aspects of behavior and interaction human-animal from an interdisciplinary perspective, the history of the human-animal bond, the different types of intervention and the types of existing therapy animals, among others.

Admission GPA: 3.00

Graduation GPA: 3.00

Curricular Content

Specialty Component - 12 credits			
Course	Credits	Title	Prerequisites
CPSY 740	3	Animal Behavior and the Human Animal Bond Evolution.	
CPSY 741	3	Therapy Animals, their Potential and our Responsibilities Toward Them	CPSY 740
CPSY 710	3	Animal Assisted Interventions: Animals as Co-Therapists	
CPSY 742	3	Applications and Practice of Animal Assisted Interventions	CPSY 710

Important Notes:

1. Subject to change.

Graduate Certificate in Psychology Counseling

Program's description

The Graduate Certificate in Psychology Counseling will train competent professionals with a solid academic, theoretical, and practical preparation, to practice as psychological counselors. The curriculum of the Certificate in Psychological Counseling has been established to provide licensed psychologists with the knowledge and skills required in practice. of the counseling psychological. To achieve this goal, the curriculum consists of 25 credits of the Graduate Program in Psychology with a specialty in Psychological Counseling, previously authorized: 12 credits of specialty courses, 3 credits of the course of Evaluation and Measurement and 4 courses of practical experience with a value of 10 credits (Practicum).

Admission GPA: 3.00

Graduation GPA: 3.00

Curricular Content

Specialty Courses - 13 credits			
Course	Credits	Title	Prerequisites
PSYC 504	3	Psychopathology	
PSYC 505	4	Cognitive Assessment	
CPSY 601	3	Found Tech Counseling Psychology	
CPSY 602	3	Counseling Models & Techniques	CPSY 601
Practicum and Comprehensive Exam (8 credits)			
Course	Credits	Title	Prerequisites
PSYC 550	3	Practicum I	
PSYC 551	3	Practicum II	PSYC 550
PSYC 574	1	Practicum III	PSYC 551
PSYC 599	1	Practicum IV	PSYC 574
TEST 500-2	0	Comprehensive Exam Part 2	CPSY 601, 602, PSYC 505
Directed Electives - 3 credits			
Course	Credits	Title	Prerequisites
CPSY 615	3	Cognitive Therapy	
CPSY 603	3	Systemic Counseling	
CPSY 605	3	Psychological Interventions with Children and Adolescents	
CPSY 738	3	Sexual Counseling and Therapy	
CPSY 720	3	Psychological Counseling in Cases of Drug/Alcohol Abuse	
CPSY 625	3	Sexual Assault Counseling	
CPSY 630	3	Career and Occupations Counseling	
CPSY 700	3	Atypical Sexual Behaviors	
CPSY 710	3	Animals as Co-therapist	
CPSY 728	3	Psychological Intervention with LGBTT Individual	
PSYC 730	4	Projective Personality Assessment	
PSYC 704	3	Psychopharmacology	
PSYC 619	3	Behavior Modification	
PSYC 617	3	Hypnosis	

Important Notes:

1. Since the applicants come with diverse academic degrees (School, Clinical, or Industrial Psychology), the Director of the Department will evaluate the courses and competencies that the applicant brings. If there is any additional academic need for them to perform adequately, they will be added to the curriculum. The hours of practice required in Practicum I, II, III, IV may vary according to the needs of the profession and the ethical and legal standards applicable at the time for more details on the specific requirements of the practices, refer to the master's Practice Manual valid.
2. Prerequisite courses for a master's degree in Social, Community, Industrial and Organizational Psychology: 1. Biological Basis of Behavior and 2. Test Construction
3. Subject to change.

DEPARTMENT OF SOCIAL WORK

Master's in Social Work specialty in Forensic Social Work

Program's description

The Master of Social Work with specialization in Forensic Social Work is a specialized practice that focuses on the interrelationship between social services systems and legal systems for disputes to be resolved in court. This specialization is focused on the development and application of skills as an evaluator and forensic expert.

Admission GPA: 3.00

Graduation GPA: 3.00

Curricular Content

Core Component- 24 credits			
Course	Credits	Title	Prerequisites
SOWO 500	3	Human Behavior and Social Environment I	
SOWO 507	3	Human Behavior and Social Environment II	SOWO 500
SOWO 504	3	Social Policy Social Welfare	
SOWO 505	3	Research in Social Work	
SOWO 506	3	Analysis of Social Reality, Oppression and Social Justice	
SOWO 510	3	Professional Social Work Practicum Foundations I	
SOWO 511	3	Professional Social Work Practicum Foundations II	SOWO 510
SOWO 514*	3	Professional Seminar in Social Work	
Specialty Component - 21 credits			
Course	Credits	Title	Prerequisites
FSWO 600	3	Fundamentals of Forensic Social Work	SOWO 500, 507, 510, 511, 514
FSWO 610	3	Legal Aspects and Jurisprudence in Forensic Social Work	SOWO 500, 507, 510, 511, 514
FSWO 612	3	Forensic Social Evaluation I	FSWO 600, FSWO 610
FSWO 614	3	Forensic Social Evaluation I	FSWO 612
FSWO 621	3	Forensic Report Writing	FSWO 600, FSWO 610
FSWO 622	3	Expert Testimony	FSWO 621
FSWO 645	3	Forensic Support Therapeutic Services	
Practicum and Comprehensive Exam Component - 9 credits			
Course	Credits	Title	Prerequisites
SOWO 515*	3	Practicum I: Social Work I	SOWO 514
FSWO 651*	3	Practicum II: Forensic Social Work	SOWO 514, 515
FSWO 652*	3	Practicum III: Forensic Social Work	FSWO 651
FSWO 661	0	Forensic Social Work Comprehensive Exam I	FSWO 600, 610, 612, 614, 621, 622
FSWO 662	0	Forensic Social Work Comprehensive Exam II	FSWO 600, 610, 612, 614, 621, 622

Important Notes:

1. Average admission to the program is 3.00 GPA.
2. Supervised practice course SOWO 515 requires placement in practice scenarios and completion of 300 hours
3. Supervised practice course FSWO 651 and 652, require placement in practice scenarios and completion of 300 hours per course.
4. The comprehensive exam is offered in October and April of each year. To take the comprehensive exams you must have passed 42 credits.
5. Students who have a bachelor's degree in social work from a CSWE-accredited program and no more than five years of graduation, may be considered for an advanced program (27 credits of the specialty).
6. *Course lasting one semester.
7. Students who are interested in having their degree recognized internationally must take a research course or thesis.
8. Subject to change.

Master in Social Work specialty in Social Work with Families

Program's description

The master's in social work, with a specialization in Families, is designed to prepare students to exercise advance practice with couples, families with children, adolescents and/or elderly in diverse agencies or organizations. The curriculum allows the acquisition and application of theoretical-ethodological knowledge and specialized advanced skills in the intervention process with the biopsychosocial, spiritual, cultural and relational factors that impact families. The application of research, social policies, diversity, human rights, social, economic and environmental justice, as well as the differentiated use of models for the effectiveness assessment of the practice with diverse families.

Admission GPA: 3.00

Graduation GPA: 3.00

Curricular Content

Core Component- 24 credits

Course	Credits	Title	Prerequisites
SOWO 500	3	Human Behavior and Social Environment I	
SOWO 507	3	Human Behavior and Social Environment II	SOWO 500
SOWO 504	3	Social Policy Social Welfare	
SOWO 505	3	Research in Social Work	
SOWO 506	3	Analysis of Social Reality, Oppression and Social Justice	
SOWO 510	3	Professional Social Work Practicum Foundations I	
SOWO 511	3	Professional Social Work Practicum Foundations II	SOWO 510
SOWO 514*	3	Professional Seminar in Social Work	

Specialty Component - 21 credits

Course	Credits	Title	Prerequisites
FSWO 660	3	Psychosocial Aspects of the family	SOWO 500, 507, 510, 511, 514
FASW 661	3	Application of Mental Health Criteria in Family Therapy	SOWO 500, 507, 510, 511, 514
FASW 670	3	Family Therapy I	FASW 670
FASW 671	3	Family Therapy II	
FASW 672	3	Intervention with Diverse Couples	
FASW 676	3	Family Intervention from the Life Cycle	
FASW 675	3	Evaluation of the Professional Practice	

Practicum and Comprehensive Exam Component - 9 credits

Course	Credits	Title	Prerequisites
SOWO 515*	3	Practicum I: Social Work II	SOWO 514
FASW 682*	3	Practicum II: Social Work Families Practicum	SOWO 514, 515
FASW 683*	3	Practicum II: Social Work Families Practicum	FASW 682
FASW 690	0	Comprehensive Exam Part I Family Social Work	FASW 660, 661, 670, 671, 672, 676
FASW 691	0	Comprehensive Exam Part II Family Social Work	FASW 660, 661, 670, 671, 672, 676

Important Notes:

1. Average admission to the program is 3.00 GPA.
2. Supervised practice course SOWO 515 requires placement in practice scenarios and completion of 300 hours.
3. Supervised practice course FASW 682 and 683, require placement in practice scenarios and completion of 300 hours per course.
4. The comprehensive exam is offered in October and April of each year. To take the comprehensive exams you must have passed 45 credits.
5. Students who have a bachelor's degree in social work from a CSWE-accredited program and no more than five years of graduation, may be considered for an advanced program (27 credits of the specialty).
6. *Course lasting one semester.
7. The student who is interested in homologation of his degree at an international level must take a research course or thesis.
8. Subject to change.

Master in Social Work specialty in Clinical Social Work

Program's description

The professional in the Social Work Program promotes social and economic equity and justice and the well-being of human and social systems. Social workers utilize theories of human behavior and social systems to intervene at the points where people interact with their environments. Human rights and social justice are fundamental tenants of social work. Social workers offer a variety of services to individuals, families, groups, organizations and communities.

Admission GPA: 3.00

Graduation GPA: 3.00

Curricular Content

Core Component- 27 credits

Course	Credits	Title	Prerequisites
SWGR 504	3	Social Policy and Social Work	SWGR 505
SWGR 505	3	Diversity And Social Justice	
SWGR 506	3	Social Work with Individuals and Families	
SWGR 507	3	Social Work with Groups, Communities, And Organizations	SWGR 506
SWGR 510	3	Research Design	
SWGR 601	3	Theories and Models of Human Development and Behavior I	
SWGR 606	3	Theories and Models of Human Development and Behavior II	SWGR 601
SWGR 555	3	Practice Foundations Seminar I	SWGR 505, SWGR506, SWGR 507, SWGR 510, SWGR 601, SWGR 606
SWGR 670	0	Comprehensive Exam I	Concurrent SWGR 555

Specialty Component – 21 credits

Course	Credits	Title	Prerequisites
SWGR 511	3	Research Analysis	SWGR 510
SWGR 602	3	Clinical Intervention I	SWGR 505, SWGR 506, SWGR 507, SWGR 510, SWGR 601, SWGR 606, SWGR 555, SWGR 670
SWGR 607	3	Clinical Intervention II	SWGR 602
SWGR 655	6	Practicum Foundations Seminar II	SWGR 511, SWGR 555, SWGR 602
SWGR 665	6	Practicum Foundations Seminar III	SWGR 655
SWGR 671	0	Comprehensive Exam II	SWGR 607, SWGR 655, SWGR 670

Directed Electives - 6 credits

Course	Credits	Title	Prerequisites
SWGR 604	3	Social Work Mental Health	
SWGR 608	3	Psychopathology, Human Behavior and Social Environment	
SWGR 620	3	Adult and Elderly Development	
SWGR 623	3	Psychoactive Drugs	
SWGR 616	3	Society and Violence	
SWGR 627	3	Mental Health Services and Policies	
SWGR 625	3	Psychopharmacology and Social Work	SWGR 604

Important Notes:

- Supervised internships (SWGR 555, 655, 665) for the full-time student will be offered in daytime settings as we have a limited number of evening settings for part-time students. Assignment will be made by competition based on interviews.
- All foundation courses, including SWGR 555 and SWGR 670, must be passed prior to beginning the specialty component.
- SWGR 671 is taken in the last semester of the program for students admitted prior to August 2012. Students admitted after August 2012 take the exam in two parts: foundations and specialization. It has an additional cost.
- Courses must be approved with a C or higher. Courses approved with C do not have to be repeated as long as they do not affect the average.
- Subject to change.

ENGINEERING, DESIGN, AND ARCHITECTURE ACADEMIC DIVISION

DEPARTMENT OF ENGINEERING

Master of Science in Mechanical Engineering with specialty in Alternative Energy

Program's description

The master's degree in mechanical engineering with specialization in Alternative Energy provides the student with the opportunity to develop expertise through courses and research in the management of various energy sources such as solar, wind, ocean, and biofuels. Students in this field benefit from the excellent collaboration with the Puerto Rico Energy Center (PREC) in our Department of Engineering.

Admission GPA: 2.75

Graduation GPA: 3.00

Curricular Content

Core Component- 15 credits			
Course	Credits	Title	Prerequisites
MEEN 601	3	Advanced Mathematics for Engineers	
MEEN 604	3	Aerodynamics I: Incompressible Flow	
MEEN 641	3	Sustainable Energy	
MEEN 697	6	MS Thesis (Two semesters)	Permission of Thesis Advisor
Specialty Component- 12 credits (Electives)			
Course	Credits	Title	Prerequisites
MEEN 501	3	Finite Elements Analysis	
MEEN 642	3	Grid Integration & Sustainable Systems	
MEEN 643	3	Energy Management	
MEEN 644	3	Photovoltaic Energy Conversion	
MEEN 645	3	Wind Energy	
MEEN 646	3	Solar Refrigeration and Air Conditioning	
MEEN 648	3	Advanced Topics in Alternative Energy	Chair's permission
MEEN 651	3	Ocean Energy	
MEEN 652	3	Biofuels	
MEEN 611	3	Composite Materials	
MEEN 616	3	Introduction to Aeroelasticity	
MEEN 617	3	Dynamics of Rotating Machinery	
MEEN 623	3	Multi-Scale Turbulence: Aeronautics	MEEN 604
MEEN 630	1	Engineering Internship I	Chair's permission
MEEN 631	1	Engineering Internships II	MEEN 630 and Chair's Permission
MEEN 672	3	Mechanical Vibrations	
MEEN 673	3	Computational Fluid Dynamics (CFD)	
MEEN 675	3	MEMS and Energy Harvesting	
MEEN 676	3	Design Optimization	
MEEN 678	3	Advanced Topics	
MEEN 679	3	Independent Study	
MEEN 681	3	Introduction to Biomechanics	
MEEN 682	3	Systems Engineering	
MEEN 683	3	Friction, Wear and Lubrication	
MEEN 684	3	Advanced Tribology	
MEEN 685	3	Applied Modern Control	
Directed Electives - 3 credits			
Course	Credits	Title	Prerequisites
IMEN 510	3	Engineering Management	

Course	Credits	Title	Prerequisites
IMEN 551 or TCOM 513	3	Engineering Project Management or IT Project Management	
IMEN 610	3	Statistics for Decision Modeling	
IMEN 620	3	Advanced Enterprise Continuous Improvement	
IMEN 630	3	Supply Chain Management for Engineers	
IMEN 635	3	Logistics Methods and Strategies	
ACCO 515	3	Managerial Accounting	
INBU 610	3	International Bussines Environment	
MANA 501	3	Organizational Behavior	
MSPA 520	3	Administrative Law and Ethics	

Important Notes:

1. The actual order of the courses may vary depending on the course offerings. In addition, the student may elect to vary the number of credits during any semester. This table is only a guide. The Mechanical Engineering program director will be available for any consultations.
2. Students will choose a plan to complete the degree. Plan 1 (MS) Is an excellent option for full-time students with a strong interest in research; Plan 2 (MS) Is ideal to conduct design and development in an area of particular interest; Plan 3 (Meng) caters primarily to working professionals who seek highly specialized knowledge.
3. General Electives may also be selected from the list of Specialization Electives.
4. Plan 1 - Students who have not yet finished their thesis after concluding MEEN 697 in the established timeframe will register in MEEN 698 Thesis Extension (3 crs).
5. Subject to change.

Master in Mechanical Engineering with specialty in Alternative Energy

Program's description

This curriculum will provide the student an excellent background to understand the needs, the technology and the future of the alternative energy industry. This specialization will benefit from an excellent collaboration with the Puerto Rico Energy Center (PREC), located on the grounds of the School of Engineering of UT. The collaboration aims to develop research, development, and design projects that will have a direct impact on Puerto Rico, an island that is blessed with renewable energy sources such as solar, aeolic (wind), and oceanic. Plan 1 (M.S. degree-Thesis). Plan 1 is an excellent option for full-time students with a strong interest in research.

Admission GPA: 2.75

Graduation GPA: 3.00

Curricular Content

Core Component- 9 credits			
Course	Credits	Title	Prerequisites
MEEN 601	3	Advanced Mathematics for Engineers	
MEEN 604	3	Aerodynamics I: Incompressible Flow	
MEEN 641	3	Sustainable Energy	
Specialty Component- 12 credits (Electives)			
Course	Credits	Title	Prerequisites
MEEN 501	3	Finite Elements Analysis	
MEEN 642	3	Grid Integration & Sustainable Systems	
MEEN 643	3	Energy Management	
MEEN 644	3	Photovoltaic Energy Conversion	
MEEN 645	3	Wind Energy	
MEEN 646	3	Solar Refrigeration and Air Conditioning	
MEEN 648	3	Advanced Topics in Alternative Energy	Chair's permission
MEEN 651	3	Ocean Energy	
MEEN 652	3	Biofuels	
MEEN 611	3	Composite Materials	
MEEN 616	3	Introduction to Aeroelasticity	
MEEN 617	3	Dynamics of Rotating Machinery	
MEEN 623	3	Multi-Scale Turbulence: Aeronautics	MEEN 604
MEEN 630	1	Engineering Internship I	Chair's permission
MEEN 631	1	Engineering Internships II	MEEN 630 and Chair's Permission
MEEN 672	3	Mechanical Vibrations	
MEEN 673	3	Computational Fluid Dynamics (CFD)	
MEEN 675	3	MEMS and Energy Harvesting	
MEEN 676	3	Design Optimization	
MEEN 678	3	Advanced Topics	
MEEN 679	3	Independent Study	
MEEN 681	3	Introduction to Biomechanics	
MEEN 682	3	Systems Engineering	
MEEN 683	3	Friction, Wear and Lubrication	
MEEN 684	3	Advanced Tribology	
MEEN 685	3	Applied Modern Control	
Directed Electives - 9 credits			
Course	Credits	Title	Prerequisites
IMEN 510	3	Engineering Management	
IMEN 551 or TCOM 513	3	Engineering Project Management or IT Project Management	
IMEN 610	3	Statistics for Decision Modeling	

Course	Credits	Title	Prerequisites
IMEN 620	3	Advanced Enterprise Continuous Improvement	
IMEN 630	3	Supply Chain Management for Engineers	
IMEN 635	3	Logistics Methods and Strategies	
ACCO 515	3	Managerial Accounting	
INBU 610	3	International Bussines Environment	
MANA 501	3	Organizational Behavior	
MSPA 520	3	Administrative Law and Ethics	

Important Notes:

1. The actual order of the courses may vary depending on the course offerings. In addition, the student may elect to vary the number of credits during any semester. This table is only a guide. The Mechanical Engineering program director will be available for any consultations.
2. Students will choose a plan to complete the degree. Plan 1 (MS) Is an excellent option for full-time students with a strong interest in research; Plan 2 (MS) Is ideal to conduct design and development in an area of particular interest; Plan 3 (Meng) caters primarily to working professionals who seek highly specialized knowledge.
3. General Electives may also be selected from the list of Specialization Electives.
4. Subject to change.

Master of Science in Engineering Management

Program's description

The program offers a combination of technical with management subjects so graduates can contribute to the economic development of their societies. The curriculum will endow students with knowledge, skills, and attitudes necessary for employment in the management of technical settings and/or admission into graduate schools to pursue advanced degrees in Engineering Management or related fields

Admission GPA: 2.60

Graduation GPA: 3.00

Curricular Content

Core Component - 12 credits

Course	Credits	Title	Prerequisites
IMEN 510	3	Engineering Management	Admission to program
IMEN 551 or TCOM 513	3	Engineering Project Management or Information Technology (IT) Project Management	Admission to program
IMEN 610	3	Statistics for Decision Modeling	Admission to program
IMEN 620	3	Advanced Enterprise Continuous Improvement	Admission to program

Specialization Component - 12 credits

Course	Credits	Title	Prerequisites
IMEN 630	3	Supply Chain Management for Engineers	Admission to program
IMEN 635	3	Logistics Methods and Strategies	Admission to program
IMEN 640	3	Design and Operation of Logistics Networks	IMEN 635
IMEN 645	3	Analytics for Decision Making	IMEN 610

MSEM Electives - 6 credits

Course	Credits	Title	Prerequisites
IMEN 660	3	Thesis	18 credits approved & advisor's permission
IMEN 650	3	Graduate Project	Approved proposal & advisor's permission
ACCO 515	3	Managerial Accounting	Admission to program
INBU 610	3	International Bussines Environment	Admission to program
HURM 710	3	Human Resources Management	Admission to program
MANA 501	3	Organizational Behavior	Admission to program
MSPA 520	3	Administrative Law and Ethics	Admission to program
MEEN 641	3	Sustainable Energy	Admission to program
MEEN 642	3	Grid Integration & Sustainable Systems	MEEN 641
MEEN 643	3	Energy Management, Policy & Ethics	MEEN 641
MEEN 644	3	Photovoltaic Energy Conversion	Instructor's permission
MEEN 645	3	Wind Energy	Instructor's permission
MEEN 646	3	Solar Refrigeration and Air Conditioning	Instructor's permission

Important Notes:

1. Subject to change.

Master of Science with specialty of Telecommunications and Networks Systems Administration

Program's description

The program provides students with an in-depth knowledge of the principles of a Converged Networks including design, implementation, security and management with a strong hands-on approach.

Admission GPA: 2.60

Graduation GPA: 2.50

Curricular Content

Core Component- 15 credits

Course	Credits	Title	Prerequisites
TCOM 500*	3	Applied Mathematics in Telecommunications	MATH 221
TCOM 513 or IMEN 551	3	IT Project Management Engineering Project Management	Admission to program
TCOM 503	3	Introduction to TCP/IP	Admission to program
CYBR 501	3	Network Security I	
CYBR 502	3	Computer Security I	

Specialty Component - 9 credits

Course	Credits	Title	Prerequisites
TCOM 514 or MAIS 815	3	Telecommunications Governance I Telecommunications Management	TCOM 513
TCOM 607 or Elective	3	Thesis I	Permission from Advisor
TCOM 609 or TCOM 606	3	Thesis II or Network Design Project	Permission from Advisor

Directed Electives - 6 credits

Course	Credits	Title	Prerequisites
TCOM 507	3	Convergence of Technologies	TCOM 503
TCOM 521	3	Networking Fundamentals	As required by advisor
TCOM 556	3	IP Tel & Design and Implementation of Voice Networks	TCOM 503
TCOM 523	3	Wireless Networks	TCOM 503
CYBR 521	3	Network Security II	CYBR 501
CYBR 522	3	Computer Security II	CYBR 502
CYBR 600	3	Cyber Security Forensics	CYBR 502
TCOM 515	3	Telecommunications Governance II	TCOM 514
TCOM 524	3	Technological & Scientific Innovation	
MAIS 825	3	Information Security Management	
MAIS 830	3	Web-Based Information Architectures	MAIS 825
MAIS 842	3	Web Services	MAIS 830
MAIS 847	3	Special Topics in Information Security	

Important Notes:

1. *The Admissions Committee may relieve the student from this course.
2. Subject to change.

DEPARTMENT OF DESIGN AND ARQUITECTURE

Master of Architecture

Program's description

The Master of Architecture degree program is intended to provide our graduates with the requisite educational background and practice experience to enter the profession of architecture. The program's focus balances historical, theoretical, technical, practice and design knowledge in the economic, social, and professional realms of architecture. Students will also work in a design-build studio with a community-oriented project that includes research, schematic design, design development and construction of an innovative solution containing all practice phases, as are viability study, contract document, construction procurement and building administration stages. The program has been designed to fit the needs of a highly focused student that intends to complete architecture licensing process and to become fundamental pieces in the roles of integrating a collaborative contemporary architecture practice both locally and globally.

Admission GPA:3.00

Graduation GPA: 3.00

Curricular Content

Core Component - 48 credits			
Course	Credits	Title	Requisites
ARCH 500	6	Architectural Design I	Admission to Program
ARCH 501	3	Introduction to History and Theory	Admission to Program
ARCH 505	3	Visual Thinking and Communication	Admission to Program
ARCH 510	6	Architectural Design II	ARCH 500
ARCH 511	3	Architectural History I	ARCH 501
ARCH 512	3	Building Design, Construction Systems I: Materials, Technology	
ARCH 513	3	Structural Systems I	ARCH 500
ARCH 515	3	Computer Studio	ARCH 505
ARCH 520	6	Architectural Design III	ARCH 510
ARCH 521	3	Architectural History II	ARCH 511
ARCH 522	3	Building Systems I	ARCH 512
ARCH 523	3	Structural Systems II	ARCH 513
ARCH 524	3	Codes and Regulations	ARCH 510
Specialization Component - 54 credits			
Course	Credits	Title	Requisites
ARCH 600	6	Architectural Design IV	ARCH 520 or equivalent
ARCH 601	3	Theory in Architecture	ARCH 521 or equivalent
ARCH 602	3	Building Systems II	ARCH 522 or equivalent
ARCH 604	3	Project and Practice Management I: Ethics, Contracts and Legal Issues	ARCH 524 or equivalent
ARCH 610	6	Design-Build Studio I	ARCH 600, ARCH 602, ARCH 604
ARCH 612	3	Building Design and Construction Systems II: Environmental Issues	ARCH 602
ARCH 614	3	Project and Practice Management II: Cost	ARCH 604
ARCH 615	3	Methods: Surfaces	Co-requisite ARCH 610
ARCH 700	9	Design-Build Studio II: Construction Drawings and Project Manual	ARCH 610, ARCH 612, ARCH 614, ARCH 615
ARCH 704	3	Project and Practice Management III: Scheduling and Coordination	ARCH 610, ARCH 612, ARCH 614, ARCH 615, Co-requisite ARCH 700
ARCH 710	12	Design-Build Studio III: Construction Field hours	ARCH 700, ARCH 704

Elective Courses - 12 credits

Course	Credits	Title	Requisites
DSGN 702	3	Building Design, Construction Systems III: Detailing Construction Documents	ARCH 610, ARCH 612, ARCH 614, ARCH 615, Co-requisite ARCH 700
DSGN 705	3	Methods: Prototype	ARCH 610, ARCH 612, ARCH 614, ARCH 615, Co-requisite ARCH 700
Elective	3	Elective	
Elective	3	Elective	

Important Notes:

1. Track I (with a duration of 3.5 years and 114 credits) will admit students with bachelor's degrees in fields other than architecture or design.
2. Track II (with a maximum duration of 2 years and a maximum of 66 credits) will admit students with course credits required for completion of a bachelor's degrees in architecture, environmental design, or the equivalent. Transcripts will be evaluated and students in this track may receive advanced standing, as determined by the graduate program admissions committee.
3. To be admitted to the program, students must present the following courses in their official transcript or must take these courses within a year of enrolling in the degree program:
 - a. 3 credits in a History of Art or Architecture course
 - b. 3 credits in a Calculus course
 - c. 3 credits in a Physics course
4. In the United States, most registration boards require a degree from an accredited professional degree program as a prerequisite for licensure. The National Architectural Accrediting Board (NAAB), which is the sole agency authorized to accredit professional degree programs in architecture offered by institutions with U.S. regional accreditation, recognizes three types of degrees: The Bachelor of Architecture, the Master of Architecture, and the Doctor of Architecture. A program may be granted an eight-year, three-year, or two-year term of accreditation, depending on the extent of its conformance with established educational standards.
5. Doctor of Architecture and Master of Architecture degree programs may require a preprofessional undergraduate degree in architecture for admission. However, the preprofessional degree is not, by itself, recognized as an accredited degree. The NAAB grants candidacy status to new programs that have developed viable plans for achieving initial accreditation. Candidacy status indicates that a program expects to achieve initial accreditation within six years of achieving candidacy if its plan is properly implemented. To meet the education requirement, set forth by the National Council of Architectural Registration Boards, an applicant for an NCARB Certificate must hold a professional degree in architecture from a program accredited by the NAAB; the degree must have been awarded not more than two years prior to initial accreditation. However, meeting the education requirement for the NCARB Certificate may not be equivalent to meeting the education requirement for registration in a specific jurisdiction. Please contact NCARB for more information.
6. The Department of Design and Architecture at the Universidad Ana G. Méndez, Gurabo Campus is in candidacy for accreditation of the following NAAB-accredited degree program: M. Arch. (non-pre-professional degree plus 114 Graduate Credits- Track I) M. Arch. (pre-professional degree plus 66 Graduate Credits- Track II)
7. Initial Accreditation granted: 2020
8. Next visit accreditation: 2022
9. Subject to change.

Graduate Certificate in Networks Security

Program's description

The program provides an in-depth introduction to key topics of network security and provides a balanced teaching philosophy with each class containing both a theory component and hands-on practice. The curriculum was specifically designed to cover the ten (10) core areas of Network Security as defined by the (ISC)2 – International Information Systems Security Certification Consortium. This will provide a solid background for obtaining widely recognized industry standard CISSP (Certified Information Security System Professional Certification).

Admission GPA: 2.75

Graduation GPA: 3.00

Curricular Content

Core Component- 9 credits

Course	Credits	Title	Prerequisites
TCOM 521	3	Networking Fundamentals	Admission to program
CYBR 501	3	Network Security I	MATH 221, MATH 222
CYBR 502	3	Computer Security I	MATH 221, MATH 222

Major Component - 9 credits

Course	Credits	Title	Prerequisites
CYBR 521	3	Network Security II	CYBR 501
CYBR 522	3	Computer Security II	CYBR 502
CYBR 600	3	Cyber Security Forensics	CYBR 502

Important Notes:

1. Subject to change.

SPECIALIZED SCHOOL OF NATUROPATHIC MEDICINE

Doctorate in Naturopathic Medicine

Program's description

Naturopathic Medicine is a comprehensive system of health care within the complementary and alternative medicine world that incorporates many modalities. Naturopathic physicians encourage the self-healing abilities of the individual through the education and promotion of therapeutic methods and modalities. Naturopathic physicians are typically trained in a wide array of alternative therapies including herbology, homeopathy, massage hydrotherapy, physical medicine, behavioral medicine, Traditional Chinese medicine, Ayurvedic medicine, acupuncture, and nutrition therapy, as well as clinical practices such as minor surgery, pharmacology and obstetrics.

Admission GPA: 3.00

Graduation GPA: 2.00

Curricular Content

Specialty Courses - (268) credits			
Course	Credits	Title	Prerequisites
NMDP 702	5	Clinical Anatomy I	Co req. NMDP 702-L
NMDP 702-L	0	Clinical Anatomy Lab. I	Co req. NMDP 702
NMDP 714	5	Clinical Anatomy II	NMDP 702 NMDP 702-L
NMDP 714-L	0	Clinical Anatomy Lab. II	Co. req. NMDP 714
NMDP 710	4	Medical Histology	NMDP 704
NMDP 706	4	Neuroanatomy	
NMDP 704	3	Medical Physiology I	
NMDP 708	3	Medical Physiology II	NMDP 704
NMDP 716	3	Medical Physiology III	NMDP 708
NMDP 724	3	Medical Physiology IV	NMDP 716
NMDP 718	3	Biochemistry I	NMDP 708
NMDP 734	3	Biochemistry II	NMDP 718
NMDP 742	3	Human Pathology I	NMDP 710, NMDP 724, NMDP 734
NMDP 754	3	Human Pathology II	NMDP 742
NMDP 762	3	Human Pathology III	NMDP 754
NMDP 778	3	Human Pathology IV	NMDP 762
NMDP 772	3	Clinical Microbiology	NMDP 710, NMDP 724, NMDP 734
NMDP 774	4	Immuno-genetics	NMDP 710, NMDP 724, NMDP 734
NMDP 776	1	Functional Medicine	NMDP 710, NMDP 724, NMDP 734
NMDP 805	2	NPLEX Review I	N/A
NMDP 766	3	Botanical Medicine I	NMDP 710, NMDP 734, NMDP 724
NMDP 780	3	Botanical Medicine II	NMDP 766
NMDP 786	3	Botanical Medicine III	NMDP 780 Co req. NMDP 786-L
NMDP 786-L	0	Botanical Medicine III Lab.	NMDP 780 Co req. NMDP 786
NMDP 720	2	Clinical Nutrition I	NMDP 708
NMDP 726	2	Clinical Nutrition II	NMDP 720
NMDP 736	2	Clinical Nutrition III	NMDP 726
NMDP 750	2	Clinical Nutrition IV	NMDP 736
NMDP 744	6	Integrated Health Assessment I.	NMDP 710, NMDP 724, NMDP 734 Co req. NMDP 744-L
NMDP 744-L	0	Integrated Health Assessment Lab. I	NMDP 710, NMDP 724, NMDP 734 Co req. NMDP 744
NMDP 756	6	Integrated Health Assessment II	NMDP 744 NMDP 744-L Co req. NMDP 756-L
NMDP 756-L	0	Integrated Health Assessment II Lab.	NMDP 744 NMDP 744-L Co req. NMDP 756

Course	Credits	Title	Prerequisites
NMDP 764	6	Integrated Health Assessment III	NMDP 756 NMDP 756-L Co req. NMDP 764-L
NMDP 764-L	0	Integrated Health Assessment Lab. III	NMDP 756 NMDP 756-L Co req. NMDP 764
NMDP 746	2	Laboratory Diagnosis I	NMDP 710, NMDP 724, NMDP 734
NMDP 758	3	Laboratory Diagnosis II	NMDP 746 Co req. 758-L
NMDP 758-L	0	Laboratory Diagnosis II Practicum	NMDP 746 Co req. 758
NMDP 748	3	Diagnostic Imaging I	NMDP 710, NMDP 724, NMDP 734
NMDP 760	3	Diagnostic Imaging II	NMDP 748
NMDP 768	3	Diagnostic Imaging III	NMDP 760
NMDP 788	3	Clinical Pharmacology I	NMDP 778
NMDP 800	3	Clinical Pharmacology II	NMDP 788
NMDP 820	3	Clinical Pharmacology III	NMDP 800
NMDP 822	3	Environmental Medicine & Toxicology	NMDP 778
NMDP 732	3	Health Promotion and Disease Prevention	N/A
NMDP 836	3	Basic Science Research	N/A
NMDP 840	3	Evidenced-Based Project	NMDP 836
NMDP 700	3	Principles and Philosophy of Naturopathic Medicine	
NMDP 852	2	Business Practice	N/A
NMDP 856	1	Medical Jurisprudence and Naturopathic Ethics	N/A
NMDP 712	2	Principles and Philosophy of Homeopathic Medicine	
NMDP 728	2	Homeopathic Repertorization and Polycrest Remedies	NMDP 712
NMDP 738	2	Mental and General Sections in Homeopathic Remedies	NMDP 728
NMDP 752	2	Case Studies in Homeopathic Medicine	NMDP 738
NMDP 722	2	Mind and Body Medicine I	N/A
NMDP 730	2	Mind and Body Medicine II	NMDP 722
NMDP 740	2	Mind and Body Medicine III	NMDP 730
NMDP 802	2	Gynecology	NMDP 778
NMDP 804	2	Obstetrics	NMDP 778 Co req. NMDP 804-L
NMDP 804-L	0	Obstetrics Lab	NMDP 778 Co req. NMDP 804
NMDP 806	2	Cardiology	NMDP 778
NMDP 810	2	Sports Medicine and Orthopedics	NMDP 796
NMDP 812	2	Pediatrics	NMDP 778
NMDP 814	2	Ears, Eyes, Nose and Throat	NMDP 778
NMDP 816	2	Rheumatology and Pain	NMDP 778
NMDP 826	2	Oncology	NMDP 778
NMDP 828	2	Dermatology	NMDP 778
NMDP 830	2	Endocrinology	NMDP 778
NMDP 832	2	Geriatrics and Aging	NMDP 778
NMDP 834	2	Gastroenterology and Proctology	NMDP 778
NMDP 838	2	Minor Surgery	NMDP 778
NMDP 842	2	Emergency Medicine	NMDP 778
NMDP 844	2	Urology	NMDP 778
NMDP 846	2	Pneumology	NMDP 778
NMDP 848	2	Neurology	NMDP 778
NMDP 850	2	Mental Health and Psychiatry	NMDP 778
NMDP 815	2	NPLEX Review II	NMDP 805
NMDP 792	2	Hydrotherapy	NMDP 778 Co req. NMDP 792-L

Course	Credits	Title	Prerequisites
NMDP 792-L	0	Hydrotherapy Lab	NMDP 778 Co req. NMDP 792
NMDP 794	2	Introduction to Physical Medicine	NMDP 778
NMDP 796	2	Physiotherapy Modalities	NMDP 778
NMDP 798	2	Naturopathic Manipulative Therapy I	NMDP 778
NMDP 808	2	Naturopathic Manipulative Therapy II	NMDP 798
NMDP 770	2	Fundamentals and Theory of Oriental Medicine	N/A
NMDP 784	2	Meridians and Points I	NMDP 770 Co req. NMDP 784-L
NMDP 784-L	0	Meridians and Points I Lab	NMDP 770 Co req. NMDP 784
NMDP 790	2	Meridians and Points II	NMDP 784 NMDP 784-L Co req. NMDP 790-L
NMDP 790-L	0	Meridians and Points II Lab	NMDP 784 NMDP 784-L Co req. NMDP 790
NMDP 824	2	Acupuncture Techniques	NMDP 790, NMDP 790-L Co req. NMDP 824-L
NMDP 824-L	0	Acupuncture Techniques Lab.	NMDP 790, NMDP 790-L Co req. NMDP 824
NMDP 818	2	Traditional Chinese Medicine Pathology	NMDP 790, NMDP 790-L Co req. NMDP 818-L
NMDP 818-L	0	Traditional Chinese Medicine Pathology Laboratory	NMDP 790, NMDP 790-L Co req. NMDP 818
NMDP 782	2	Traditional Chinese Medicine Diagnosis	NMDP 770
NMDP 782-L	0	Traditional Chinese Medicine Diagnosis Lab.	NMDP 770
NMDP 825	1	Clinical Entry I	
NMDP 909	1	Clinical Entry II	NMDP 825
NMDP 900	2	Acupuncture Rotation I	NMDP 909
NMDP 912	2	Acupuncture Rotation II	NMDP 900
NMDP 924	2	Acupuncture Rotation III	NMDP 912
NMDP 939	2	Acupuncture Rotation IV	NMDP 924
NMDP 954	2	Acupuncture Rotation V	NMDP 939
NMDP 903	6	Patient Care Rotation I	NMDP 825
NMDP 915	6	Patient Care Rotation II	NMDP 903
NMDP 927	6	Patient Care Rotation III	NMDP 915
NMDP 942	6	Patient Care Rotation IV	NMDP 927
NMDP 957	6	Patient Care Rotation V	NMDP 942
NMDP 906	2	Physical Medicine Rotation I	NMDP 825
NMDP 918	2	Physical Medicine Rotation II	NMDP 906
NMDP 930	2	Physical Medicine Rotation III	NMDP 918
NMDP 945	2	Physical Medicine Rotation IV	NMDP 930
NMDP 960	2	Physical Medicine Rotation V	NMDP 945
NMDP 936	2	Diagnostic Imaging Practicum	NMDP 768
NMDP 948	2	Clinic Specialty Shift-Naturopathic Oncology	
NMDP 963	2	Clinic Specialty Shift II- Homeopathy	NMDP 948
NMDP 951	2	Preceptorship- Clinical Field Observation	NMDP 778

Elective Courses- (2) credits

Course	Credits	Title	Prerequisites
NMDP 835*	2	Clinical Specialty Shift IV Therapy	
NMDP 845*	2	Chinese Botanical Medicine	
NMDP 855*	2	Fundamentals of Ayurvedic Medicine	
NMDP 965*	3	Clinical Research on Complementary and Alternative Medicine	
NMDP 966*	2	Intravenous Therapy	
NMDP 967*	3	Acupuncture Therapeutics	

Important Notes:

1. *Elective course (choose one)
2. Subject to change.

SCHOOL OF PROFESSIONAL STUDIES

DEPARTMENT OF PROFESSIONAL STUDIES

Master in Business Administration specialty in Strategic Management and Leadership

Program's description

A professional trained to exercise leadership in the management of companies in a precise, effective and ethically responsible manner. Will be a person able to assimilate technological and market transformations to turn current and future challenges into opportunities for innovation and solution design non-traditional as a competitive advantage of the company. It will promote the union of thought and action of the members of the company around the projects and processes necessary to respond to the business vision and opportunities.

Admission GPA: 2.75 (See admission requirements for accelerated adult program.)

Graduation GPA: 3.00

Curricular Content

Core Component- 18 credits			
Course	Credits	Title	Prerequisites
ACCO 515	3	Managerial Accounting	ACCO 500 ¹
MARK 510	3	Marketing Management	
FINA 503	3	Managerial Finance	
MANA 501	3	Organizational Behavior	STAT 555, ACCO 500 or equivalent
STAT 555	3	Statistics Decision Making	
ECON 519	3	Economics	
Specialty Component - 18 credits			
Course	Credits	Title	Prerequisites
STMG 600	3	Leadership and Entrepreneurial Vision	All courses
STMG 601	3	Strategic Management	
STMG 602	3	Technology Applications and Information Systems	
STMG 603	3	Business Communication	
STMG 604	3	Organizations in a Global Economy	
STMG 655*	3	Integration Seminar	
Directed Electives - 3 credits			
Course	Credits	Title	Prerequisites
PRMG 550	3	Leadership in Project Management	
STMG 608	3	Strategies for Change, Professional and Entrepreneurial Development	

Important Notes:

1. ACCO 500 prerequisite applies to students who are not from the field of Business Administration.
2. *8 weeks course
3. The minimum grade to approve STMG 655 is B.
4. Subject to change.

Master of Business Administration specialty in Taxation

Program's description

The broad curriculum of this specialty provides the student with an exposure to the most accepted practices in the tax system of Puerto Rico and the United States. This specialty is committed to offer reconciliation between theory and practice for the common benefit of the firm and society.

Admission GPA: 2.75 (See admission requirements for accelerated adult program.)

Graduation GPA: 3.00

Curricular Content

Core Component- 21 credits			
Course	Credits	Title	Prerequisites
ACCO 515	3	Managerial Accounting	ACCO 500 ¹
MARK 510	3	Marketing Management	
FINA 503	3	Managerial Finance	STAT 555, ACCO 500 or equivalent
MANA 501	3	Organizational Behavior	
STAT 555	3	Statistics Decision Making	
ECON 519	3	Economics	STAT 555 or equivalent
MANA 601*	3	Research Methods	24 crs approved and STAT 555
Specialty Component - 12 credits			
Course	Credits	Title	Prerequisites
ACCO 705	3	Taxes in Puerto Rico	
ACCO 707	3	Federal Income Tax	
ACCO 745	3	Corporate Taxes	ACCO 515, 705, 707
ACCO 750*	3	Taxes Seminar	27 credits approved and MANA 601
Directed Electives - 6 credits			
Course	Credits	Title	Prerequisites
ACCO 746	3	Income Tax, Society and Individual Corporations	ACCO 515, 705
ACCO 747	3	Income Tax for Non-Profit Organizations	ACCO 515, 745
ACCO 748	3	Corporate Re-Organizations	ACCO 515, 705, 707
ACCO 749*	3	Income Tax Planning Seminar	9 specialty credits

Important Notes:

1. ACCO 500 prerequisite applies to students who are not from the field of Business Administration.
2. Approve ACCO 750 with a minimum of B.
3. *Eight (8) week course
4. Find out on IRB.net about the certifications you must complete when you enroll ACCO 750 Contributions Thesis, without this process you will not be able to carry out the research. Ask your teacher or visit the school for more information.
5. Subject to change.

Master of Science in Information Technology (MSIT) with specialty in Cyber Security

Program's description

Graduates of the Master of Information Technology with a specialty in Cyber Security will demonstrate a solid foundation in strategies against cyber attacks. They will be expert professionals in the principles, methods and trends in the field of cybersecurity. They will be able to analyze and evaluate the needs of organizations to recommend and develop cyber security mechanisms. They will demonstrate proficiency in vulnerability analysis, cryptography, ethical hacking, forensic computing, and cloud security, among other concepts.

Admission GPA: 2.75 (See admission requirements for accelerated adult program.)

Graduation GPA: 3.00

Curricular Content

Core Component– 18 credits			
Course	Credits	Title	Prerequisites
ITCS 510	3	Principles of Information Security*	
ITCS 520	3	Fundamentals of Networks in Cybersecurity*	ITCS 510
ITCS 530	3	Cybersecurity Infrastructure	ITCS 510
ITCS 540	3	Security Incident Response	ITCS 510
ITCS 550	3	Cyber Law	ITCS 510
ITCS 560	3	Cybernetic Intelligence	ITCS 510, ITCS 550
Specialty Component (15) credits			
Course	Credits	Title	Prerequisites
ITCS 605*	3	Cryptography	ITCS 530
ITCS 610*	3	Cloud Computing	ITCS 605
ITCS 620*	3	Digital Forensics	ITCS 540
ITCS 630*	3	Soft Vulnerability Analysis	ITCS 530, ITCS 550
ITCS 640*	3	Ethical Hacking	ITCS 605, ITCS 630
Degree Requirement (3) credits			
Course	Credits	Title	Prerequisites
ITCS 655*	3	Cybersecurity Project	All core and specialty courses

Important Notes:

1. *Eight weeks course
2. Specialty courses must be approved with a B or higher.
3. Students who do not come from a bachelor's degree in the area of Computer Programming, Information Systems or Computing Sciences, must take the course ITCS 500 Information Technology (3 credits).
4. Subject to change

Master in Business Administration specialty in Leadership in Project Management

Program's description

The program is geared towards people who aspire leadership positions in their businesses in all economic sectors. These individuals will be able to complete a project and achieve success by completing the project within the set timeframe, a budget and according to client satisfaction. The individuals will also develop interpersonal skills such as teamwork, effective communication, negotiation, among others, which will be key for the effective management of the projects they are in charge of.

Admission GPA: 2.75 (See admission requirements for accelerated adult program.)

Graduation GPA: 3.00

Curricular Content

Core Component- 18 credits			
Course	Credits	Title	Prerequisites
ACCO 515	3	Managerial Accounting	ACCO 500 ¹
MARK 511	3	Marketing	
FINA 503	3	Managerial Finance	STAT 555, ACCO 500 or equivalent
MANA 501	3	Organizational Behavior	
STAT 555	3	Statistics Decision Making	
ECON 519	3	Economics	STAT 555 or equivalent
Specialty Component - 18 credits			
Course	Credits	Title	Prerequisites
PRMG 550	3	Leadership in Project Management	
PRMG 601	3	Project Scope and Time Management	
PRMG 602	3	Project Cost Management	
PRMG 603	3	Project Quality Management	PRMG 601
PRMG 604	3	Human Resources Risk Management	
PRMG 605*	3	Project Integration Management	All core and major courses and program authorization
STMG 655*	3	Integration Seminar	
Directed Electives - 3 credits			
Course	Credits	Title	Prerequisites
PRMG 606	3	Project Procurement Management	PRMG 601
PRMG 607	3	Project Communication Management	
PRMG 608	3	Using Project Management Information System	

Important Notes:

1. ACCO 500 prerequisite applies to students who are not from the field of Business Administration.
2. Eight (8) week course
3. The PRMG 605 / STMG 655 courses have as prerequisites all the core and specialty courses and authorization of the program.

Master Degree in Business Administration specialty in Project Management (Online)

Program's description

The program is geared towards people who aspire leadership positions in their businesses in all economic sectors. These individuals will be able to complete a project and achieve success by completing the project within the set timeframe, a budget and according to client satisfaction. The individuals will also develop interpersonal skills such as teamwork, effective communication, negotiation, among others, which will be key for the effective management of the projects they are in charge of. (Carolina)

Admission GPA: 2.75 (See admission requirements for accelerated adult program.)

Graduation GPA: 3.00

Curricular Content

Core Component- 18 credits

Course	Credits	Title	Prerequisites
ACCO 515	3	Managerial Accounting	ACCO 500 ¹
ECON 519	3	Economics	STAT 555 or equivalent
FINA 503	3	Managerial Finance	STAT 555, ACCO 500 or equivalent
MANA 501	3	Organizational Behavior	
MARK 510	3	Marketing Management	
STAT 555	3	Statistics Decision Making	

Specialty Component - 18 credits

Course	Credits	Title	Prerequisites
PRMG 550	3	Leadership in Project Management	
PRMG 601	3	Project Scope and Time Management	
PRMG 602	3	Project Cost Management	
PRMG 603	3	Project Quality Management	PRMG 601
PRMG 604	3	Human Resources Risk Management	
PRMG 605*	3	Project Integration Management	All core and major courses
STMG 655*	3	Integration Seminar	and program authorization

Electives - 3 credits

Course	Credits	Title	Prerequisites
PRMG 606	3	Project Procurement Management	PRMG 601
PRMG 607	3	Project Communication Management	
PRMG 608	3	Using Project Management Information System	

Important Notes:

1. ACCO 500 prerequisite applies to students who are not from the field of Business Administration.
2. The minimum grade to approve PRMG 605 / STMG 655 is B.
3. Eight (8) week course
4. Subject to change

Master in Strategic Tourism

Program's description

The mission of the Master in Strategic Tourism is to develop professionals with the necessary skills to perform in leadership positions within the tourism industry. These professionals will be trained to manage and develop projects taking into consideration core issues that impact the tourism industry. Its design allows to meet the educational demand of students and, at the same time, the need of workers and professionals with years of work experience in multiple and diverse sectors of tourism who wish to improve their academic training as administrators and executives or are interested in establishing their own companies in field.

Admission GPA: 2.75 (See admission requirements for accelerated adult program.)

Graduation GPA: 3.00

Curricular Content

Core Component- 27 credits			
Course	Credits	Title	Prerequisites
STTR 500*	3	Corporate Finance and Managerial Accounting	
STTR 501	3	Economy and Global Tourism	
STTR 502	3	Sales Management and Strategic Tourism Marketing	
STTR 504	3	Human Resources and Organizational Development	
STTR 505	3	Planning and Tourism Development	
STTR 601	3	Product Design and Tourist Experiences	
STTR 602	3	Online Marketing and Social Media Management	STTR 502
STTR 509	3	Research Techniques	30 credits approved
STTR 655*	3	Professional Project Implementation	All courses
Directed Electives (9) credits			
Course	Credits	Title	Prerequisites
STTR 503	3	Development And Administration of Tours, Tour Packages and Special Offerings	
STTR 603	3	Events Management: Operations and Logistics	
STTR 604	3	Lodging Operations Management	
STTR 605	3	Sustainable Tourism	
METR 602	3	Competitive Benefits for Medical Tourism Destinations	
GSTR 624	3	Food and Beverage Tasting Trails	

Important Notes:

1. Students who are not graduates of Tourism programs may require courses related to Hospitality and Accounting as a prerequisite.
2. *Eight (8) week course
3. The minimum grade to approve STTR 655 is B.
4. Subject to change.

Master in Strategic Tourism specialty in Gastronomic Tourism

Program's description

The mission of the Master in Strategic Tourism with a specialty in Gastronomic Tourism is to develop professionals with the necessary skills to become strategic leaders capable of developing and managing gastronomic companies with quality products and services, as well as occupying key positions within the tourism industry or offering advice and consultancy to public and private entities in the provision of food services and drinks. Its design allows to meet the educational demand of students and, at the same time, the need of workers and professionals with years of work experience in multiple and diverse sectors of tourism who wish to improve their academic training.

Admission GPA: 2.75 (See admission requirements for accelerated adult program.)

Graduation GPA: 3.00

Curricular Content

Core Component- 21 credits			
Course	Credits	Title	Prerequisites
STTR 500*	3	Corporate Finance and Managerial Accounting	
STTR 501	3	Economy and Global Tourism	
STTR 502	3	Sales Management and Strategic Tourism Marketing	
STTR 503	3	Development And Administration of Tours, Tour Packages and Special Offerings	
STTR 504	3	Human Resources and Organizational Development	
STTR 505	3	Planning and Tourism Development	
STTR 509*	3	Research Techniques	30 credits approved
Specialty Component - 15 credits			
Course	Credits	Title	Prerequisites
GSTR 620	3	Gastronomic Tourism Foundations	
GSTR 621	3	Gastronomy in Contemporary Society	GSTR 620
GSTR 622	3	Gastronomic Tourism and Communication Strategies	GSTR 620
GSTR 623	3	Gastronomic Event Planning	GSTR 620
STTR 655*	3	Professional Project Implementation	All courses
Directed Electives - 3 credits			
Course	Credits	Title	Prerequisites
STTR 605	3	Sustainable Tourism	
GSTR 624	3	Food and beverage tasting trails	

Important Notes:

1. Students who are not graduates of Tourism programs may require courses related to Hospitality and Accounting as a prerequisite.
2. *Eight (8) week course
3. The minimum grade to approve STTR 655 is B.
4. Subject to change.

Master of Health Services Administration specialty in Health Services Management

Program's description

The graduate of this academic offer will be a professional academically prepared to perform successfully in primary management and intermediate in health service organizations. What distinguishes these professionals is their knowledge in the field of public health, management and the integration of both fields. In this way, it will ensure a balance between the public health services, the organizational administration, and fiscal health.

Admission GPA: 2.75 (See admission requirements for accelerated adult program.)

Graduation GPA: 3.00

Curricular Content

Core Component- 21 credits			
Course	Credits	Title	Prerequisites
HESM 500	3	Leadership and Organizational Behavior in Health Services	
HESM 520*	3	Fundamentals of Accounting and Finance in Health Services	
HESM 530	3	Economy in the Healthcare Market	HESM 520
HESM 540*	3	Health Services Information Systems	
HESM 550*	3	Research Methods in Health Services	HESM 560, 570, HEMG 600
HESM 560*	3	Applied Biostatistics	
HESM 570	3	Fundamentals of Epidemiology	
Specialty Component - 21 credits			
Course	Credits	Title	Prerequisites
HEMG 600	3	Fundamentals in the Evaluation of Health Services	
HEMG 605	3	Strategic Planning in Health Services Organizations	HESM 520
HEMG 610	3	Legal and Ethical Issues in the Evaluation of Health Services	
HEMG 620	3	Quality Management in Health Services	
HEMG 630*	3	Evaluation Models Analysis	
HEMG 640	3	Effectives Strategies for the Evaluation of Health Services	
HEMG 650*	3	Development of an Evaluation Model for Health Services	All core and major courses and program authorization

Important Notes:

1. The minimum grade to approve HEMG 650 is B.
2. Subject to change.
3. * Eight (8) week course

Master of Public Affairs specialty in Public Policy

Program's description

The program is geared towards the theoretical and methodological analysis of the public affairs issues and their relevancy within the study of the decision-making process in the public sector. Both the skills development and its application within the investigation are the bases to elaborate recommendations towards a more effective and efficient restoration of public affairs. The program emphasizes the analysis of public policies, focused on legislation, it's planning and the use of appropriate technology.

Admission GPA: 2.75 (See admission requirements for accelerated adult program.)

Graduation GPA: 3.00

Curricular Content

Core Component- 21 credits			
Course	Credits	Title	Prerequisites
PUAG 500	3	Theoretical Foundations in Public Management	
PUAG 505	3	Technical Research Writing Skills	
PUAG 510	3	Statistical methods in software packages applied to public affairs	
PUAG 515	3	Research Methods Applied to Public Affairs	
PUAG 520	3	Macroeconomic Theory Applied to Public Policy	
PUAG 525	3	Public Budgeting and Finance	
PUAG 530	3	Public Policy Design and Analysis	
Specialty Component - 15 credits			
Course	Credits	Title	Prerequisites
PUAG 600*	3	Public Policy Analysis Using Gis Technology	PUAG 510
PUAG 605	3	Topics And Cases in Urban Policy and Planning	
PUAG 610	3	The Legislative Process	
PUAG 640	3	Development and Management of E-Government Projects	
PUAG 660*	3	Directed Study in Public Affairs	33 credits approved

Important Notes:

1. The minimum grade to approve PUAG 660 is B.
2. Eight (8) week course
3. Subject to change.

Master in Arts in Education with specialization in Instructional Design and Technology Integration with eLearning

Program's description

The program allows students of diverse professional interests to learn different instructional design models and apply them in their workplace scenarios, integrate technology, multimedia, e-learning and or distance-learning. The program graduate will be a professional with vast technological knowledge, able to design and develop curriculum and training with technological resources pertinent to the workplace or in an educational context.

Admission GPA: 2.75 (See admission requirements for accelerated adult program.)

Graduation GPA: 3.00

Curricular Content

Core Component- 18 credits			
Course	Credits	Title	Prerequisites
ETEG 500	3	Applied Instructional Design Models	
ETEG 501	3	Fundamentals of Educational Technology	ETEG 500
ETEG 502	3	Distance Education Fundamentals (distance learning)	ETEG 501
ETEG 503	3	Curriculum Design and Instructional Design for the Adult Learner	
ETEG 504	3	Technology Immersion	ETEG 503
ETRE 525	3	Applied Research	ETEL 601, ETEL 602, ETEL 603
Specialty Component - 15 credits			
Course	Credits	Title	Prerequisites
ETEL 600	3	E-Learning, Technology Integration and Multimedia	ETEG 504
ETEL 601	3	Development of Corporate Virtual Training (distance learning)	ETEL 600
ETEL 602	3	Distance Education Assessment - (distance learning)	ETEL 600
ETEL 603	3	E-E-learning and Virtual Learning Communities (distance learning)	ETEG 504
PRTE 630	3	Instructional Design and Technology Project I	ETRE 525
PRTE 640	3	Instructional Design and Technology Project II	PRTE 640
Final Requirement - 3 credits			
Course	Credits	Title	Prerequisites
ETEL 604	3	Applied Instructional Designs for the Corporate World (distance learning)	ETEG 502, ETEG 503, ETEG 504
ETEL 605	3	Applied Instructional Design for the Academy (distance learning)	ETEG 502, ETEG 503, ETEG 504

Important Notes:

1. Courses in any session (Part of Term) is subject to availability in programming and the minimum number of officially enrolled students necessary for the permanence of the corresponding section (8 students).
2. Subject to change.

Master in Education with specialization in Montessori Curriculum Development and Teaching

Program's description

This academic program prepares specialists in the development and implementation of the Montessori curriculum and its instructional and manipulative processes. His focus is curriculum development for multilevel student groups and differentiated learning. It includes curricular theories, multilevel curricular design and planning, design and evaluation of instructional materials, and evaluation of the curriculum and its application to the different disciplines, developed for multilevel or multigrade environments and populations.

Admission GPA: 2.75 (See admission requirements for accelerated adult program.)

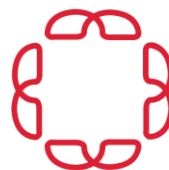
Graduation GPA: 3.00

Curricular Content

Core Component- 18 credits			
Course	Credits	Title	Prerequisites
EDUC 501	3	Principles and Curriculum Development	
EDUC 502	3	Classroom and School Management as Learning Communities	
EDUG 521	3	Introduction to the Foundations and Methodology of Alternative Education	
EDUG 527	3	Multilevel Curriculum Planning and Design	
MONC 600	3	Montessori Methodology and The Cognitive Development	EDUC 501
MONC 605	3	Montessori Teacher	EDUG 527
Specialty Component - 15 credits			
Course	Credits	Title	Prerequisites
EDUC 513	3	Educational Assessment, Measurement and Evaluation	
MONC 610	3	Design Of Montessori Curriculum and Teaching Strategies for Arts, History and Humanities	EDUC 513, MONC 600
MONC 620	3	Design Of Montessori Curriculum and Teaching Strategies for Language Arts)	EDUC 513, MONC 600
MONC 630	3	Design Of Montessori Curriculum and Teaching Strategies for Mathematics and Science	EDUC 513, MONC 600
MONC 640	3	Five Great Lessons	EDUC 513, MONC 600
Final Requirement - 3 credits			
Course	Credits	Title	Prerequisites
MONC 670	3	Montessori Project	33 credits approved

Important Notes:

1. The minimum grade to approve MONC 670 is B.
2. Courses in any session (Part of Term) is subject to availability in programming and the minimum number of officially enrolled students necessary for the permanence of the corresponding section (8 students).
3. Subject to change.



UNIVERSIDAD
ANA G. MÉNDEZ

UAGM

COURSE DESCRIPTIONS

COURSE DESCRIPTIONS

SCIENCE AND TECHNOLOGY ACADEMIC DIVISION

AGRO 300 AGROECOLOGY I 3 CREDITS

This course will cover the basic principles of organic farming grounded in social, economic and ecological sustainability and its challenges. The concepts of botany and plant reproduction of different agroecosystems with emphasis on the tropics will be studied; its interactions with abiotic components; the interactions between species in the crop, beneficial insects or pests, soil microorganisms; and the interactions between crops and weeds.

AGRO 300L AGROECOLOGY I LAB 3 CREDITS

Laboratory that complements the class of AGROE 300. The student will carry out practices in the field where he/she will apply the knowledge acquired in class related to the chemistry and biology of the soil, preparation of the land for organic planting, the production of the compost and green fertilizers, sustainable planting techniques, control of unwanted vegetation, and the generation of the seed bank.

AGRO 301 AGROECOLOGY II 3 CREDITS

This course will cover the theme of biodiversity that characterizes natural ecosystems as a strategy to maintain the stability of the agroecosystem; the strategies for the sustainable management of the agroecosystem and to measure its sustainability; and the role of the community and culture in the development and implementation of sustainable food alternatives in temperate and tropical countries.

AGRO 301L AGROECOLOGY II LAB 3 CREDITS

Laboratory space that complements the AGROE 301 class. The student will develop a sustainable planting project based on the principles of biodiversity and ecological practices for pest control in order to maintain a healthy and productive agroecosystem. In addition, it will develop an agribusiness project of organic products where it will integrate the course material taking into account the requirements of the agencies for organic certification. The project will be carried out in collaboration with disadvantaged local communities based on their needs and interests.

BCHM 210 SURVEY IN BIOCHEMISTRY 3 CREDITS

This course will provide to study the structure and function of biomolecules including water, proteins, lipids, carbohydrates, and nucleic acids. Essential nutrients such as amino acids, vitamins and minerals will be analyzed for their function and relevance. Structure and function of biological membrane, enzyme kinetics, thermodynamics principles that explain carbohydrate and lipids metabolism will be studied by the molecules involved. The course is developed through lectures with student participation reports, problem solving, cooperative work and individual assignments. The course consists of three hours of lecture per week.

BIOE 500 BIOETHICS IN SCIENTIFIC RESEARCH 3 CREDITS

The course focuses on presenting the theoretical and historical aspects of bioethics principles, relevant aspects of scientific research and bioethical issues that are relevant for human lives. Technology and information resources should be use in a responsible way. The course consists of three (3) credits and three (3) hour of lecture per week.

BIOL 100 APPLIED MICROBIOLOGY 3 CREDITS

The course emphasized in the fundamental principles of microbiology and the role of microorganisms in industrial processes. Topics to be included are the characteristic of microorganisms emphasizing in structure and identification, use of microscope and staining techniques, isolation of bacteria in pure cultures, handling and cultivation of aerobic and anaerobic bacteria, biochemical test and semi and automatic techniques to identified bacteria.

BIOL 101 INTRODUCTION TO BIOLOGICAL SCIENCES

3 CREDITS

Study of the basic biological principles using the levels of biological organization. The study of the chemical context of life, the structure and function of macromolecules, the cell functionality and the principal metabolic process. Finally, the study of the human anatomy and physiology of circulatory, respiratory, digestive and urinary systems.

BIOL 103 BIOLOGY FOR HEALTH SCIENCES

3 CREDITS

Science course that prepares the student to acquire the fundamental concepts of the Biology Science such as: matter characteristics, the cell, introduction to Physiology, Human Anatomy and introduction to genetics. Said course is offered to the Health Science students.

BIOL 105 MICROBIOLOGY

4 CREDITS

Designed for students of the Allied Health Sciences Programs. Discusses fundamental concepts of microbiology, including the latest advances in the area. It covers microorganism, their pathology, methods for controlling their growth and immunology. One semester, three lecture hour, and three laboratory hour per week.

BIOL 105L LAB OF MICROBIOLOGY

0 CREDITS

Designed for students of the Allied Health Sciences Programs. Discusses fundamental concepts of microbiology, including the latest advances in the area. It covers microorganism, their pathology, methods for controlling their growth and immunology. One semester, three lecture hour, and three laboratory hour per week.

BIOL 106 HUMAN ANATOMY AND PHYSIOLOGY

4 CREDITS

It is a course designed for students of Nurse Associated Degree and Nurse Baccalaureate Degree Programs in Sciences. Integrate micro -, cyto -, histo- and macro anatomy concepts; basic concepts of Anatomy, foundations on structure of the cells, tissues, organs and systems, necessary for the general knowledge of the human body.

BIOL 106L LAB HUMAN ANATOMY AND PHYSIOLOGY

0 CREDITS

It is a course designed for students of Nurse Associated Degree and Nurse Baccalaureate Degree Programs in Sciences. Integrate micro -, cyto -, histo- and macro anatomy concepts; basic concepts of Anatomy, foundations on structure of the cells, tissues, organs and systems, necessary for the general knowledge of the human body.

BIOL 107 BIOLOGY SCIENCE FOR VETERINARY STUDENTS

3 CREDITS

Science course that prepares the veterinary student to acquire the fundamental concepts of the Biology Science such as: matter characteristics, the cell, introduction to Physiology and Anatomy of vertebrate animals and introduction to genetics.

BIOL 115 INTRODUCTION TO HUMAN BIOLOGY

3 CREDITS

Study of anatomical structures and physiological processes in the human organism. Analyses of structure function relationships in human physiology. Understanding of the human organism as a whole. Evaluation of relevant pathological conditions associated with different organ systems. Use of computer software to aid in the understanding of physiological phenomena and to enhance group discussions. Critical evaluation, development and appreciation of those practices that promote health to individuals and populations. Teaching strategies include, case presentations, research tasks, written reports, cooperative work and "in-classroom" laboratory exercises. One Semester, 3 hours of lecture per week. Study of anatomical structures and physiological processes in the human organism. Analyses of structure function relationships in human physiology. Understanding of the human organism as a whole. Evaluation of relevant pathological conditions associated with different organ systems. Use of computer software to aid in the understanding of physiological phenomena and to enhance group discussions. Critical evaluation, development and appreciation of those practices that promote health to individuals and populations. Teaching strategies include, case presentations, research tasks, written reports, cooperative work and "in-classroom" laboratory exercises. One Semester, 3 hours of lecture per week.

BIOL 200 PRINCIPLES OF HUMAN ANATOMY

3 CREDITS

Introduction to the study of nervous, muscular, and osteoarticular systems. Emphasis in the relationship of these systems with the development of language and speech.

BIOL 203 GENERAL BIOLOGY I

4 CREDITS

An introductory survey of current biological concepts for students majoring in the sciences. Emphasis will be placed on topics which include characteristics of living things, scientific method, biologically important compounds and molecules, cells, energy and metabolism, genetics, evolution and ethical aspects related to technology and scientific research.

BIOL 203L GENERAL BIOLOGY I LAB

0 CREDITS

Laboratory course to accompany BIOL 203. The course is a hands-on experience that enhance the lecture course. Topics studied are the scientific method, organic macromolecules, cytology, cell membrane transport processes, cell cycle, cellular metabolism: photosynthesis, cellular respiration, meiosis, mendelian genetics, molecular genetics and evolution.

BIOL 204 GENERAL BIOLOGY II

4 CREDITS

General biology course for natural sciences students. Include the following topics: biodiversity, basic concepts of anatomy and physiology of plants and animals, ecology and ethical aspects related to technology and scientific research.

BIOL 204L GENERAL BIOLOGY II LAB

0 CREDITS

Laboratory course to accompany BIOL 204. The course are hands-on experiences that enhance the lecture course. Topics studied are biodiversity, systematics, comparted anatomy and physiology and ecology.

BIOL 206 GENERAL MICROBIOLOGY

4 CREDITS

An introductory survey of current biological concepts for students majoring in the sciences. Emphasis will be placed on topics which include characteristics of living things, scientific method, biologically important compounds and molecules, cells, energy and metabolism, genetics, evolution and ethical aspects related to technology and scientific research.

BIOL 206L GENERAL MICROBIOLOGY LAB

0 CREDITS

An introductory survey of current biological concepts for students majoring in the sciences. Emphasis will be placed on topics which include characteristics of living things, scientific method, biologically important compounds and molecules, cells, energy and metabolism, genetics, evolution and ethical aspects related to technology and scientific research.

BIOL 208 MICROBIAL ECOLOGY DIVERSTY

3 CREDITS

This course is an introduction to the fundamental structure and function of plants, including the plant cell, photosynthesis, respiration, genetics, and regulation of growth by hormones as well as external factors. An overview will be presented on major plant groups, including algae, fungi, bryophytes, ferns, gymnosperms and angiosperms. The course will focus on the angiosperms; their structure, development and the relation between their reproduction and movement of water and minerals. One semester, 3 hours of lecture per week and 3 hours of laboratory per week.

BIOL 208L MICROBIAL ECOLOGY DIVERSITY LAB

0 CREDITS

This course is an introduction to the fundamental structure and function of plants, including the plant cell, photosynthesis, respiration, genetics, and regulation of growth by hormones as well as external factors. An overview will be presented on major plant groups, including algae, fungi, bryophytes, ferns, gymnosperms and angiosperms. The course will focus on the angiosperms, their structure, development and the relation between their reproduction and movement of water and minerals. One semester, 3 hours of lecture per week and 3 hours of laboratory per week.

BIOL 260 BACTERIOLOGY

3 CREDITS

In this course, the students will gain the necessary knowledge to successfully classify and differentiate between pathogenic microorganisms responsible for the highest morbidity and mortality rates in humans. Moreover, the students will learn which are the main virulence and pathogenic factors in microorganisms and study the infectious processes of major diseases. The laboratory experiences will allow the student to obtain the basic tool for disease diagnosis. The course will be offered during a regular semester with a 2-hour lecture and 2 hours laboratory everyweek.

BIOL 300 MICROBIOLOGY

4 CREDITS

Fundamental concepts of microbiology such as: bacteriology, mycology, virology, parasitology, and immunology. Emphasis in pathogenic microorganisms and diagnosis of infectious disorders.

BIOL 300L MICROBIOLOGY LABORATORY

0 CREDITS

Students will be exposed to the microbial world and the techniques for their study from a human and environmental health perspective. During the course, students will learn fundamental techniques for the study of microorganisms and their manipulation. Each laboratory experience and other activities have been chosen to encourage students to think for themselves, take initiative and be responsible in their work as part of ethical principles.

BIOL 301 INTRODUCTION TO FOOD MICROBIOLOGY

3 CREDITS

Introductory microbiology course for students; interested in careers related to human health and the food industry. The course is aimed at students who do not possess a prior course of microbiology. The itinerary begins with the basics in Microbiology (diversity, classification, microbial growth). Be studied also issues aimed at understanding the interaction pathogen-host as: microorganisms with pathogenic potential, normal microflora, epidemiology, immunology and diseases. The course will be study issues related to the microorganisms of importance in the food (food spoilage, fermented foods and other products of microbial origin), regulations, practical problems and bioethics of the food industry. The course will analyze how microorganisms impact human health and the quality of the food using a practical approach with application to daily life and to the future profession of the student.

BIOL 303 HUMAN BIOLOGY I

4 CREDITS

The course integrates the study of the structure of the human organism, its development and histology, with the function of organs and systems. Also, issues related to health are discussed. Study of cellular concepts, histological structures, and of osteoarticular, muscle and nerve systems; emphasizing the value of life, human dignity, respect, integrity, justice and responsibility of every human being.

BIOL 303L HUMAN BIOLOGY I LAB

0 CREDITS

The course integrates the study of the structure of the human organism, its development and histology, with the function of organs and systems. Also, issues related to health are discussed. Study of cellular concepts, histological structures, and of osteoarticular, muscle and nerve systems; emphasizing the value of life, human dignity, respect, integrity, justice and responsibility of every human being.

BIOL 304 HUMAN BIOLOGY II

4 CREDITS

The course integrates the study of the structure of the human organism, its development and histology, with the function of organs and systems. Also, issues related to health are discussed. Emphasis in sensorial organs and endocrine, cardiovascular, lymphatic, respiratory, digestive, urinary and reproduction system.; emphasizing the value of life, human dignity, respect, integrity, justice and responsibility of every human being.

BIOL 304L HUMAN BIOLOGY II LAB

0 CREDITS

The course integrates the study of the structure of the human organism, its development and histology, with the function of organs and systems. Also, issues related to health are discussed. Emphasis in sensorial organs and endocrine, cardiovascular, lymphatic, respiratory, digestive, urinary and reproduction system.; emphasizing the value of life, human dignity, respect, integrity, justice and responsibility of every human being.

BIOL 307 NEUROBIOLOGY

3 CREDITS

This course is an introduction to the organization and function of the nervous system. Focuses on neuroanatomy, cellular organization and the basic organization of the brain into neural systems.

BIOL 308 GENERAL MYCOLOGY

3 CREDITS

A study of the morphology, physiology, distribution and taxonomy of the five (5) principal divisions of the mycota kingdom: zygomycetes, myxomycetes, basidiomycetes, ascomycetes and deuteromycetes. Use and implications of the commercial application of fungi is explored. Laboratory experiences include the different methods of isolation, management, characterization or classification and control of fungi. One semester, 2 hours per week, 2 hours of laboratory per week.

BIOL 309 VIROLOGY

3 CREDITS

This course covers structure, transmission, entry to hosts cells, transcription, translation and transport. It covers virus's genome replication, polymerases, double-single strand RNA replication and reverse transcription, assembly and exit of virions from hosts cells and taxonomy and nomenclature of viruses.

BIOL 310 ANIMAL BEHAVIOR

3 CREDITS

Introduction to animal behavior, emphasizing the evolution, neurophysiology, genetic, ecology, behavioral development, as well as behavioral patterns, mechanisms, functions and learning processes related to behavior and human ethology. It will discuss some aspects of the correct scientific and ethical use of experimental animals.

BIOL 312 ZOOLOGY

4 CREDITS

Study of different animal groups with emphasis on taxonomy, morphology, physiology, ecology, evolution and an integrated ethical vision.

BIOL 312L ZOOLOGY LAB

0 CREDITS

Study of different animal groups with emphasis on taxonomy, morphology, physiology, ecology, evolution and an integrated ethical vision.

BIOL 313 HUMAN ANATOMY AND PHYSIOLOGY I

4 CREDITS

The course integrates the study of the structure of the human organism, its development and histology, with the function of organs and systems. Also, issues related to health are discussed. Study of cellular concepts, histological structures, and osteoarticular, muscle and nerve systems; emphasizing the value of life, human dignity, respect, integrity, justice and responsibility of every human being. This course is designed primarily for students majoring in natural sciences professions, pre-medical, pre-odontology etc.

BIOL 313L HUMAN ANATOMY AND PHYSIOLOGY I LAB

0 CREDITS

The course integrates the study of the structure of the human organism, its development and histology, with the function of organs and systems. Also, issues related to health are discussed. Study of cellular concepts, histological structures, and osteoarticular, muscle and nerve systems; emphasizing the value of life, human dignity, respect, integrity, justice and responsibility of every human being. This course is designed primarily for students majoring in natural sciences professions, pre-medical, pre-odontology etc.

BIOL 314 HUMAN ANATOMY AND PHYSIOLOGY II

4 CREDITS

The course integrates the study of the structure of the human organism, its development and histology with the function of organs and systems and how they work together. Health-related issues are discussed. Endocrine, cardiovascular, lymphatic, respiratory, digestive, urinary and reproductive systems are discussed, emphasizing the importance to value life, human dignity, respect, integrity, justice and responsibility of every human being. This course is designed primarily for students majoring in natural sciences professions, pre-medical, pre-odontology etc.

BIOL 314L HUMAN ANATOMY AND PHYSIOLOGY II LAB

0 CREDITS

The course integrates the study of the structure of the human organism, its development and histology with the function of organs and systems and how they work together. Health-related issues are discussed. Endocrine, cardiovascular, lymphatic, respiratory, digestive, urinary and reproductive systems are discussed, emphasizing the importance to value life, human dignity, respect, integrity, justice and responsibility of every human being. This course is designed primarily for students majoring in natural sciences professions, pre-medical, pre- odontology etc.

BIOL 315 BIOSTATISTICS

3 CREDITS

Introduction to the study of data collection, data grouping, data analyses and interpretation of biological data. Understanding of basic probability concepts and probabilistic distribution. Understanding of fundamental statistical tools for the construction of graphs and tables. Understanding of key concepts such as central tendency parameters, dispersion parameters, hypothesis development, types of hypotheses, types of error in hypothesis decision, hypothesis testing.

BIOL 317 BIOINFORMATICS

4 CREDITS

Study the principles of genetics at the molecular, cytological, organismal and population level. Study of the structure, function and composition of the genetic material and how it is express. Also, the study of the factors responsible for genetic variability and how this promotes evolution. Emphasis in the ethical aspects related to the Human Genome Project, cloning, transgenic research and genetic engineering.

BIOL 317L BIOINFORMATICS LAB

0 CREDITS

Study the principles of genetics at the molecular, cytological, organismal and population level. Study of the structure, function and composition of the genetic material and how it is express. Also, the study of the factors responsible for genetic variability and how this promotes evolution. Emphasis in the ethical aspects related to the Human Genome Project, cloning, transgenic research and genetic engineering.

BIOL 318 PARASITOLOGY

4 CREDITS

This course focuses on the general concepts that comprise the biology, evolution and ecology of the relationship between parasites and their hosts. The course emphasizes on those parasites that cause diseases in animals and humans globally but especially those that affect Puerto Rico and the United States. In addition, the course has a content directed towards the knowledge of life cycles, and morphology of the parasite, and diagnosis, treatment and prevention of parasitic diseases of the highest prevalence. The course will cover protozoa, helminths and arthropods. The student develops critical thinking skills and the use of information technology through case studies, teamwork, laboratory experiments, thoughtful discussion, among others. The laboratory component of this course will provide the student with the necessary knowledge and tools to be able to identify different stages in the life cycle of parasites of medical and veterinary importance.

BIOL 318L PARASITOLOGY LABORATORY

0 CREDITS

This course focuses on the general concepts that comprise the biology, evolution and ecology of the relationship between parasites and their hosts. The course emphasizes on those parasites that cause diseases in animals and humans globally but especially those that affect Puerto Rico and the United States. In addition, the course has a content directed towards the knowledge of life cycles, and morphology of the parasite, and diagnosis, treatment and prevention of parasitic diseases of the highest prevalence. The course will cover protozoa, helminths and arthropods. The student develops critical thinking skills and the use of information technology through case studies, teamwork, laboratory experiments, thoughtful discussion, among others. The laboratory component of this course will provide the student with the necessary knowledge and tools to be able to identify different stages in the life cycle of parasites of medical and veterinary importance.

BIOL 320 MICROBIOLOGY

4 CREDITS

General microbiology course is aimed at students of biology and General Science interested in learning about the microbial world. In this introductory course students will study the morphology, taxonomy, ecology and the fundamental characteristics of microorganisms (e.g. bacteria, fungi, algae, protozoa and viruses) physiology. It also explores the basic techniques of enrichment, selection, isolation, enumeration and identification of microorganisms. The course not only discusses the ability of microorganisms to cause diseases, but also highlights its role in research, the ecosystem and the economy. Also, ethical issues will be discussed and analyzed regarding the management, handling of microorganisms and the application of modern techniques and their impact on health, the environment and the economy. Three hours of lecture and four hours of laboratory per week.

BIOL 320L MICROBIOLOGY LABORATORY

0 CREDITS

General microbiology course is aimed at students of biology and General Science interested in learning about the microbial world. In this introductory course students will study the morphology, taxonomy, ecology and the fundamental characteristics of microorganisms (e.g. bacteria, fungi, algae, protozoa and viruses) physiology. It also explores the basic techniques of enrichment, selection, isolation, enumeration and identification of microorganisms. The course not only discusses the ability of microorganisms to cause diseases, but also highlights its role in research, the ecosystem and the economy. Also, ethical issues will be discussed and analyzed regarding the management, handling of microorganisms and the application of modern techniques and their impact on health, the environment and the economy. Three hours of lecture and four hours of laboratory per week.

BIOL 321 FOOD MICROBIOLOGY

4 CREDITS

In this course, the students will learn which microorganisms comprise the indigenous flora or are classify as contaminating agents in foods and the types of infections and intoxications that they may cause. Emphasis will also be given to microorganisms that are commonly used for preparation and preservations of food products that are for human consumption. The course will include revision of laws and regulations from agencies related to the food industry like the Food and Drug Administration (FDA) and the Environmental Protection Agency (EPA). The laboratory experiences will include the most relevant microbiological techniques use during food quality control. The student will also gain experience in sampling methodology. Moreover, the students will use the biochemical tests learn in General Microbiology to characterize the indigenous microflora in foods.

BIOL 321L FOOD MICROBIOLOGY LAB

0 CREDITS

Course designed for microbiology or biology students interested in microbiology, the food industry and their impact in the human health and the global economy. Throughout the semester we will study different groups of microorganisms such as: fungi, bacteria, prions and viruses, and the interaction of these with the food (e.g. cereals, meat, beef, chicken, seafood, vegetables and dairy products). Selected topics of the course are aimed at understanding how pathogens cause diseases, food poisoning is spread and how you can control them. The course also emphasizes the industrial aspect and the role of microorganisms in the manufacture of foods such as bread, dairy products alcoholic beverages, among others. Updated issues related to preservation and applicable regulations of food microbiology and food safety are discussed also in the course. During the course the students can explore and analyze the ethical issues related to the management and manipulation of microorganisms, with a special interest in the manufacturing of food, public health, sanitation microbiological and future challenges.

BIOL 322 IMMUNOLOGY

3 CREDITS

Study of the historical, evolutionary, cytological, anatomical, physiological and clinical aspects of immunology. The topics in the course cover fundamental aspects of molecular and cellular immunology areas and applications and technologies used in modern medicine. The course analyzes ethical issues related to the implementation and development of technologies for the control of infections and invasions of hazardous biological agents and other foreign materials.

BIOL 323 INDUSTRIAL MICROBIOLOGY

3 CREDITS

This course deals with the use of microorganisms in the industry particularly in the manufacture and quality control of different pharmaceutical products. It also provides the student with an introduction to bioprocess, regulations including Good Manufacturing Procedures (GMP) and Good Lab Practices (GLP).

BIOL 324 MICROBIAL SAFETY AND QUALITY CONTROL

1 CREDIT

This course studies the determinant factors and appropriate practices to ensure quality control in microbiological laboratories in general, including clinical, pharmaceutical and food industry microbiological laboratories. The course describes techniques and methods for the prevention and management of microbiological contamination. It also studies the properties related to microbiological quality of products and all relevant processes involved in daily operations and production. It includes safety aspects related to personnel, internal laboratory environment, as well as external environments. It explores recommendations and regulations established by relevant agencies including: Food and Drug Administration (FDA), Environmental Protection Agency (EPA), International Organization for Standardization (ISO) and Occupational Safety and Health Administration (OSHA), and guidelines such as Good Laboratory Practices (GLP), Good Manufacturing Practices (GMP), and Biosafety in Microbiological and Biomedical Laboratories (BMBL, 5th Ed.). One semester, 1 hour of lecture per week.

BIOL 325 BOTANY

4 CREDITS

The General Botany course presents basic concepts of plant biology focusing on the structure, function, reproduction and evolution of plants. Issues related to the role of plants in the environment and human activities will also be discussed. During the course students will discuss issues and current ideas on plants and agriculture, horticulture, medicine, biotechnology, ecology, conservation and environmental issues. Students will identify and analyze ethical concerns about the consequences of scientific research, the protection of plant diversity and its habitats in the development of life and the environment.

BIOL 325L BOTANY LABORATORY

0 CREDITS

The General Botany course presents basic concepts of plant biology focusing on the structure, function, reproduction and evolution of plants. Issues related to the role of plants in the environment and human activities will also be discussed. During the course students will discuss issues and current ideas on plants and agriculture, horticulture, medicine, biotechnology, ecology, conservation and environmental issues. Students will identify and analyze ethical concerns about the consequences of scientific research, the protection of plant diversity and its habitats in the development of life and the environment.

BIOL 329 GENERAL ECOLOGY

4 CREDITS

This course provides a comprehensive introduction to the contemporary science of ecology - the study of the relationships between organisms and their biotic and abiotic environments. The course provides students with experience in research study design, data collection and analysis and addresses theoretical and applied questions central to contemporary ecology at the level of the individual, population, community and ecosystem, with interpretation through an evolutionary perspective. Additional emphasis is placed on the ecological habitats of Puerto Rico and contemporary issues in conservation biology locally and world-wide.

BIOL 329L GENERAL ECOLOGY LAB

0 CREDITS

The course addresses theoretical and applied questions central to contemporary ecology through a combination of laboratory and field studies, at the level of the individual, population, community and ecosystem, with interpretation through an evolutionary perspective. Additional emphasis is placed on the ecological habitats of Puerto Rico and contemporary issues in conservation biology locally and world-wide. Duration of the course is approximately fifteen weeks (45 hours). Three hours of laboratory and/or field exercises per week will address the factors influencing the abundance and distribution of living organisms.

BIOL 331 DEVELOPMENTAL BIOLOGY

4 CREDITS

Study of the developmental patterns from gametogenesis to embryogenesis, explaining basic conceptual topics such as nuclear totipotency, cell determination, cytoplasmic localization, induction and morphogenesis. The course introduces the genetic and molecular analysis of development including the use of mutants, DNA cloning, and transgenic organisms. Explains the concepts of differential gene expression to understand how a three-dimensional organism unfolds in time. Special emphasis will be given to animal development. A one semester course or 3 hours lecture and 3 hours laboratory per week.

BIOL 332 INTRODUCTION TO BIOINFORMATICS

4 CREDITS

Bioinformatics uses computer databases to store, retrieve and assist in understanding biological information. This course is designed to introduce the most important and basic concepts, methods and tools in bioinformatics and computational biology. Topics include (but not limited to) an introduction to molecular biology and recombinant DNA technology, bioinformatics databases, biological sequence comparison, and phylogeny. Class hands-on and laboratory sessions will familiarize the student with the most commonly used online tools and resources. An introduction to the principles of the programming language Python will be provided.

BIOL 333 MARINE BIOLOGY

3 CREDITS

This course will introduce our students to the fundamental concepts of marine biology, emphasizing tropical marine life. The course is divided into four units 1) The Ocean Environment, 2) Marine Organisms, 3) Marine Ecosystems, and 4) Humans and the Sea. These units will cover not only the physical, biological, and ecological processes shaping the marine life but also examine the effect of anthropogenic actions in the dynamics of such processes. The course will be reinforced with laboratory and workshops sections in which the student will put into practice what has been learned in class. Emphasis on developing critical thinking skills through analyzing and evaluating scientific information pondering the impact of human activities on ocean life (problem-based scenarios). The development of skills related to scientific and quantitative reasoning will be facilitated by applying the scientific methods during the fieldwork sections. At the same time, student communication skills will be reinforced by a series of oral presentations and written reports of results found during field works sections using appropriate scientific language. Ethical behavior will be encouraged in the student body by identifying the patterns of ethical conduct that must be considered when engaging in activities that may negatively impact the health of marine ecosystems. The Marine Biology lab must be taken concurrently with the course. The various forms of life that inhabit marine ecosystems in Puerto Rico (e.g., estuaries, mangroves, seagrass beds, coral reefs) will be studied through the laboratory sections. In turn, students will be trained in the different techniques used to monitor the health of the marine environment.

BIOL 336 TROPICAL ECOSYSTEM MANAGEMENT

4 CREDITS

Fundamental concepts about natural resources conservation and management within the scenario of the ecosystems of Puerto Rico. The course will emphasize environmental problems associated to pollution, urban sprawling, energy provision, and collective indolence. The sustainable development paradigm will be analyzed. in vitro. The course will be offered during a regular semester with a three-hour lecture and three hours laboratory every week.

BIOL 340 GENETICS

4 CREDITS

The General Botany course presents basic concepts of plant biology focusing on the structure, function, reproduction and evolution of plants. Issues related to the role of plants in the environment and human activities will also be discussed. During the course students will discuss issues and current ideas on plants and agriculture, horticulture, medicine, biotechnology, ecology, conservation and environmental issues. Students will identify and analyze ethical concerns about the consequences of scientific research, the protection of plant diversity and its habitats in the development of life and the environment.

BIOL 340L GENETICS LAB

0 CREDITS

The course deals with principles of heredity with emphasis on structure of genetic material, mechanism of transmission, cytonetics, evolution, and population genetics.

BIOL 345 EVOLUTION

3 CREDITS

Introduction of living things evolution. Focusing on genetic basis of evolution, genetic variation, reconstruction of phylogeny, natural selection, origin of species, geological history, human, cultural and future evolution and intervention of modern technologies in the evolutionary processes. Discussion of present and future ethical conflicts in the evolution pathway.

BIOL 350 BIOCHEMISTRY

3 CREDITS

Studies the aspects of disinfection, sanitizing, and sterilization of physical areas where there are microorganisms present. Emphasizes the aspects of survival, dissemination, transportation, and impact on the environment of potential pathogens, their control through studying critical control points and the application of appropriate treatments.

BIOL 351 INTERSHIP AND BIOLOGY

3 CREDITS

Practical internship at another university, private industry or government agency. A minimum of 135 hours is required.

BIOL 352 BIOCHEMISTRY I

3 CREDITS

Lecture and discussion course on the fundamental notions of the chemistry of vital processes. It includes the study of the structural and functional relationship of proteins, carbohydrates, lipids, nucleic acids and their metabolism. Metabolic processes related to energy storage and its utilization, also the transmission and expression of genetic information will be studied. One semester, three lecture hour.

BIOL 353 BIOCHEMISTRY II

3 CREDITS

Lecture and discussion course on the fundamental notions of the chemistry of vital processes. The second part of the biochemistry course focuses on metabolic processes incorporating metabolism of glucose, lipids, carbohydrates, amino acids and nucleotides. Importantly, this course emphasizes how metabolic pathways are regulated and how they are interrelated in an organism

BIOL 355 CELLULAR AND MOLECULAR BIOLOGY

4 CREDITS

The course will provide students with basic concepts in the cellular and molecular biology of the cell and their application to human health. We will cover the properties of the cell, with emphasis in eukaryotic organelles structure and their function. Topics will be the cell and their organelles; cell membrane structure, properties, and permeability; mitochondrial metabolism; the endomembrane system; cell signaling; the extracellular matrix, and cell adhesion; the nucleus and DNA; cell cycle and DNA replication; and gene expression and their regulation. Students will be engaged in the application and integration of these concepts to understand the cellular and molecular mechanisms beyond human metabolic or genetic disorders, and cancer. The course will cover ethical issues related to the use of stem cells in research for the treatment of human diseases.

BIOL 355L CELLULAR AND MOLECULAR BIOLOGY LAB

0 CREDITS

Students will be introduced to both traditional and modern molecular and cellular biology techniques. Each laboratory experience and other activities have been chosen to encourage students to think for themselves, take initiative and be responsible in their work as part of ethical principles. Emphasis will be placed on developing good laboratory practices, including critical thinking, proper technique, data record-keeping, and scientific writing. Different practical approaches such as cellular microscopy, metabolism cellular growth, membrane properties, nucleic acid extraction, DNA cloning, restriction digest analysis and DNA fingerprinting using the polymerase chain reaction (PCR), high throughput transcriptome analysis, protein separation by SDS-PAGE, molecular phylogenetic analysis, and protein detection by immunodetection techniques will be explored, among others.

BIOL 357 SPECIAL TOPICS IN BIOLOGY

3 CREDITS

The course centers on discussions of topics in modern biology. Topics will be discussed using scientific literature. Topics may include biotechnology, conservation biology, biodiversity, applied microbiology, applied ecology, among others.

BIOL 360 RESEARCH TECHNIQUES

3 CREDITS

Bioinformatics uses computer databases to store, retrieve and assist in understanding biological information. This course is designed to introduce the most important and basic concepts, methods and tools in bioinformatics and computational biology. Topics include (but not limited to) an introduction to molecular biology and recombinant DNA technology, bioinformatics databases, biological sequence comparison, and phylogeny. Class hands-on and laboratory sessions will familiarize the student with the most commonly used online tools and resources. An introduction to the principles of the programming language Python will be provided.

BIOL 363 MICROBIAL PHYSIOLOGY AND GENETICS

4 CREDITS

The Microbial Physiology and Genetics undergraduate course will offer the students the general concepts related to cell structure and function, metabolism and gene regulation in bacteria. These concepts include transport systems, catabolism and anabolism, cell division, photosynthesis, genome structure, extra-chromosomal DNA elements, DNA mutation, and gene expression control. The laboratory experiences will focus on (1) substrate utilization during catabolism in bacteria, (2) natural and artificial competency to acquired foreign DNA and (3) strategies for cloning so that the students learn how to manipulate DNA and study gene regulation and expression in vitro. The course will be offered during a regular semester with a three-hour lecture and three hours laboratory every week.

BIOL 363L MICROBIAL PHYSIOLOGY AND GENETICS LAB

0 CREDITS

The Microbial Physiology and Genetics undergraduate course will offer the students the general concepts related to cell structure and function, metabolism and gene regulation in bacteria. These concepts include transport systems, catabolism and anabolism, cell division, photosynthesis, genome structure, extra-chromosomal DNA elements, DNA mutation, and gene expression control. The laboratory experiences will focus on (1) substrate utilization during catabolism in bacteria, (2) natural and artificial competency to acquired foreign DNA and (3) strategies for cloning so that the students learn how to manipulate DNA and study gene regulation and expression

BIOL 365 UNDERGRADUATE RESEARCH I

3 CREDITS

The course provides the opportunity for the students to play an active role in developing a project plan, gathering relevant information, organizing and synthesizing information to answer the research questions posed, interpreting the implications of the information generated by the research, applying generated information in practice and disseminating results. These activities will be undertaken through the learning of basic laboratory techniques, as well as the compilation and analysis of scientific information. During the course students may address ethical issues that are aimed to create a responsible conduct in research.

BIOL 366 UNDERGRADUATE RESEARCH II

3 CREDITS

The course provides the opportunity for the students to play an active role in developing a project plan, gathering relevant information, organizing and synthesizing information to answer the research questions posed, interpreting the implications of the information generated by the research, applying generated information in practice and disseminating results. These activities will be undertaken through the learning of basic laboratory techniques, as well as the compilation and analysis of scientific information. During the course students may address ethical issues that are aimed to create a responsible conduct in research.

BIOL 395 BIOTECHNOLOGY TECHNIQUES

4 CREDITS

Introduction to biotechnology techniques and their practical applications in microbiology. Analysis of the principles of molecular biotechnology in prokaryotes and eukaryotes and applications for organism identification, biopharmaceutical products, biotransformation and bioremediation. Study of practical applications in industrial, agricultural, environmental, legal and clinical biotechnology through case study and laboratory exercises. Specific examples illustrate different techniques used in applied microbiology. These examples include but are not limited to restriction endonuclease analysis of DNA, DNA sequencing, cloning and expression, nucleic acid hybridization, gel electrophoresis and protein product isolation and purification. Emphasis on public perception and ethical issues in biotechnology as well as current perspectives. Combined conferences and "in-classroom" laboratory exercises and specific technique demos. One semester, 2 hours of lecture per week and 2 hours of laboratory per week.

BIOL 395L BIOTECHNOLOGY TECHNIQUES LAB

0 CREDITS

The course integrates the basic concepts of biotechnology and practical application in the field of microbiology. The students develop laboratory skills that can apply to scientific research, product development and manufacture, and quality control. They also learn the applications that comprise the use of microorganisms in clinical and basic science, industry, agriculture and the environment. The course covers techniques in microbial biotechnology, such as: bacteria and yeast culture, DNA analysis by restriction enzymes, DNA cloning, chromatography, gel electrophoresis, protein separation and purification, PCR, real time PCR, bioinformatics, among others. The course also includes ethical and public perception of biotechnology as well as relevant scientific issues. This course is held during a semester with four contact hours for laboratory experiences and their related lecture weekly.

BIOL 400 INTERNSHIP IN MICROBIOLOGY

1 CREDIT

Continue supervised application of knowledge acquired during course work in the microbiology program as it applies to the different work scenarios. Emphasis is placed in modeling the appropriate performance of a professional microbiologist. Includes conferences, seminars and workshops pertaining to initiative, creativity, decision-making, conflict management, problem solving and topics relative to ethics, organizational behavior, and human relations. One semester, one hundred and sixty (160) hours per semester.

BIOL 410 METHODS IN MOLECULAR BIOLOGY

4 CREDITS

Laboratory course that explores some of the techniques used in the field of molecular biology. One semester, six hours per week.

BIOL 425 SEMINAR ON CURRENT TOPICS IN MOLECULAR AND CELL BIOLOGY

3 CREDITS

This seminar course will consider current literature in the fields of molecular genetics and cell physiology. Students enrolled in this course will present seminars and moderate classroom discussions. One semester, three lecture hours per week.

BIOL 430 BIOLOGY OF BIRDS (ORNITHOLOGY)

3 CREDITS

The biology of birds, including their functional morphology, physiology, behavior, ecology, biogeography, evolution, taxonomy, natural history and conservation, with emphasis on New World families, including the study of bird internal anatomy and external morphology, ecology and behavior, as well as taxonomy and field identification. Independent projects emphasize research skills.

BIOL 430L BIOLOGY OF BIRDS (ORNITHOLOGY) LAB

1 CREDIT

Laboratory and field component for the study of the biology of birds, including their functional morphology, physiology, behavior, ecology, biogeography, evolution, taxonomy, natural history and conservation, with emphasis on New World families. The laboratory includes examination of bird internal anatomy and external morphology, ecology and behavior, as well as taxonomy and field identification. Independent projects emphasize research skills.

BIOL 436 CAPSTONE

3 CREDITS

This seminar course will address cutting edge topics in biology in an integrative way through discussions of the scientific primary literature with students.

BIOL 440 ENVIRONMENTAL, AGRICULTURAL AND INDUSTRIAL BIOTECHNOLOGY

3 CREDITS

Study of applications in molecular biology, synthesis, sequencing and amplification of DNA and RNA, restriction endonucleases and protein synthesis, bioremediation and industrial biotechnology (excluding pharmaceutical industries). The course will examine new technologies that have revolutionized the manufacture, synthesis, and biological and engineering processes of biotechnology products using microorganisms, plant and animal cells. Use of biotechnology applications in agriculture including genetic engineering in plants, bacteria that promote plant growth, microbial insecticides, production of agricultural feedstock; and environmental applications including contaminant treatment and the use of biosensors for detecting environmental contaminants will also be examined. Legislations, rules and regulations (including patent requirements) relevant to genetically modified organisms will be discussed. Ethical aspects associated to these processes will be reflected upon. The course is developed through lectures, guided discussions, case studies and oral presentations, among others. One semester, 3 hours of lecture per week.

BIOL 450 PHARMACEUTICAL AND MEDICAL BIOTECHNOLOGY

3 CREDITS

Study of the production of drug delivery devices and shipping and handling of pharmaceutical products using microorganisms, virus, and plant and animal cells, for treatment of humans and diagnostic tests. The course will discuss the use of genetic engineering to produce transgenic and “knockout” mice, molecular diagnosis, production of monoclonal antibodies, vaccine vectors, antibiotics and human hormones. Novel discoveries and delivery devices of anti-viral drugs, human molecular genetics, genetic therapy, small molecule drugs, cell and tissue therapy, stem cell therapy, genetic bioengineering of organs and tissue, and virotherapy, among others. Ethical aspects associated to these processes will be reflected upon. The course is developed through lectures, guided discussions, case studies and oral presentations, among others. One semester, 3 hours of lecture per week.

BIOL 460 RECOMBINANT DNA TECHNOLOGY

3 CREDITS

Introduction to the principles underlying medical and industrial applications of recombinant DNA. The study of genetics is now facilitated by a collection of recombinant DNA techniques designed for direct manipulation and chemical analysis of the genetic material that controls the cell. Selected examples are used to highlight the techniques in production, diagnosis and research. These include but are not limited to the following: specific cleavage of DNA with restriction endonucleases, DNA cloning, nucleic acid hybridization, gel electrophoresis, gene expression and protein purification. Emphasis is placed on ethical issues and public perception of the technology as well as the scientific issues. Lectures are combined with in- classroom laboratory exercises and demos of specific techniques. One semester, 3 hours of lecture per week.

BIOL 482 BIODIVERSITY AND CONSERVATION

3 CREDITS

The course examines the genetic and ecological principles and the concepts of island biogeography as they relate to endangered species conservation, the management of small populations and the value of protected areas. Strong emphasis is placed on sociological, economic and political components of species conservation.

BIOL 490 INTERNSHIP IN BIOTECHNOLOGY

1 CREDIT

The internship will consist of a period of observation, experimentation and job training in a biotechnology laboratory within industry or academia. The student will work under the guidance of a mentor to gain expertise in the manipulation of living organisms and the applications of basic technologies such as fermentation, molecular genetics and product manufacture. The internship provides an opportunity to improve intellectual and technical skills in research, safety practices, analysis and documentation. The student will master the theory, concepts and skills involving tools, materials, equipment and procedures. They will also master regulations such as Food and Drug Administration (FDA), Environmental Protection Agency (EPA), Occupational Safety & Health Act (OSHA); and Good Manufacturing Procedures (GMP) associated with the particular occupation of the industry or research laboratory. One semester, one hundred and sixty (160) hours per semester.

BIOL 601 MEDICAL MICROBIOLOGY

3 CREDITS

This course focuses on aspects of diagnosis, prevention and treatment of diseases caused by medically important microbes (bacteria, fungi, protozoa and viruses). It also includes a summary of the biological characteristics and mechanisms of colonization of each type of microbe. The course is enriched with the analysis of clinical cases and scientific papers, virtual laboratories and microscopy, among others. It is complemented by the responsible use databases relevant to the course. The course consists of three (3) credits and three (3) hours of lecture per week.

BIOL 602 TOPICS IN HUMAN ANATOMY AND PHYSIOLOGY

4 CREDITS

The course studies the basic structures in regions of the human body and the physiological principles in three hot-topics in physiology: brain physiology; exercise physiology and obesity. The active learning environment of the course utilizes anatomical models, videos, atlas, sectional anatomy plates, reading and discussion of primary and secondary literature on some topics authored by international scientists, socialized discussion, learning of techniques, design of a project-oriented experiment in cardio-respiratory-exercise within clear parameters, carry out the experiment, analyze and interpret data and prepare a poster. The course consists of four (4) credits and four (4) hours of combined class and laboratory per week.

BIOL 603 BIOINFORMATICS

3 CREDITS

The Bioinformatics course comprises fundamental concepts, methods, tools and their applications to the biomedical research. It introduces the importance of this discipline, and its relation to the molecular biology. Topics covered include bioinformatics database, sequence and structure alignments, gene predictions, phylogenetic analysis, protein folding, and structure prediction, among others. Upon completion of the course, students should be more comfortable and skilled to work with the vast amounts of data generated on their own research and be able to use relevant online resources and bioinformatics tools to solve the problems and answer their Universidad Ana G. Méndez, Carolina campus Graduate Catalog Effective: 2019-2020 Page 121 inquiries. Approaches are included to amplify critical thinking and problem-solving skills in the scientific scope through hands-on sessions, team-learning exercise, case discussions, activities complemented with interactive bioinformatics tools and WEB search, journal clubs, among others. The course consists of three (3) credits and three (3) hours of lecture per week.

BIOL 604 ADVANCED MOLECULAR GENETICS

3 CREDITS

The course includes topics on the understanding of genomics and bioinformatics, such as; macromolecular biosynthesis pathways, structure of genes, chromosomes and genomes in model organisms, mechanisms of DNA recombination and transgenic cloning, molecular analysis of gene expression and mutant phenotypes, complex genetic interactions and communication between cells. In addition, bioethical issues related to scientific research and discovery are also discussed. The course consists three (3) credits and three (3) hours of lecture and/or laboratory experiences per week.

BIOL 605 BIOMEDICAL TOXICOLOGY

3 CREDITS

Study of the fundamental principles of toxicology with emphasis on the adverse effects of xenobiotics in human health. Identification of routes of exposure, absorption, distribution, metabolism and excretion of xenobiotics. Analysis of toxic agent's mode of action in target organ systems. Safety and risk evaluation of chemicals. Importance of toxicology in society. The course consists of three (3) credits and three (3) hours of lecture and/or laboratory experiences per week.

BIOL 606 ADVANCED IMMUNOLOGY

2 CREDITS

This course focuses on the molecular, cellular and tissue-basis of the immune system, the recognition, response and the establishment of the immunological memory. The course begins by recognizing the innate immune system as the first line of defense and then comprehend how that can lead to the activation of adaptive immunity. The immunity mediated by lymphocytes and other cells are studied in detail, conceptualizing and analyzing their maturation, activation, differentiation and immune functions within a molecular and systemic framework. The course also covers issues related to immune tolerance, immunological barriers against graft, resistance to infection by pathogens, cancer immunology, the role of vaccination and other immunotherapies in modulating the immune response, among other topics. Furthermore, it discusses immunological failures that become into pathological conditions. The lectures are enriched with the discussion of scientific advances in immunology published in peer-reviewed journals, and their application to the real-world biomedical research and clinical studies. Approaches are included to amplify critical thinking and problem-solving skills in the clinical and scientific scope through team- learning exercise, case discussions, reflective essays writing, activities complemented with interactive and responsible WEB search, among others. The course consists of three (3) credits and three (3) hours of lecture per week.

BIOL 607 TEACHING PRACTICES IN BIOMEDICAL SCIENCES

2 CREDITS

The course focuses on presenting the theoretical foundations of teaching and learning processes. Also, some teaching strategies in the science field will be discussed. It will also provide the scenario to the development of educational practices that lead to a comprehensive scientific professional. Technology and information resources shall be use in a responsible way. The course consists of two (2) credits and two (2) hours of lecture per week.

BIOL 610 ADVANCED CELLULAR AND MOLECULAR BIOLOGY

3 CREDITS

This course focuses on the advanced study of Cellular and Molecular Biology with emphasis in industrial biotechnology. Include the study of genes and genome, regulation of genomic expression, protein engineering and the interaction between nucleic acids and proteins. Furthermore, includes the discussion of structure, function, and cellular communication. The aim is to develop in the students a better understanding of the molecular process of the cell and to enable them to contribute to the solutions of problems related to industrial biotechnology. The discussion of scientific articles and studies cases are included.

BIOL 712 APPLIED MYCOLOGY

3 CREDITS

This course covers the characteristics of fungi, their diversity and their importance in the environmental and in biotechnology. This includes the role of fungal communities, succession, decomposition, nutrient cycling, pollution and fungal interactions. In addition, we discuss the importance of fungi in biotechnology such as the production of medicine, food, generic engineering and remediation. The course includes practical techniques for isolation, cultivation and identification of fungi, physiological tests, enzyme assays and fermentation.

BIOL 713 MICROBIAL ECOLOGY

3 CREDITS

Study of the microorganisms and their interaction with the biotic and abiotic environment. Includes bacteria, fungi, algae and protozoan and cellular molecules. Emphasis will be given to the role of the microorganisms in the global ecosystem and the preservation of the environment quality.

BIOL 843 ENVIRONMENTAL MICROBIOLOGY

3 CREDITS

The course covers general principles in environmental microbiology, and describes the different taxonomic groups and their importance in terrestrial and aquatic systems. The role of microorganisms in terrestrial and aquatic systems will be discussed. Other topics include principles of biodegradation and bioremediation, describing how microorganisms can be used to eliminate or decrease organic and metal pollutants in the environment. Aereomicrobiology, microbiology in deep surface, waste water treatments and drinking water will also be discussed.

BIOL 903 ECOLOGY AND CONSERVATION OF NATURAL RESOURCES

3 CREDITS

Study and analysis of topics in ecology and conservation of renewable natural resources including their multiple uses for timber, water, range, recreation and wildlife.

BIOL 990 EXPERIMENTAL MICROBIOLOGY

3 CREDITS

Experimental microbiology is a hands-on research course that introduces students to the strategies, instruments and challenges associated with microbiology research. In this course, the student will conduct independent and original research projects. The areas of attention are (1) isolation and identification of microorganisms based on traditional and modern techniques, (2) analytical imaging and microscopy techniques for identification and characterization of microorganisms, and (3) bioinformatics. Since communication is an important component of scientific research, this course also helps students to improve the written and oral communication skills.

BIOT 101 INTRODUCTION TO THE BIOTECHNOLOGY INDUSTRY

3 CREDITS

This course provides an overview of industrial biotechnology, pharmaceutical technology, agro-technology and chemical processes. In addition, the course will include laboratory safety and documentation.

BIOT 103 CELL AND MOLECULAR BIOLOGY FOR BIOTECHNOLOGY

3 CREDITS

Basic course in the Biotechnology specialization that prepares the students with the basic knowledge in cell and molecular biology. The course studies from the structure of important organic and inorganic molecules found in living organisms to the types of cells and their metabolic functions. The student will be trained in the laboratory with the necessary skills and techniques to study biology.

BIOT 210 REGULATIONS AND GOOD MANUFACTURING PRACTICES

3 CREDITS

This course covers in general the current regulations that apply to Puerto Rico including overview of OSHA, PROSHA, and EPA/EQB with major focus on FDA rules and regulations. Course emphasis will be on Good Manufacturing Practices (cGMP's), quality awareness, record integrity, safety, recall cases, liabilities and basics in auditing documentation, 483's, business impact in dollars and jobs.

BIOT 231 GENERAL MANUFACTURING BIOTECHNOLOGY I

4 CREDITS

This course covers the basic principles and experiences related to cell culture, sterilization, media preparation and recovery.

BIOT 231L LABORATORY OF GENERAL MANUFACTURING BIOTECHNOLOGY I

0 CREDITS

This laboratory is a practical complement of the course General Manufacturing Biotechnology I where experiences in the manipulation of cell cultures are presented, the growth-influencing factors, quality control measures in the manufacturing processes, cleaning protocols, hygiene and sterilization, documentation and practical applications of bioinformatics. Activities will be conducted in a weekly three hours period.

BIOT 240 VALIDATIONS

3 CREDITS

The course introduces the topics of installation qualification, operational qualification, performance qualification, process qualification, cleaning validation, sterilizing filter validation, SPC and continuous process validation, validation testing, preventive maintenance and principles of metrology. Laboratory validation project is included in the course.

BIOT 250 GENERAL MANUFACTURING BIOTECHNOLOGY II

4 CREDITS

This course covers the basic principles and experiences related to cell culture, microbes, fermentation, production, recovery, and packaging.

BIOT 250L LABORATORY OF GENERAL MANUFACTURING BIOTECHNOLOGY II

0 CREDITS

The course complements the General Manufacturing Biotechnology II course where experiences in the management of cell cultures will be presented, factors that affect their growth, quality control measures in manufacturing, cleaning protocols, hygiene and sterilization, document management and bioinformatics applications. Activities will be done using 3 hours periods of laboratory work per week.

BIOT 410 INTRODUCTION TO BIOTECHNOLOGY

3 CREDITS

This course is designed to introduce students to methodologies and approaches in the biotechnology industry. The course focuses on the scientific principles and the applications of microbiology, cell biology, immunology, and molecular biology in the medical, pharmaceutical, chemical, and agricultural industries.

BIOT 450 BIOPROCESS ENGINEERING

3 CREDITS

Topics to be covered include basic instruction in plant design and support equipment in industrial biotechnology, general building design, water systems, HVAC, steam generators for sterilization, and biowaste decontamination systems.

BIOT 1112 MUSCULOSKELETAL ANATOMY

3 CREDITS

Study of the muscles of the body and their relationship with bones. The development of critical thinking knowledge and skills is emphasized. These skills are developed through demonstrations and practical exercises that allow the student to identify the muscles of the body. In addition, the development of information skills is facilitated. The student must complete a total of four (6) weekly hours distributed in three (3) hours of theory and three (3) of laboratory during the semester.

BIOT 600 ASPECTS OF INDUSTRIAL BIOTECHNOLOGY Y GOOD MANUFACTURING PROCESSES

2 CREDITS

An overview and scope of biotechnology in industry and good manufacturing practices are presented. Biology, medicine and engineering are integrated in the biopharmaceutical industry and other products. Emphasis will be placed on the processes involved in the manufacture of products such as fermentation, extraction, and purification, including waste management. The basic components of current Good Manufacturing Practices (cGMP) will be introduced.

BIOT 601 BIOSAFETY AND QUALITY SYSTEMS

2 CREDITS

This course focuses on training in the management of biological hazards present in the research laboratory environment and work environments such as the pharmaceutical, bio-pharmaceutical, plant and agricultural biotechnology, among others. It also includes the discussion of hazard controls, administrative controls, and promoting a culture of biosafety in the work environment. In addition, quality systems, testing requirements and validation processes that help to ensure the manufacture of safe, pure and effective biological products are discussed.

BIOT 602 MICROBIAL BIOTECHNOLOGY

3 CREDITS

This course provides the student with a comprehensive description of how microbes are ethically manipulated to solve medical or industrial problems using biotechnology. The methods most used in microbial biotechnology will be discussed, including fermentation processes, design and preparation of culture media, biomass measurements and the use of metagenomics, among others. The use of microbes in drug development will also be discussed. The course is enriched with the reading and analysis of scientific articles and laboratory demonstrations. The course will be complemented with the responsible use of databases relevant to thematic content of the course.

BIOT 603 ANIMAL AND PLANT BIOTECHNOLOGY

3 CREDITS

This course provides the student with the theoretical framework to develop knowledge of animal and plant resources, their biotechnological applications, and plant production and improvement processes. It incorporates the basic elements of science with a variety of biotechnological applications that are used to modify cells, tissues and living organisms, as well as emphasizing the ethical aspects of each of the procedures. Laboratory demonstrations will be performed by the professor.

BIOT 604 BIOPROCESSES

2 CREDITS

This course integrates the essential bioprocesses for the pharmaceutical industry. Historical overview, genetically modified organisms, fermentation, bioreactor design, purification, manufacturing scale-up, and regulatory and patent practices are presented. Biopharmaceuticals such as therapeutic proteins, gene therapy, and biochemicals are discussed. Students will learn about up-to-date biotechnology regulatory practices related to pharmaceutical biotechnology. Some emerging challenges and possible career opportunities in the pharmaceutical industry are described.

BIOT 605 REGULATORY, LEGAL AND ETHICAL ASPECTS IN THE BIOTECHNOLOGY INDUSTRY

3 CREDITS

This course presents the regulatory frameworks to commercialize new biotechnological products and protect consumers and workers from the risks that these products pose, from a legal perspective. In addition, it is intended to strengthen students' understanding of the ethical aspects that appear when biotechnologies are developed and applied. Students learn a systematic and nuanced way of reasoning and finding well-founded answers to questions about how society and individuals should act during the development and application of different technologies. The course aims to make students aware of the laws and regulations that regulate biotechnical research and development activities.

BIOT 606 INDUSTRIAL BIOTECHNOLOGY PRACTICE

2 CREDITS

The practice consists of applying the knowledge acquired in the Professional master's program in Industrial Biotechnology courses within the work environment. The student is given the opportunity to become familiar with the operation of bioprocesses in the medical, pharmaceutical, food, agricultural or environmental industries. The student must comply with the application of methodologies, evaluation of results and good documentation practices for their area of work. This course will take place during one semester with a total of one hundred and sixty (160) hours of practice.

CHEM 101 APPLIED CHEMISTRY

4 CREDITS

Introductory course to chemistry where the following topics are covered: matter, pure substances, mixtures, periodic table, chemical separations, chemical reactions, calorimetry, kinetics, physical and chemical properties, states of matter.

CHEM 101L LABORATORY OF APPLIED CHEMISTRY

0 CREDITS

Introductory laboratory to Chemistry where the following topics are covered: matter, pure substances, mixtures, periodic table, chemical separations, chemical reactions, calorimetry, kinetics, physical and chemical properties, states of matter. The laboratory will strengthen basic volumetric and linear measurement skills, usage of basic laboratory equipment and skills, besides safety rules.

CHEM 105 HEALTH CHEMISTRY

4 CREDITS

An introductory chemistry course designed for students of the Allied Health Sciences Programs. A survey of matter, chemical properties, and basic electronic configurations of the elements. Students will also study aqueous phase reactions and the use of radioisotopes in medicine. Organic functional groups, their structures, nomenclature, and reactions will be studied in relation to major organic molecules such as proteins, carbohydrates, nucleic acids, etc. Metabolic reactions of these molecules will be surveyed. One semester, three lecture hours and three laboratory hours per week.

CHEM 122 GENERAL CHEMISTRY

4 CREDITS

Systematic study of the chemistry basic concepts related with experimental measurements, structure of the matter, atomic theory, stoichiometry, quantum theory, periodicity of the elements, thermodynamics, gases laws, chemical bond, and molecular geometry. A semester, three hours lecture, and three-hour laboratory per week.

CHEM 122L GENERAL CHEMISTRY LAB

0 CREDITS

Systematic study of the chemistry basic concepts related with experimental measurements, structure of the matter, atomic theory, stoichiometry, quantum theory, periodicity of the elements, thermodynamics, gases laws, chemical bond, and molecular geometry. A semester, three hours lecture, and three-hour laboratory per week.

CHEM 203 GENERAL CHEMISTRY I

4 CREDITS

Emphasis in this course is aimed to the study of the states of the matter, atomic and molecular structures, nomenclature of inorganic compounds, classification of elements in the periodic table, chemical bond, chemical equations and reactions, stoichiometry. In the laboratory students are trained in the use of basic laboratory techniques such as the use of volumetric equipment, titration and qualitative analysis. Students are taught to keep a good laboratory notebook and safety on the laboratory.

CHEM 203L GENERAL CHEMISTRY I LAB

0 CREDITS

General Chemistry Laboratory I with emphasis on the phenomenological description of matter, properties and changes of pure substances and mixtures, solutions, calorimetry, gases and chemical reactivity. Filtration and titration techniques are studied. Also, the laboratory works with dimensional analysis, chemical nomenclature and proper ethical scientific documentation.

CHEM 204 GENERAL CHEMISTRY II

4 CREDITS

Second part of the introductory course of fundamental concepts in chemistry. Study of matter, its composition, properties, chemical reactions, and energy transformations related to these reactions. Analysis of relevant environmental issues related to the chemistry concepts studied. Promotion of decision-making on controversial issues involving chemistry and ethics. Investigative activities that promote the development of higher thinking processes and hand-on doing science. One semester, 3 hours of lecture, and 3 hours of laboratory per week.

CHEM 204L GENERAL CHEMISTRY II LAB

0 CREDITS

Second part of the introductory course of fundamental concepts in chemistry. Study of matter, its composition, properties, chemical reactions, and energy transformations related to these reactions. Analysis of relevant environmental issues related to the chemistry concepts studied. Promotion of decision-making on controversial issues involving chemistry and ethics. Investigative activities that promote the development of higher thinking processes and hand-on doing science. One semester, 3 hours of lecture, and 3 hours of laboratory per week.

CHEM 221 ANALYTICAL CHEMISTRY

4 CREDITS

Principles of quantitative analysis. Material presented includes gravimetric, volumetric and electrochemical methods of analysis. Statistical analysis of data is discussed. Theoretical explanations of neutralization (acid-base), solubility of precipitates, reactions of complex formations and oxi-reduction reactions; and graphical methods to visualize the chemistry involved are emphasized.

CHEM 221L ANALYTICAL CHEMISTRY LABORATORY

0 CREDITS

Principles of experimental analysis. Material presented includes the methods most widely used in gravimetry, volumetry, spectrophotometry and electrochemistry. Separation techniques including chromatography are used along this course. Statistical analysis of data is also used and applied in the different chemical reactions studied (neutralization, solubility of precipitates, reactions of complex formation, oxi-reduction reactions and spectroscopy).

CHEM 224 FUNDAMENTALS OF GENERAL CHEMISTRY

4 CREDITS

Systematic study of the chemistry basic concepts related with experimental measurements, structure of the matter, atomic theory, stoichiometry, quantum theory, periodicity of the elements, thermodynamics, gases laws, chemical bond, and molecular geometry. A semester, three hours lecture, and three-hour laboratory per week.

CHEM 224L FUNDAMENTALS OF GENERAL CHEMISTRY LABORATORY

403 CREDITS

The knowledge of this course contribute to that the student interprets and verifies the main definitions, laws and theories of the general chemistry (matter, properties of matter, elements and compounds, chemical reactions, solutions, acids and bases, and radiations) and in its practical application. Also, to dominate the main experimental techniques and the work with the measuring instruments and to develop experimental skills that allow him to acquire new knowledge.

CHEM 225 FUNDAMENTALS OF ORGANIC AND BIOLOGICAL CHEMISTRY

4 CREDITS

Study of the principles of Organic Chemistry designed for students of health-related professions. The course Includes topics about structure and reactions of saturated organic compounds: alkanes, cycloalkanes and haloalkanes. Structure and reactions of unsaturated compounds: alkenes, alkynes and dienes. Stereochemistry. Structure and reactions of aromatic compounds. Structure and reactions of organic compounds containing oxygen, nitrogen and sulfur: alcohols, ethers, aldehydes and ketones, carboxylic acids, amines, amides, sulfur compounds and thiols. Structure and functions of lipids, aminoacids, proteins, enzymes and nucleic acids. Metabolic pathways and energy production.

CHEM 225L FUNDAMENTALS OF ORGANIC AND BIOLOGICAL CHEMISTRY LABORATORY

0 CREDITS

This course provides the student a complement for a general overview of the basic concepts of organic molecules at structural level, general physical and chemical properties of organic molecules are observed and compared with properties of inorganic compounds. The chemical and physical properties of organic molecules possessing different functional groups are discussed at experimental level; these functional groups include alkanes, alkenes, alcohols, carbonyl compounds, and some bio-molecules containing these functional groups such as carbohydrates and lipids. The concept of chemical synthesis is introduced through the preparation of the common analgesic acetylsalicylic acid (aspirin), and the preparation of soap using several triacyl glycerides.

CHEM 311 INORGANIC CHEMISTRY

4 CREDITS

Inorganic Chemistry is the study of all the elements of the Periodic Table and their compounds based in their structures, explained in terms of modern atomic theory and the theories of the chemical bond. In this course bond formation is discussed from the standpoint of the valence bond and molecular orbitals theories. The structure of solids is also studied, including the thermodynamic considerations involved in the ionic crystal formation. The symmetry concept and the group theory are introduced and applied to study the molecular geometry of inorganic compounds. Different reaction types are studied in detail: acid-base, oxidation-reduction and complex formation, introducing the students to coordination chemistry. Finally, special topics on inorganic chemistry are studied, including: electronic spectroscopy of complexes, reaction mechanism of d block metal complexes, organometallic compounds, catalysis, and bioinorganic chemistry.

CHEM 311L INORGANIC CHEMISTRY LAB

0 CREDITS

Inorganic Chemistry is the study of all the elements of the Periodic Table and their compounds based in their structures, explained in terms of modern atomic theory and the theories of the chemical bond. In this course bond formation is discussed from the standpoint of the valence bond and molecular orbitals theories. The structure of solids is also studied, including the thermodynamic considerations involved in the ionic crystal formation. The symmetry concept and the group theory are introduced and applied to study the molecular geometry of inorganic compounds. Different reaction types are studied in detail: acid-base, oxidation-reduction and complex formation, introducing the students to coordination chemistry. Finally, special topics on inorganic chemistry are studied, including: electronic spectroscopy of complexes, reaction mechanism of d block metal complexes, organometallic compounds, catalysis, and bioinorganic chemistry.

CHEM 351 ORGANIC CHEMISTRY I

4 CREDITS

The Organic chemistry course studies the carbon and hydrogen compounds and its derivatives with others heteroatom such as: halogens, oxygen, nitrogen, sulfur, phosphorus and some metals. This course discusses the nomenclature and physical properties of the different families of organic compounds. The synthetic methods and the reactions of the alkanes, alkenes, cycloalkanes, alkynes, dienes, alkyl halides, aromatic compounds, and derivatives are also presented. Emphasis is done the reactions mechanisms, specially: SN1, SN2, E-1, E-2, double and triple bonds additions, electrophilic aromatic substitutions in benzene and its derivatives, alcohols dehydration, aldol condensation, Cannizzaro reaction, epoxidation of alkenes, Sandmeyer reaction and Cope and Hofmann amines elimination.

CHEM 351L ORGANIC CHEMISTRY I LAB

0 CREDITS

The course is designed for students to learn properties, reactions, use and applications of organic compounds. Concepts of quantum mechanics will be used to explain the electronic structure of the carbon atom for the formation of covalent bonds in organic molecules. Structural isomerism and the stereochemistry of the molecules will be described which provide for the chemical properties, nomenclature, structure and reactions of hydrocarbons, alkyl halides, alcohols, ethers and some aromatic compounds. Determination of the organic structures will be studied by spectroscopy. Laboratory practices include techniques to analyze chemical properties, reactions and synthesis of the compounds. The course meets three hours per week and three hours of laboratory.

CHEM 352 ORGANIC CHEMISTRY II

4 CREDITS

The Organic chemistry course studies the carbon and hydrogen compounds and its derivatives with others heteroatom such as: halogens, oxygen, nitrogen, sulfur, phosphorus and some metals. This course discusses the nomenclature and physical properties of the different families of organic compounds. The synthetic methods and the reactions of the alkanes, alkenes, cycloalkanes, alkynes, dienes, alkyl halides, aromatic compounds, and derivatives are also presented. Emphasis is done the reactions mechanisms, specially: SN1, SN2, E-1, E-2, double and triple bonds additions, electrophilic aromatic substitutions in benzene and its derivatives, alcohols dehydration, aldol condensation, Cannizzaro reaction, epoxidation of alkenes, Sandmeyer reaction and Cope and Hofmann amines elimination. With respect to the compound structure, the course discusses the structural, geometrical and optical isomerism, emphasizing the conditions that have to be fulfilled for them to exist. The spectroscopic method of analysis and identification of functional group and structure assignment are discussed. Specifically, IR, UV, NMR and MS spectroscopy.

CHEM 352L LABORATORY OF ORGANIC CHEMISTRY II

0 CREDITS

This laboratory course empathizes the synthesis of different functional groups discuss in the Organic Chemistry course 352. Through these reactions the student can understand better the reactions discuss in class and the specific reagents and conditions required in each case. In this laboratory session two spectroscopic methods are discussed: Infrared and Nuclear Magnetic Resonance spectroscopy and its importance in the structure determination and the presence of organic functional groups.

CHEM 355 PRACTICAL INTERNSHIP IN CHEMISTRY I

1 CREDITS

Course CHEM 355 gives students the experience of working in an industrial environment in an industry related to the chemical sciences, such as analytical or research laboratory, manufacture, and formulation. It also gives to students a vision of the future professional life as chemists. Besides allows students to apply the concepts and practical experiences acquired in the courses of the Chemistry Program to real situations that they can face in their profession as chemists. The students are required to practice in an industrial environment in a chemistry related industry of at least 60 contact hours to approve the course. The course also allows students to evaluate and improve their ability to write scientific reports of the practical activities performed during the internship. It also allows students to reinforcing the main capabilities a Chemist should have to work and succeed in its future professional life, including ethical behavior and stress management.

CHEM 356 PRACTICAL INTERNSHIP IN CHEMISTRY II

1 CREDITS

The course gives students the experience of working in an industrial environment in an industry related to the chemical sciences, such as analytical or research laboratory, manufacture, and formulation. It also gives to students a vision of the future professional life as chemists. Besides allows students to apply the concepts and practical experiences acquired in the courses of the Chemistry Program to real situations that they can face in their profession as chemists. The students are required to practice in an industrial environment in a chemistry related industry of at least 60 contact hours to approve the course. The course also allows students to evaluate and improve their ability to write scientific reports of the practical activities performed during the internship. It also allows students to reinforcing the main capabilities a Chemist should have to work and succeed in its future professional life, including ethical behavior and stress management.

CHEM 365 UNDERGRADUATE RESEARCH IN CHEMISTRY I

3 CREDITS

This is a scientific laboratory and/or field research. The weekly schedule will be agreed upon by each student and the professor chosen to supervise research. The work schedules should not exceed nine (9) hours per week and should last one semester.

CHEM 366 UNDERGRADUATE RESEARCH IN CHEMISTRY II

3 CREDITS

This is a scientific laboratory and/or field research. The weekly schedule will be agreed upon by each student and the professor chosen to supervise research. The work schedules should not exceed nine (9) hours per week and should last one semester.

CHEM 385 GENERAL BIOCHEMISTRY

4 CREDITS

This course provides to the student a general overview of the basic concepts of Thermodynamics and their biochemical applications. In addition, systematic discussion of biological molecules, such as amino acids, proteins, nucleic acids, carbohydrates, and lipid structures. Characterization, physical properties, and method of isolation of these molecules are studied. The pathways for the degradation and biosynthesis of the major classes of biological molecules will be discussed. The bioenergetic aspects of metabolism will be discussed first within the context of the whole catabolism and anabolism, individual pathways and enzymatic reactions.

CHEM 385L GENERAL BIOCHEMISTRY LAB

0 CREDITS

Laboratory experiments provide students with the basic practices and Techniques used in today's biochemistry laboratories. More specifically, experiments permit students to be familiar with techniques used for separation, purification and quantification of molecules such as proteins and nucleic acids fragments. Some of the techniques to be part of the laboratory include chromatography, enzyme kinetics, electrophoresis, recombinant DNA, and polymerase chain reaction (PCR).

CHEM 386 GENERAL BIOCHEMISTRY II

3 CREDITS

This course constitutes the second part of General Biochemistry and continues providing students a general overview of the basic concepts in Biochemistry; emphasis in this part is focused on photosynthesis, more on nucleic acids structure, DNA repair and recombination, RNA transcription and processing, protein synthesis and regulation of gene expression. The pathways for the degradation and biosynthesis of the major classes of biological molecules will be discussed. The bioenergetics of metabolism will be analyzed within the holistic context of catabolism and anabolism,

individual metabolic pathways will be discussed. The overlapping of the first two chapters related to metabolism between CHEM-385 and CHEM-386 is due to the fact that only students in Biochemistry tract will take this course.

**CHEM 390 INTRODUCTION TO SPECTROSCOPY
3 CREDITS**

This course serves to the students as a training for the interpretation of spectroscopic data in the identification of molecular structures. This is an introductory course, where the fundamentals of Nuclear Magnetic Resonance (¹³C-NMR and ¹H-NMR), Infrared Spectroscopy (IR), Ultraviolet Spectroscopy (UV), and Mass Spectrometry (MS) are discussed. When possible, practical experiments will be combined with theoretical discussion, in order to provide the students with more effective training.

**CHEM 411 INORGANIC CHEMISTRY II
3 CREDITS**

Advanced study of the transition metal compounds. The electronic structure, bonding, as well as the spectroscopical and magnetic properties of the transition elements are discussed, along with their applications to other systems. Several aspects of bioinorganic chemistry are studied, specially the function of inorganic elements and inorganic compounds in living systems. Supramolecular chemistry is also discussed.

**CHEM 420 ENVIRONMENTAL CHEMISTRY
3 CREDITS**

Study of the chemical composition of the hydrosphere, biosphere, geosphere and the atmosphere. Study of the chemistry role in the environment, its impact in the problem of environmental pollution, and its contribution to the conservation of our natural resources and the appropriate control of the environment. The course will study the transportation, absorption, degradation and toxicity of chemical compounds from different sources. Special attention will be given to the Puerto Rico water and air pollution problems. The laws and agencies that regulate the water and air pollution in Puerto Rico; and the preparation of an Environmental Impact Evaluation (DIA) also will be discussed. The laboratory includes the analytical techniques used in the detection, identification and quantification of water and air pollutants. One semester, three hours lecture and a three hours laboratory section per week, four (4) credits.

**CHEM 430 INSTRUMENTAL CHEMISTRY
4 CREDITS**

Introduction to principles that a scientist must know to understand and use more efficiently modern instrumentation. Study of the theoretical aspects of the modern instruments used for chemical analysis. Includes methods of atomic and molecular spectroscopy (Infrared, Ultraviolet-visible and Fluorescence), mass spectrometry, separation methods (gas chromatography and liquid chromatography) and electroanalysis methods (Voltammetry and Coulometry). Also, techniques as: X-Ray Diffraction (XRD), Scanning Electron Microscopy (SEM), Transmission Electron Microscopy (TEM) and Thermogravimetric Analysis (TGA).

**CHEM 430L INSTRUMENTAL CHEMISTRY LAB
0 CREDIT**

Introduction to experimental principles of qualitative and quantitative analysis that a scientist must know to understand and use more efficiently modern instrumentation. Study of the theoretical and practical applications of modern instruments used for chemical analysis. Includes atomic (Atomic Absorption) and molecular (Infrared, Ultraviolet-visible and Fluorescence) spectroscopy, separation methods (Gas chromatography and Liquid chromatography) and electroanalysis methods (Voltammetry). Interpretation and analysis of the results measured by the instrument, as well as a statistical data analysis. Development of an instrumental analysis method for problem resolution.

**CHEM 435 CHEMISTRY SEMINAR
0 CREDIT**

Concentration course in the area of chemistry aimed at final year students as a graduation requirement. The course can only be taken by chemistry students who are candidates for graduation. The course is focused on the application of the search and interpretation skills of scientific literature together with the knowledge acquired by the student through his studies in the different areas of chemistry, applications and research. It also includes the use of traditional and automated methods for collecting chemical information. Emphasis will be placed on the use of Chemical Abstracts, and the Internet to access databases and other sources of chemical information. The acquired knowledge will be used for the preparation of a seminar on a topic of general interest in an area of modern chemistry. The seminar topic will be selected and developed in consultation with the course instructor. The student will receive

instruction on the preparation and writing of scientific papers. The final project will consist of a written work and an oral presentation before the faculty, students and the general public.

CHEM 451 ORGANIC SYNTHESIS

3 CREDITS

The course describes the synthesis of organic functional groups and carbon-carbon bond formation reactions. The course also discusses the different oxidation and reduction reactions conditions as well as stereochemical principles used in the preparation of optically active compounds. Emphasis is made on the manipulation of functional groups, application of reactions sequences for the synthesis of specific compounds on the base of knowledge acquired throughout the basic organic chemistry course. Reactions mechanisms, stereochemistry, conformational considerations, and strategies are emphasized to provide the student with the tools necessary for solving synthetic problems using fundamentals of organic chemistry. Retrosynthetic analysis is thoroughly discussed and its application to the synthesis of known compounds.

CHEM 463 PHYSICAL CHEMISTRY I

4 CREDITS

The course covers the basic principles and applications of thermodynamics of chemical systems. Calculations of thermodynamic magnitudes and functions in different processes are studied using the Principles and Laws of Thermodynamics. The concepts of temperature, work, heat, enthalpy, entropy, chemical equilibrium and ideal and real systems in gas and condensed phase are studied. It also analysis chemical reactions under thermodynamics view, establishing considerations about the energetic balance, its spontaneity and extension, in which they take place. The studies of homogeneous and heterogeneous systems in which the phase changes of the substances take place are also in the core of this course.

CHEM 463L PHYSICAL CHEMISTRY I LAB

0 CREDITS

Chemistry is involved in a wide variety of processes and situations. The evaluation of these processes requires knowing the concepts and the fundamental laws that govern them and taking measures of a chemical nature. The chemistry professional needs to have this basic knowledge. The objective of the course of Physical Chemistry-Laboratory-I is to provide the chemical professional with the necessary experimental and practical knowledge, allowing to know what is possible to measure, interpret with rigor and scientific criteria the chemical data and provide certain properties.

CHEM 464 PHYSICAL CHEMISTRY II

4 CREDITS

The Physical Chemistry II course is divided in two main topics: Quantum Mechanics and Kinetic. The first topic introduces some of the basic principles of quantum mechanics. The concept of all the properties of a system are expressed in terms of a wavefunction which is obtained by solving the Schrödinger equation will be studied. The calculations of molecules will make possible to understand the nature of the chemical bond. The application of quantum mechanics to spectroscopy, the study of the absorption and emission of electromagnetic radiation, will be treated at the end of this topic. The second topic is concerned with the rates and mechanisms of chemical reactions. The calculation of the rates of certain processes by use of a simple model of atoms and molecules in the gas phase for ideal and real gases will be elaborated.

CHEM 464L PHYSICAL CHEMISTRY II LAB

0 CREDITS

The Laboratory of Physical Chemistry II is divided into two main topics: Quantum Mechanics and Kinetics. Both topics will be addressed in this course from an eminently practical point of view. The course will start with studies of quantum mechanical simulation, using freely distributed software (such as, for example, Avogadro or Gamess). In this part, simulation of structures, determination of energies, graphic representation of orbitals, theoretical electronic transitions, etc. will be carried out. The second part of the course will focus on the development of simple kinetic studies, using appropriate instrumental techniques, such as UV-vis spectroscopy and fluorescence

CHEM 481 INTRODUCTION TO COMPUTATIONAL CHEMISTRY

3 CREDITS

Installation and use of programs such as Spartan, ORCA and Webmo will be worked to build molecular models. We will apply techniques commonly used in computational chemistry to understand chemical bonding, predict properties and reactivity of molecules. Some of these techniques are geometry optimization, single point energy, vibrational frequencies, solvation models, transition states, and prediction of different spectroscopic properties such as IR, Raman, NMR and UVVis spectroscopy.

CHEM 485 ELECTROCHEMISTRY

3 CREDITS

The Electrochemistry course discusses the theory and applications of electrochemical processes in solution and in the solid state. The first part of the course introduces some basic concepts and definitions, as well as the thermodynamics involved in electrochemical systems. Thermodynamic arguments will be used to derive expressions for the electric potential of cells and for solution-electrode interfaces. The course also covers the dynamic aspects of the electrochemical processes. Transport properties of electrolytes and the kinetics of electrochemical reactions will be discussed to explain the microscopic and macroscopic flux of electrons at the interface of an electrode and an ionic solution. The second part of the course will deal with the instrumental techniques used to perform electrochemical measurements. The fundamentals of these techniques will be explained in terms of the basic concepts discussed in the first part of the curriculum. Some applications, such as fuel cells, batteries, electrochemical sensors, catalysis, and corrosion will be presented in the last part of the course.

CHEM 499 SPECIAL TOPICS IN CHEMISTRY

3 CREDITS

The course covers different current special topics in chemistry, which may include specific topics in medicinal chemistry, oenological chemistry, spectroscopy and structural elucidation, materials chemistry, nanotechnology, among others.

CHEM 504 FOOD CHEMISTRY

4 CREDITS

An in-depth coverage of the chemical structures of major food components and the chemical reactions occurring during storage and processing. Relationship of chemical composition to properties and to physical and chemical stability of foods. Chemical reactions will be covered extensively. Special attention will be given to dairy and poultry products, red meats, vegetables, and cereal grains.

CHEM 600 GRADUATE BIOCHEMISTRY

3 CREDITS

This course focuses in the study of composition, organization, structure and function of the molecular components of the cells, such as, proteins, carbohydrates, lipids and nucleic acids. It emphasizes in the processes and interactions of these biomolecules within the cells and human tissues. The students will study biochemical processes at the molecular level. The course will be developed through active learning, short essays, discussions of scientific articles and troubleshooting within a group of students. The course consists of three (3) credits and three (3) hours of lecture and/or laboratory experiences per week.

CHEM 601 INSTRUMENTAL ANALYSIS OF BIOMOLECULES

3 CREDITS

The course is focused on the analysis of analytical methods currently used to detect, purify, and characterize therapeutic products related biomolecules, such as deoxyribonucleic acids (DNA) and proteins. Emphasizes on how relevant analytical instrumentation works, the interpretation of their analytical output signal, and their respective advantages and disadvantages. The course seeks to refine graduate students' scientific reasoning and critical thinking skills. Information and communication technologies (TIC's) are applied through Internet searches and discussion of related scientific articles.

CHEM 735 ENVIRONMENTAL CHEMISTRY ANALYSIS I

3 CREDITS

This is the first of two semesters of Environmental Chemical Analysis. The course emphasizes the theoretical study of origin, destination, control and analysis of environmental pollutants in air, water, soil and sediments. Several sampling methods are described; and quantitative analytical methods for several pollutants in air, water, soil, sediments, and other environmental matrices are discussed. The fundamentals of environmental data acquisition, basics of environmental sampling and analysis, and environmental sampling design are also discussed. Furthermore, several analytical techniques and instrumental descriptions are also discussed.

CHEM 736 ENVIRONMENTAL CHEMISTRY ANALYSIS II

3 CREDITS

This is the second of two semesters of Environmental Chemical Analysis. It emphasizes the application of several methodological techniques for the analysis of environmental samples. It includes the theoretical discussion of specific analytical methods, and the practical applications of such methods through laboratory experiences.

CHEM 850 ENVIRONMENTAL CATALYSIS

3 CREDITS

The course deals with fundamentals of catalytic processes for purification of exhaust gases. Catalysis for clean production will also be an important part of the course. Topics covered include the following: crystallography and chemistry of the solid surface, adsorption sites, catalysis by acids, metals and semiconductors; bi-functional catalysis, reactions of combustion, oxidation, reduction, photolysis; selective catalytic reduction on zeolites, and thermal decomposition over metals; oxidation over heavy metals oxides, combustion catalysts, and sulfur reduction with Cu on alumina catalysts; heterogeneous photo-catalysis on semiconductor catalysts.

CHEM 852 MATERIALS FOR POLLUTION CONTROL

3 CREDITS

The course deals with pollution control materials, ionic, covalent and metallic bonding, Van der Waals interactions, the molecular orbital theory, the atomic bonding theory, crystallography, crystal chemistry of materials, phase diagrams, phase transformations, synthesis and modification of zeolites, active carbon preparation, pillared clays preparation, and silica gel preparation. Polymers, polyethylene, polyvinyl chloride, polystyrene, teflon, polyurethane, phenol-formaldehyde resins, ionic exchange resins, and catalytic air will also be discussed.

CHEM 861 NANOTECHNOLOGY

3 CREDITS

The goal of the course is to teach basic concepts on Nanoscience and Nanotechnology from a social and cultural point of view. Students are expected to learn fundamental concepts on basic science and technology. Students will use different techniques such as X-ray diffraction (XRD) or scanning electron microscopy (SEM) and some experimental procedures of synthesis to understand the relevance and applications of nanotechnology. Graduate students from all majors are encouraged to take the course.

COSC 111 COMPUTER LITERACY

3 CREDITS

This course is designed to satisfy the basic knowledge skills about computers that every university student should have. We introduce students to the basic Hardware and Software components of modern computers and how they work. It is a hands-on course where students learn to use a modern computer system and productivity applications for word processing, spreadsheets, and oral presentations.

COSC 113 COMPUTER APPLICATIONS

3 CREDITS

This is a continuation or second course for COSC 111. It is meant for students in the associate degree of computer science and for another student as a free elective. The course covers advanced topics in word processing, spreadsheet and presentation software. It also introduces students to a database program. One semester, three lecture hours, and three laboratory hours per week.

COSC 131 PROGRAMMING LOGIC

3 CREDITS

Emphasize the techniques of modular program design and development in a structured, language-independent manner. Includes problems analysis and their solution, in such a way that the computer can be directed to follow the problem-solving procedure. Pseudocode, flowcharts, and other diagrams are used to develop the problem-solving algorithms with the three basic control structures: sequence, selection, and repetition. One semester, three lecture hours and three laboratory hours per week.

COSC 230 COMPUTER SCIENCE PROGRAMMING

4 CREDITS

This course provides students with the necessary knowledge and skill to use the Cobol language to program a computer. The course covers syntax, grammar and program structure in a modern computer system. It provides students concepts and practice using structured programming technics so solve problems of beginner, intermediate and advanced complexity. We teach both interactive and batch program with an emphasis on reading and writing text files. One semester, three lecture hours, and three laboratory hours per week.

COSC 235 COMPUTER ORGANIZATION ARCHITECHTURE

3 CREDITS

The organization and architecture of computers are studied in this course from the point of view of their structure (the way in which the components are interrelated) and function the operation of each individual component as part of the structure). Includes a brief history of computers, the CPU, memories, input/output, operating system, and modern-day processors and microprocessors. An introduction to an assembler is included as part of the laboratory experience in the study of microcomputer.

COSC 240 COMPUTER SCIENCE PROGRAMMING I

3 CREDITS

This course provides information on the analysis and development of computer program algorithms that solve problems in science, mathematics, statistics, business and other type of problems. Programs are designed and coded in an object-oriented language like C++ and are properly debugged and documented. Emphasis is given on the disciplinary technics of structured programming design and style.

COSC 330 COMPUTER COMMUNICATIONS

3 CREDITS

This course introduces the essential terminology, elements and the architecture of modern communication systems. Special emphasis is given to the 5 layers of the TCP/IP communications suite, since it has become the universal standard for all types of communications. For comparison purposes we also present the Open Systems Interconnection (OSI) model developed by the International Organization for Standardization (ISO) with its seven layers. One semester, three lecture hours per week.

COSC 335 DATA STRUCTURE

3 CREDITS

Data Structure such as: queues, stacks, lists and trees; algorithms design and analysis for implementation, sorting and search will be discussed. Also, it will cover the dynamic memory utilization, graphs, relative efficiency analysis, programming optimization and hashing. One semester, three lecture hours, and three laboratory hours per week.

COSC 340 SYSTEM ANALYSIS DESIGN

3 CREDITS

This course discusses the components of an information system: the analysis and design of an organizational system cycle. The course covers the tools that are used; the strategies that are usually used in the implementation of a project and the major reasons why most of the projects fail. One semester, three lecture hours per week.

COSC 350 PROGRAMMING LANGUAGES

3 CREDITS

This course covers the concept of computer language design, applications and those elements that allow us to differentiate a computer language from another. The major elements are completely evaluated, some criteria are established in the justification for better language efficiency and in the decision to select which language is better for a given problem. Differences are established based on languages categorization on those that are compiled and those that are interpreted. The syntaxes and semantic form of new computer languages like Prolog, JavaScript, LISP, Forth, Ruby and others are specially analyzed.

COSC 440 OPERATING SYSTEMS

3 CREDITS

This course introduces the essential terminology, the elements of and the architecture of modern operating systems. The most important functions, process management, memory management, file management, peripheral management and security are discussed in detail. Operating systems are classified by their intended use.

COSC 445 DATA BASE

3 CREDITS

This is an introductory course on database management systems. It introduces the fundamental concepts of database design, implementation and management. It also prepares students to use current modern database systems and build a solid foundation for more advanced studies in database area. Students learn to code using the SQL language for data manipulation and data retrieval in a modern DBMS system.

COSC 450 INTRODUCTION TO THE DESIGN AND ANALYSIS OF ALGORITHMS

3 CREDITS

Techniques for design and analysis of algorithms. Strategies such as divide and conquer, the "greedy" method, dynamic programming, sorting and searching algorithms, hashing, graphing, arithmetic, "NPComplete" problems and genetic algorithms.

COSC 460 TOPICS IN COMPUTING SCIENCES I

3 CREDITS

Topic of special interest in Computer Science. The subject of the course will be decided by the teacher each semester taking in consider the needs of the students and the new trends in Computer Science. The topic will be depending on the availability of resources.

COSC 461 TOPICS IN COMPUTING SCIENCES II

3 CREDITS

Topic of special interest in Computer Science. The subject of the course will be decided by the teacher each semester taking in consider the needs of the students and the new trends in Computer Science. The topic will be depending on the availability of resources.

COSC 462 TOPICS IN COMPUTING SCIENCES III

3 CREDITS

Topic of special interest in Computer Science. The subject of the course will be decided by the teacher each semester taking in consider the needs of the students and the new trends in Computer Science. The topic will be depending on the availability of resources.

ENMG 501 PRINCIPLES ENVIRON SCIENCES

3 CREDITS

A general perspective of the environmental sciences will be discussed in this course The analysis of subjects related to problems of population dynamics; natural resources; and pollution effects in living beings will be applied Discussion of the current environmental problems and solutions in Puerto Rico will be analyzed.

ENMG 503 NATURAL RESOURCES AND ENVIRONMENTAL ECONOMY

3 CREDITS

Economic analysis of the natural resources and the environmental public policy applied to Puerto Rico and the Caribbean. Study of the basic elements of economic theories and the strategies used to internalize the externalities. Government actions and the economic incentives for environmental controls in Puerto Rico will be discussed. An undergraduate Economy course.

ENMG 506 STATISTICAL METHODS APPLIED TO ENVIRONMENTAL RESEARCH

3 CREDITS

Descriptive and statistical methods to be applied in the analysis of the uncertainties and decision-making processes of the environmental sciences.

ENMG 510 PRINCIPLES OF ENVIRONMENTAL TECHNOLOGY

3 CREDITS

Theoretical and technical aspects of environmental controls will be studied. The physical, chemical, biological and technological processes available for the purification of water and the disposition of solid and liquid wastes will be discussed. The available technological methods of pollution control in waters, soil, atmospheric and noise contamination will be studied.

ENMG 511 ENVIRONMENTAL RISK MANAGEMENT

3 CREDITS

The course consists of discussion and evaluation of concepts and strategies related to the process of preventing and managing environmental risks. The course emphasizes the methodology used in each stage of the process of assessing environmental or occupational fields to predict or estimate the possible events that could endanger human health or ecosystems. The course applies the concepts of Risk Management Plan in accordance with the EPA and different types of industries. The worst case scenario and their environmental risks are also estimated. The course will present different data banks and electronic resources with valuable information for the field.

ENMG 512 ENVIRONMENTAL COMUNICATIONS

3 CREDITS

The course pretends to apply communication's principles to the environmental arena. A variety of strategies, practices and environmental documents are studied assure that environmental managers can cope within his/her ethical, legal and organizational responsibilities. The course contents identify and analyzes different audiences that the environmental manager has to deal with, from the inside personal as employees, supervisors and managers to external public has a legislator, civic and environmental groups, labor unions, the community, press and other mass media. The course also includes the role has different types of the communications, advertising and public relations, from memos, press release, environmental impact acts, technical reports and visual presentations.

ENMG 515 ENVIRONMENTAL MICROBIOLOGY

3 CREDITS

Study of the applications of microorganisms on the environmental processes. Analysis of the importance and the impact of microorganisms on the environment and the use of bacteria as pollution indicators; anaerobic digestion, effluent treatment and the biotechnology applications. This course will be enhancing with lab practices.

ENMG 520 ENVIRONMENTAL CHEMISTRY

3 CREDITS

This course applies the principles of the various branches of chemistry to the study of the proper conservation, maintenance and improvement of the quality of the environment. Environmental chemistry includes the study of the reactions, transport phenomena, the effects and fate of chemical species in aquatic media, soil, the atmosphere, as well as the effects technology exerts in them. The course examines problems of pollution, their biological, toxicological and chemical effects, and the mechanisms of action related thereto. Some procedures and environmental analytical chemistry methods are discussed and analyzed through laboratory experiences.

ENMG 530 OCEANOGRAPHY

3 CREDITS

Presentation and discussion at the graduate level of the different topics which compose the discipline of oceanography, including marine chemistry, geology, biology and physics. In these topics, the application of core concepts with oceanographic examples of Puerto Rico and the Caribbean is emphasized. The strategies of conservation of marine resources will be discussed.

ENMG 531 CONSERVATION BIOLOGY

3 CREDITS

Presentation and discussion different topics which compose the discipline of conservation biology, including key concepts of genetics and ecology as it relates to conservation, maintenance of biological diversity, biogeography, conservation of natural resources, and conservation of endangered species. In these topics, the application of key concepts to examples of conservation programs in Puerto Rico and the Caribbean are emphasized.

ENMG 532 CONSERVATION AND MANAGEMENT OF FOREST ECOSYSTEMS AND FLORA

3 CREDITS

Presentation and discussion on concepts and techniques for conservation and management of flora and forest resources. The course will examine the human impact on these forest areas and the applicability of techniques for the conservation and rational management of natural resources. In the topics to be discussed emphasizing the implementation of conservation and management in Puerto Rico and the Caribbean. The course includes field trips.

ENMG 533 CONSERVATION AND MANAGEMENT OF WILD FAUNA

3 CREDITS

Presentation and discussion of the different topics which compose the discipline of conservation and management of wildlife, specifically fauna. It includes the application of basic concepts of ecology, the components of wild fauna, techniques and implementation of management programs, economy of the faunal resource, laws and public policy, and wildlife ethics and animal rights. In these topics, examples from Puerto Rico and the Caribbean as well as examples from the American continent are emphasized. The course include field trips.

ENMG 535 CONSERVATION AND MANAGEMENT OF MARINE RESOURCES

3 CREDITS

Presentation and discussion of the topics related with the discipline of conservation of soils. The biological, physical, chemical and environment aspects related to the conservation of soils will be discussed. The concepts of environmental planning and management of terrestrial resources will be applied.

ENMG 536 PROPERTIES AND CONSERVATION OF SOILS

3 CREDITS

Presentation and discussion of the topics related with the discipline of conservation of soils. The biological, physical, chemical and environment aspects related to the conservation of soils will be discussed. The concepts of environmental planning and management of terrestrial resources will be applied.

ENMG 538 LIMNOLOGY, RIVER AND LAKES ECOSYSTEMS

3 CREDITS

Presentation and discussion of the topics related with the discipline of conservation of freshwater resources. The biological, physical, and chemical aspects related to the conservation of freshwater resources will be discussed. The concepts of environmental planning and management of aquatic resource will be applied. .

ENMG 600 RESEARCH METHODOLOGY

3 CREDITS

This course is designed to provide the student with the methodological knowledge regarding the process to follow when conducting an environmental scientific research as well as the federal and Ana G. Méndez University System laws which regulates this process. The course covers the quantitative and qualitative research methods; their advantages and disadvantages, their differences as well as their limits. Nevertheless, since this course is directed to scientific investigations, the primary focus of the course is the quantitative approach. The course also provides space so each student could discuss and identify a research problem and write a research prospectus which also includes the hypothesis or research questions, objectives, research design as well as the appropriate measurement methods that apply.

ENMG 601 ENVIRONMENTAL ETHICS

3 CREDITS

The course will offer a comprehensive and balance conceptual framework in the environmental field and ethical educational point view. Contemporary issues and concepts will be studied. The role of science and philosophy are discussed giving particular attention to education. As focal point the anthropogenic, individualism, egocentric attitudes will be discussed. The relation of man and nature are discussed from the multicultural Judeo-Christian perspectives. The student's interaction, different perspectives will enhance the course.

ENMG 608 SOLID AND HAZARDOUS WASTE MANAGEMENT

3 CREDITS

This course emphasizes the study of fundamental concepts in management for solid waste (domestic, commercial, industrial solid wastes, and hazardous wastes). During this course it will be discussed the management requirements related to regulations promulgated pursuant the Resources Conservation and Recovery Act (Law No. 94-580, of October 21, 1976, RCRA), that describe the legislation, regulations, and standards applied to the generation, transportation, treatment, storage and disposal of solid wastes. RCRA describe the necessary strategies for compliance and execution of the essential tasks to be achieved to protect the public health and conservation of the environment and natural resources.

ENMG 609 ENERGY SOURCES AND ENVIRONMENT

3 CREDITS

The course will evaluate the local and international energy situation; specifically, its economic, environmental, social and geo-political implications. It will examine the energy sources, strategies, its environmental impact, and the available technology for environmental control. The energy policy, its design and implementation, as an essential element for environmental planning and management will be covered during the course.

ENMG 613 QUALITY CONTROL MANAGEMENT IN THE ENVIRONMENT

3 CREDITS

Development of an integrated global vision of environmental management, based on the tendencies and practices that direct it is studied in the course. Emphasis is given to the theoretical and operational phases, if the task is performed by an environmental manager, like methods, techniques and pertinent practice of management. The course discusses the environmental manager's function, roles, responsibilities and leadership. Also, the relevance of research for the control of environmental quality will be discussed. Description and application of those allied principles to the management of quality control in industrial laboratories, public agencies, municipalities, and businesses that perform environmental analysis. The student will obtain the knowledge and fundamental principles of total quality control, total quality management, as well as productivity management in high tech organizations. The theoretical aspects, case studies, and simulation applied to quality control will be presented.

ENMG 614 COMPARATIVE ENVIRONMENTAL RISK ASSESSMENT

3 CREDITS

The course will evaluate and measure the health and environmental risk of human activities. The most important risk assessment techniques as well as their limitations will be covered in depth. Additionally, the course will discuss and evaluate the importance to communicate to the public the results of risk assessment.

ENMG 615 ENVIRONMENTAL LEGISLATION AND REGULATORY AGENCIES

3 CREDITS

The course is aimed at providing a legal and normative perspective of the activities that may have an impact on natural resources and the environment. Additionally, local and federal legal framework pertaining to the use, management, and conservation of important natural resources will be analyzed. The course emphasizes the most important legal instruments from agencies such as the Environmental Quality Board and the Department of Natural and Environmental Resources. The course will be approached by in-depth case studies and real-life situations.

ENMG 617 ENVIRONMENTAL DOCUMENTS AND ASSESMENTS

3 CREDITS

The course seeks the understanding of all aspects regarding the permit process related to the environment, and the evaluation of the environmental impacts associated with human activities. Particular attention will be given to important permit procedures such as wetland mitigation, and sedimentation and erosion control. The environmental impacts of proposed projects that may alter the well-being of communities will be evaluated and discussed with community leaders and agency personnel. Additionally, participating students will prepare an environmental evaluation of a project.

ENMG 619 OCCUPATIONAL RISK ASSESSMENT AND MANAGEMENT

3 CREDITS

The course introduces the general aspects of health and safety in the workplace. It emphasizes hazards recognition, evaluation and control of chemicals substances, biological agents, physical situations and radiological particles. It discusses the purpose, scope and applicability of federal (OSHA act, 1970), standards of OSHA -29CFR 1910 and central government law (Ley #32, 1991). In addition, it discusses the importance of developing and implementing health and safety programs and the functionality of PROSHA and OSHA Offices.

ENMG 700 INTEGRATED MANAGEMENT OF NATURAL RESOURCES

3 CREDITS

This course discusses the principles and applications of an integrated approach to natural resources management for the biodiversity conservation. It will discuss and apply the decision-making process for the sustainable management of natural resources. It includes a practical guide towards the developing, implantation and operation of conservation programs. The research method includes participatory approaches and multi-scale analysis involved in the integrated management of natural resources.

ENMG 701 ENVIROMENTAL TOPICS

3 CREDITS

Current topics related with the environmental affairs and natural resources conservation in Puerto Rico and worldwide will be discussed. The courses offer the opportunity to special guests from states and federal agencies, and private corporations to discuss and analyze the recent scientific findings and the new legislation applied to the environmental fields. The main focus of these courses is to keep our students updated in the environmental topics.

ENMG 702 ENVIRONMENTAL TOPICS II

3 CREDITS

This course is a continuation of Environmental Issues I. The course will address topics not covered in regular curriculum and have not been covered in Environmental Issues I. It includes the presentation and discussion of issues of great importance for the professional in the environmental field. The course will offer specialized topics taught by professionals to facilitate students to be updated with respect to new global trends in the environmental field. May include visits to special environmental projects in Puerto Rico. The course may be used to validate experiences of internships, courses or research at universities or institutes outside of Puerto Rico, which UMET have partnership agreements.

ENMG 703 CLIMATE AND ATMOSPHERIC POLLUTION

3 CREDITS

The course is aimed at the evaluation of chemical, climate, economic, and other variables relevant to atmospheric pollution management and control. Scientific and technical aspects associated with climate and air pollution, strategies for pollution control, and the legal framework encompassing the problem will be studied in detail.

ENMG 705 ENVIRONMENTAL TOXICOLOGY

3 CREDITS

The course presents the principles and fundamental concepts of toxicology, including the mechanisms of toxicity produced by toxic industrial products in the environment. Specific toxic effects like carcinogenesis, mutagenesis and teratogenesis will be discussed depth. In addition, frequently encountered toxicants in the environment such as the pesticides and metals and their specific effects in organs systems of the human body are discussed. The application in the human and environmental health is emphasized though the discussion of the. The importance of understanding and applying these concepts as environmental managers and risk evaluator are reinforced through the course.

ENMG 707 ENVIRONMENTAL AUDITING

3 CREDITS

This course includes tools, skills and knowledge to develop, organize and conduct an environmental compliance audit according to federal and state laws and regulations. The course includes a comprehensive discussion of professional assessment of a private property, commercial or industrial establishment in compliance with the Superfund law of US Environmental Protection Agency.

ENMG 712 TROPICAL ECOSYSTEMS

3 CREDITS

The structure, physiology, taxonomy and distribution of the main tropical ecosystems in Puerto Rico and the Virgin Islands will be studied. The exotic plants and animals introduced at different ecosystems, the environmental conditions and types of soils in different zones of life will be analyzed. This course will be complemented with research trips. The student will understand the fragility of the tropical ecosystems to make a critical judgment on the management of the tropical resources.

ENMG 714 FUNDAMENTALS OF HYDROGEOLOGY

3 CREDITS

The course looks into the technical and scientific principles relevant to the availability and occurrence of groundwater quality. It discusses the chemical, physical and biological characteristics of groundwater water resources. The course also discusses the water flow in aquifers, hydrologic cycle, geology, the hydrological systems and the environmental issues related with the water resources.

ENMG 715 SUSTAINABLE AGRICULTURE

3 CREDITS

This course provides theory and practice for sustainable agriculture. The course presents, discuss and analyzes the impact of traditional practices in agriculture and the applicability of sustainable techniques for the conservation and management of agro-ecosystems. Emphasis is given to the analysis of case studies and physical- spatial analysis to evaluate different agroecosystems in Puerto Rico and the Caribbean. In addition, field trips are integrated to apply the content of the course.

ENMG 718 URBAN AGRICULTURE

3 CREDITS

This course is aimed at providing the knowledge and practice of urban agriculture in order to promote the strengthening of local food systems through the creation of urban orchards, farms, or agriculture systems in urban areas. The content of the course presents the rational techniques for the conservation and management of soils and species of agricultural use in urban orchards, in order to rescue or rehabilitate the urban spaces in disuse to satisfy the alimentary needs of the urban populations of greater vulnerability. In addition, the course presents the requirements for public policy integration of urban agriculture systems in municipal and territorial development plans. The course integrates visits to urban and community orchards as part of the discussion of case studies.

ENMG 721 RESEARCH I: PROPOSAL

3 CREDITS

This course focuses on the development of a research project that could aim current environmental issue or concern. It provides working tools for the development of format, style and composition of the proposal. This proposal should contain a strong background and rational, proposed objectives and methodology. It integrates workshops for data base research, IRB requirements, writing techniques, conferences and individual mentoring. The student will select a research topic and the composition of the Committee, in addition to preparing the proposal, which must be approved by the Committee and the course instructor. This course is part of the final requisite to obtain the master degree. This course could be repeated.

ENMG 723 RESEARCH THESIS II

3 CREDITS

The course focuses the development of a research project that could aim current environmental problem or concern. The student will apply the proposed methodology and will obtain the results. This second part of the course includes the oral defense of the thesis and a written complete document that complies with APA method and the School Manual requirements that includes the final thesis in PDF format in CDC. Thesis's courses are final requirements to be granted a Master's Degree of Sciences in Environmental Management. This course could be repeated.

ENPL 500 PLANNING THEORY

3 CREDITS

The course focuses the development of a research project that could aim current environmental problem or concern. The student will apply the proposed methodology and will obtain the results. This second part of the course includes the oral defense of the thesis and a written complete document that complies with APA method and the School Manual requirements that includes the final thesis in PDF format in CDC. Thesis's courses are final requirements to be granted a Master's Degree of Sciences in Environmental Management. This course could be repeated.

ENPL 505 GEOGRAPHIC INF SYSTEMS

3 CREDITS

This course focuses in the study of environmental issues using Geographic Information Systems software. The course uses ESRI's ArcGIS 10.0 among other software. Students will be familiarized with local and federal government databases as well as several methodologies to analyze the environment. The course requires additional lab work.

ENSC 101 ENVIRONMENTAL SCIENCE

3 CREDITS

This course studies the main issues related to Environmental Sciences: ecosystems, biodiversity, population balance, management of natural resources, energy, and pollution, among others, from the perspective of sustainable development. These issues will be discussed in the context of Puerto Rico, while at the same time considering an overall worldwide view. Emphasis is placed on the development of knowledge, skills, and critical thinking, through analysis of current environmental problems, which allow the student to evaluate and propose solutions using scientific literacy. In addition, it facilitates the development of skills related to research, new technologies, and effective communication. The course is competency-focused and encourages the responsible use of technology and information skills to generate new knowledge.

ENSC 201 INTRODUCTION TO GEOLOGY

4 CREDITS

Origin, physical characteristics, and evolution of Earth materials, its structure and relationship with emphasis on Puerto Rico. Includes laboratory and/or field trip experiences. One semester, three lecture hours, and three laboratory hours per week.

ENSC 301 LAND RESOURCES

4 CREDITS

The Terrestrial Resources course in the field of Environmental Sciences studies terrestrial systems and their interactions with the human system, which gives rise to the environment. The analysis of terrestrial resources is an instrument capable of understanding in a global and systemic way, the environmental reality around us. This course will identify problems related to the exploitation, management and final disposal of terrestrial resources, considering international guidelines and Puerto Rico legislation.

ENSC 380 SPECIAL TOPICS: ENVIRONMENTAL SCIENCES

3 CREDITS

Faculty professor accordingly with students' needs and subject relevance, will establish course contents. Special attention will be paid to recent advances on the chosen topic, which may be enriched by lab or field experiences.

ENSC 390 NATURAL HISTORY OF PUERTO RICO AND THE CARIBBEAN

3 CREDITS

The classification, structure, evolution, ecology and distribution of the main ecological habitats and communities, ecosystems and geological formations of Puerto Rico and other parts of the Caribbean Basin will be studied. The native and introduced plants and animals, environmental conditions, soil types and geological formations that predominate in the different life zones will be studied. This course is complemented by research trips to different ecosystems in which data will be taken that will reinforce the knowledge obtained from the books, studies published in scientific journals and other references. The course will allow the student to know the fragility of the different habitats and ecological communities, ecosystems and geological formations of the region and thus be able to exercise a critical judgment in the management of these resources

ENSC 411 ENVIRONMENTAL LAWS AND POLICIES

3 CREDITS

Introduction to environmental legislation's basic concepts and problems. The use of the main environmental laws as vehicles to diminish, prevent, punish and remedy those actions that affects the environment, the public health, and safety will be discussed.

ENSC 413 MARINE AFFAIRS

3 CREDITS

Presentation and discussion at the undergraduate level of the different topics which compose the discipline of marine policy and management, including marine geography, marine policy, international ocean law, fisheries law, coastal zone management, and maritime transportation. In these topics, the application of core concepts with marine user-conflicts in Puerto Rico and the Caribbean are emphasized. One semester, three lecture hours per week.

ENSC 415 ENVIRONMENTAL POLLUTION

3 CREDITS

Consideration is given to contaminants transport and diffusion to the atmosphere, the soils, and the water, from micro scale to global. Includes measurements and control of the pollution, its legal aspects and quality standards

ENSC 421 CASE STUDY

1 CREDITS

Evaluation of environmental policies by means of case studies. May include food sources and population, energy resources, technology, water resources, biological resources, pollution control, waste management, and global change. Quantitative analysis and multidisciplinary approach will be used. Written reports are required.

ENSC 443 INTEGRATED ENVIRONMENTAL PRACTICUM

4 CREDITS

Environmental research and monitoring require numerous fields, laboratory and statistical techniques to deal with the plethora of issues and approaches for addressing the challenges confronting our lives. This course is designed to provide a synopsis of these techniques thorough direct experience. Students will gain experience in the field collecting samples and data, in the laboratory processing and analyzing samples, at the computer organizing and summarizing results, and in the classroom evaluating environmental data and presenting findings. The application of simple statistics and mathematical models to environmental problems will also be explored. One semester, three lecture hours and three hours laboratory per week.

ENSC 499 FUNDAMENTALS OF ENVIRONMENTAL SCIENCES

3 CREDITS

An introductory course to the study of the environmental sciences. The course has been designed to provide students with basic information about the structure and function of natural ecosystems; the effect of human activities upon air, water, soil, flora and fauna; environmental pollutants and their effect upon human and environmental health; the paradigm of sustainable development and environmental ethics.

ENSC 500 FUNDAMENTALS OF ENVIRONMENTAL SCIENCES

3 CREDITS

The course is an introduction to the environmental sciences. Structure and function of natural ecosystems, types of environmental contaminants and the effect of contaminants on human health and the environment will be covered.

ENSC 610 HAZARDOUS WASTE OPERATIONS

3 CREDITS

The course focuses on fundamental concepts required for the development and implementation of a hazard communication program, adequate management of chemical substances and hazardous waste, and management of environmental emergencies.

ENSC 706 WILDLIFE MANAGEMENT

3 CREDITS

This course is designed to strengthen knowledge and skills in specific techniques used for wildlife and habitat management and research. The course focuses on how to collect, record, analyze, apply, and report ecological and environmental data by critically understand, evaluate and assess wildlife management. Field trips will allow student to observe and practice techniques application.

ENSC 707 ENVIRONMENTAL GEOLOGY

3 CREDITS

Study of earth history, processes and resources. Relationship between geologic factors, society, and environmental pollution.

ENSC 709 ENVIRONMENTAL MANAGEMENT AND PLANNING

3 CREDITS

The course deals with theoretical components of the environmental planning processes. Important topics for the development of an implementation plan and the essential components of a monitoring plan are discussed.

ENSC 730 SOLID WASTE MANAGEMENT

3 CREDITS

Study of the fundamental principles and technological trends of solid waste management, and the physical, chemical and biological methods for solid waste disposal and processing (composting, recycling, landfilling and thermal treatments). Emphasis is given on the advantages of reduction of waste generation. The statutory framework and the strategies for waste will also be addressed.

ENSC 737 RENEWABLE ENERGY SOURCES ISSUES

3 CREDITS

The course is an introduction to energy resources and the environmental impacts of their use. Basic energy concepts, global resources, environmental issues and applications will be discussed. The economic and environmental advantages of alternative energy sources vs. traditional sources are discussed.

ENSC 751 ENVIRONMENTAL LAWS, ETHICS AND PUBLIC POLICIES

3 CREDITS

Study of the laws and regulations established to control the activities that affect the quality of the environment and the natural resources. Analysis of the theory and application of environmental ethics and the public policy to the environment.

ENSC 752 ENVIRONMENTAL WATER QUALITY

3 CREDITS

Study of the microbiology of waste waters, the conventional water and wastewater treatment operations, process fundamentals, hydraulic design of water and wastewater treatment operations, mass transfer, mass balance flow and batch reactors. Other topics to be covered are: screening and sedimentation, aeration, coagulation and flocculation, water softening, disinfections, aerobic biological treatments, anaerobic treatments, wetlands, ponds and systems, sludge processing and effluent disposal.

ENSC 753 SOIL MANAGEMENT

3 CREDITS

The course will cover the principal soil properties including genesis, dynamic and development, soil physical and chemistry properties, soil fertility and fertilizers; dynamic role of clay and oxide material; organic material; role and dynamics of the major microorganisms; soil transformation in tropical soils, soil and water conversation; drainage and irrigation; soil pH and salinity; plant nutrition; new techniques for soil sampling and testing; pH and organic amendments: tillage and cropping systems: soli uses; advances in soil classification and survey, techniques for soil conversation and use in urban development; government agencies and programs; study cases in soil management.

ENSC 754 AIR QUALITY MANAGEMENT

3 CREDITS

Analysis of air quality management with a focus on the causes and effects of air pollution and how it effects the environment. The effects on humans, plants and animals will be studied. Meteorology, climatology, chemistry, air pollutants, air quality assessment and control of emissions from stationary sources along with measures to prevent and control will be emphasized along with the regulations and laws established.

ENSC 755 GRADUATE SEMINAR I

1 CREDIT

During this course the student will learn how to conduct a scientific research, will received a general orientation on the procedures to complete the thesis or dissertation, and will learn how to write a scientific paper. The course will cover the fundamentals of scientific research, technical writing using CSE, and the fundamentals of a research proposal

ENSC 756 GRADUATE SEMINAR II

1 CREDIT

Student will learn to write the thesis or dissertation proposal following the format specifications established by the Graduate Environmental Science Program. The students will present their preliminary thesis or dissertation proposal.

ENSC 760 HAZARDOUS WASTE OPERATIONS, EMERGENCY RESPONSE, AND RISK COMMUNICATION

3 CREDITS

Study of fundamental concepts required for the management, identification and regulation of the hazardous wastes, planning and emergency response as well as the development and implementation of a hazard communication program.

ENSC 763 ENVIRONMENTAL EVALUATION

3 CREDITS

Study of the procedures established for the preparation of environmental auditing, assessment and Impact Statements.

ENSC 770 CLASSIFICATION HAZARDOUS WASTE

3 CREDITS

Study of the current statutes, guides and regulations for the characterization, classification and management of hazardous waste. The significance of the responsibility of "candle to grave" regulation will be explained. The role of science will be emphasized, describing physical and chemical properties of the hazardous waste, as the analytical methods to be applied when doing an environmental analysis. Also the evaluation for site remediation will be covered.

ENSC 790 SPECIAL TOPICS

3 CREDITS

The course will cover special topics in Environmental Science that may become relevant from time to time. The format may include traditional classroom study, intensive workshops, and field courses, given by visiting professors or regular faculty. Student will take exams, submit reports and give oral presentations. Content may vary by semester. The specific content of a given semester will be indicated in a subtitle in parenthesis following the title Special Topics in Environmental Science in the course calendar (programming) and student transcripts. The student may repeat the course under different subtitles for a total of 6 credits.

ENSC 810 RESEARCH THESIS

6 CREDITS

A supervised independent scientific research project in environmental science, leading to the completion of the master's thesis requirement. The student will enroll for the number of credits determined by the student's Committee and chair (Research Advisor/ Supervising Professor), but not for less than a cumulative total of 6. No more than 3 credits (cumulative total) may be used for preparation of the master's thesis proposal. No more than 3 credits of ENSC 810 may be taken in a regular semester, no more than 3 in a summer session. Requires permission from the student's Committee and Chair (Research Advisor/ Supervising Professor) and approval of the Coordinator for Graduate Studies Research.

ENSC 839 ISSUES OF ENVIRONMENTAL PUBLIC HEALTH

3 CREDITS

The course focuses on major concepts and principles relevant to environmental health. Emphasis is on the chemical, biological and physical agents and factors that are environmentally mediated and constitute a risk to humans. Sources, environmental pathways of transmission, exposure dose relationships, and adverse health effects are discussed, giving special attention to susceptible populations. The principles and methods of risk assessment and risk management are identified and applied throughout the course as a unifying theme.

ENSC 841 ENVIRONMENTAL REMEDIATION

3 CREDITS

The course covers bio gradation and the bioremediation process in soil, sediments, aquatic systems and air. Emphasis is on metabolic study of the microbiological process to degrade xenobiotic substances and of bio-transformation of inorganic compounds. Interaction of microorganisms with non-biotic factors in soil, water and air will be discussed. Topics include growth-linked associations to acclimatization, activation, detoxification, kinetic thresholds and sorption. Other topics covered include chemical structure and prediction of biodegradation products, and co-metabolism, as well as in-situ and ex-situ bioremediation. Phytoremediation and plants used as bio-indicators, genetic pools, bioengineering and new technologies will also be discussed.

ENSC 865 ENVIRONMENTAL TOXICOLOGY

3 CREDITS

The course emphasizes the effects of environmental contaminants in the living organisms starting from the molecules and ending with the ecosystem. It will emphasize the possible link between environmental exposure at sublethal doses of those contaminants and their molecular interactions at the individual level with alterations of function of the ecosystems and human health. We will study how the knowledge in the field is used for the making of risk assessment.

ENSC 997 DOCTORAL DISSERTATION

21 CREDITS

A supervised independent scientific research project in environmental science, leading to the completion of the doctoral dissertation requirement. The student will enroll for the number of credits determined by the student's Committee and Chair (Research Advisor/Supervising Professor), but not for less than a cumulative total of 15. No more than 6 credits (cumulative total) may be used for preparation of the dissertation proposal. No more than 6 credits of ENSC 997 may be taken in a regular semester, nor more than 3 in a summer session. Requires permission from the student's Committee and Chair (Research Advisor) and approval of the Coordinator for Graduate Studies and Research.

ENST 500 PRINCIPLES OF TERRESTRIAL SYSTEM

3 CREDITS

Study of principles and concepts to facilitate the understanding and interpretation of the Earth System's composition and its characteristics. Emphasis will be given to the natural phenomena and human actions that model the landscape in Puerto Rico. Special attention is placed in the application of these concepts to the management and conservation of the natural resources, the design and use of teaching strategies and laboratory activities for earth science courses.

ENST 504 EARTH SCIENCE TEACHING METHODS

3 CREDITS

The Earth Science Teaching Methods course emphasizes the strategies for teachers to establish a favorable science learning climate. This course focus on planning, design and implementation of earth science curriculum. The content of the course exposes students to different teaching models, conceptual frameworks and initiatives infusion and/or science curriculum integration of the Department of Education. It offers the opportunity to improve the curriculum design for this discipline, integrating technology as a teaching tool and prepares the learner to develop lessons and curriculum units in earth science.

ENST 515 SUSTAINABLE DEVELOPMENT

3 CREDITS

This course promotes the development of basic concept of sustainability and its economic, social, technological, environmental and cultural implications. It will also present the historical development of the field since its origins. Smart growth strategy will be used as an example of the optimal use of urban space and efficient consumption of raw materials. The course will assess de term of development in a proactive way, where it meets human needs while preserving the environment so that these needs can be met not only in the present, but also for future generations.

ENST 518 DIDACTICS OF ENVIRONMENTAL EDUCATION I

3 CREDITS

This course is the first part to the introduction to Environmental Education. The history, evolution and the fundamental theories of the field are discussed. Course content includes an analysis of the international treaties and the professional standards of Environmental Education. There will be reflections on the different paradigms that impact Environmental Education and the existing practices in Puerto Rico, United States, Europe and Latin America will be evaluated.

ENST 618 DIDACTICS OF ENVIRONMENTAL EDUCATION II

3 CREDITS

These second part of Environmental Education Instruction I, emphasize the planning, design and Implementation of Environmental Education among formal and informal scenarios. The course content exposes the student to different models and frameworks for Environmental Education. It also presents governmental and non – governmental programs with infusion and integration of curricular initiatives in Environmental Education. The course offers the opportunities to characterize these disciplines and prepare the learner to develop lessons or curricular units in Environmental Education.

ENST 724 ENVIRONMENTAL EDUCATION INTERNSHIP I

3 CREDITS

During the first course of the Internship in Environmental Education, the student will do research and develop the materials or project designed for the Internship Center. A design Plan will be developed and the first four chapters of the dissertation or article. Students have to spend 45 hours of service in the Internship Center and 25 hours in classroom meetings. Research and design skills are promoted.

ENST 726 ENVIRONMENTAL EDUCATION INTERNSHIP II

3 CREDITS

This second part of the Environmental Internship Course has the scope to develop pedagogical materials and dissertation. Students have to present the results of their research to community. The course requires 45 hours of service in the Center of Internship and 20 hours with the director of the research.

ENVM 811 SPECIAL PROJECT

6 CREDITS

Special group project in Environmental Management is a integral part of the total education of the professional student in the Environmental Management Program. It is intended to represent the student's major academic focus and demonstrate student's cognitive competence and skill in that area. Students will work collaboratively in small groups to develop basic problem-solving experience in environmental research and management. Special projects may originate with a faculty member, with students, or in collaboration with partners or sponsors with participation of a faculty member. Student teams may create budgets, timelines, and describe deliverables. A research paper and public seminar about the project are required. Maximum enrollment is seven (7) students per section.

ENVM 812 GRADUATE SEMINAR

3 CREDITS

Students participate in an internship suited to the student's career interest in an industry, government agency, or program, or other institution or foundation directly related to his/her area of study. Internships require the approval of the student's academic advisor, and of the director of the Graduate Program. Approval of written proposal (prior to the semester of the internship) that documents the justification, goals, objectives, specific activities and expected outcomes of the internship must be presented to the academic advisor. The internship must last at least one semester following a minimum of 24 credits. The university will maintain communication and coordination with both the student and the sponsor.

EOSH 639 INTRODUCTION TO EPIDEMIOLOGY

3 CREDITS

This course emphasizes the study of the distribution of diseases and determinants of health in human populations to prevent and control human health issues. It includes the principles and methods of epidemiological studies and their limitations. The course content is aimed at identifying and interpreting epidemiological data; differentiate between association and causation and applying ethical and professional issues in epidemiology.

EOSH 641 PRINCIPLES OF INDUSTRIAL HYGIENE

3 CREDITS

The course introduces the industrial hygiene field. It emphasizes the recognition, evaluation, and control of industrial hazards due to biological, chemical, and physical agents. Topics include occupational health standards, regulatory agency requirements, the effects of pollutants on human health, sampling and control of hazards, and current issues. It emphasizes prevention and control to avoid exposure to hazardous substances in the work settings, such as in the pharmaceutical industry and during activities involving the use of paint, adhesives, dyes and solvents, among others. In addition, the course focuses on noise control, radiation, temperature, and the potential for physical injury.

EOSH 642 ENVIRONMENTAL AND OCCUPATIONAL MEASUREMENTS

3 CREDITS

This course emphasizes the knowledge and methods of environmental and occupational measurements necessary to evaluate the presence of potential health risks in the workplace, such as hazardous chemicals, and physical and biological agents. It includes lectures and demonstrations followed by laboratory exercises to help students learn sampling techniques, as well as data analysis and interpretation. The course includes a final project in which students evaluate an exposure and make oral and written presentations of their findings.

EOSH 643 PRINCIPLES OF GREEN CHEMISTRY

3 CREDITS

This course will introduce the principles of green chemistry in its historic context since 1990 up to the most recent developments. It will also demonstrate the need for, and feasibility of, green methods to chemistry and related disciplines in the best interests of environmental health and sustainability. It will introduce the twelve principles of green chemistry in the development of sustainable chemical methods and processes, and will emphasize the use of alternative raw materials, solvents, and catalysts, as well as methods based on the use of microwaves, ultrasound, and mechanical methods to carry out a chemical reaction. The course focuses largely on the application of innovative technology to develop "greener" routes to improve industrial processes and produce important products through environmentally friendly procedures.

FOOD 101 INTRODUCTION TO FOOD TECHNOLOGY

3 CREDITS

This is an introductory course for all first-year science major students, which brings the general scope of food science and technology. The main focus of the course is the application of the basic sciences and technology to the study of the fundamental nature of foods and the principles of its processing. The course covers areas regarding the raw material, added value and processing. Part of the scope also covers the processing of different kinds of foods, such as fruits and vegetables, meats, drinks and candies. The course also studies food safety laws, the federal agencies in charge of these laws, packaging and labeling of foods.

FOOD 201 MICROBIAL FOOD SAFETY HAZARDS AND QUALITY CONTROL

3 CREDITS

The course is aimed at students interested in the study of diseases from a population-based perspective. The course begins with an overview of globalization and the epidemiology of foodborne diseases. The course describes the biotic and abiotic factors that affect disease rates, distribution and disease prevention. Current and statistical data on emerging diseases transmitted through food are also included.

FOOD 250 FOOD SAFETY AND PROTECTION RELATED TO PUBLIC HEALTH

3 CREDITS

The course studies the relationship between food safety and protection related to public health. The course starts with a historical and political background that includes regulatory agencies and historical events or cases that impulse the creation of the HACCP. Provide the student with an introduction to the Hazard Analysis Critical Control Points (HACCP) principles and their importance in the prevention of biological, chemical or physical alteration of food. This is followed by the practical application of the HACCP; design, Implementation, Verification, and Maintenance for Ongoing Risk Management. In addition, the course provides up-to- date information on current topics in food safety regulations, issues and control of potential risks. It covers topics related to emerging foodborne pathogens (i.e., bacteria, viruses, protozoans and helminths). Other topics covered are: virulence, pathogenesis, toxins production, epidemiology, sources of microorganism contamination, current technology and food safety prevention and control.

FOOD 300 FOOD LAWS STANDARD REGULATORY

3 CREDITS

Federal, state and territories laws regulations and case law history affecting food production, processing, packaging, marketing and distribution of food and food products. History of food law, enactment of laws and regulations, legal research, and regulatory agencies.

FOOD 400 FOOD BIOTECHNOLOGY

3 CREDITS

This course study origins of biotechnology, genetic manipulation of organisms involved in food manufacture. Include the different techniques of genetic and culture manipulation and transformations different pathways of foos chain and study the social and ethical issues related to biotechnology in food.

FOOD 450 FOOD QUALITY ASSURANCE

4 CREDITS

This course will focus on currently used food safety programs to control biological, chemical and physical hazards and assure the safety of foods. Topics include prerequisite programs such as Current Good Manufacturing Practices (GMP) and Sanitation Standard Operating Procedures, Hazard Analysis Critical Control Point (HACCP), Food Safety Modernization Act and the application of current technologies in reducing foodborne illness. Upon successful completion of the course, the students will receive HACCP and GMP implementation certifications.

FOOD 501 FOOD SAFETY TOXICOLOGY

3 CREDITS

Study of toxic kinetics and toxic dynamics in consumption animals or plants; include dose response relationships, absorption, distribution, storage, biotransformation and elimination of toxicants. Emphasis in the study of natural toxins in animals, plants and fungi, toxics molds and mycotoxins, marine toxins in food, naturally occurring toxicants, toxicants forms during food processing, pesticides residues in food marine toxins in food, bacterial toxic genesis and evaluations of target organ toxicity.

FOOD 581 GRADUATE SEMINAR

1 CREDITS

Students will learn to write proposals about research topics. Topics to be considered for a project are as follows: design of risk assessment plan, application of new technology for the food industry, new efforts and advances of government agencies and private companies in the protection of food chain and food services, food science research, and local and international issues in food science. Students will present their proposals.

FOOD 603 COMPARATIVE FOOD & AGRICULTURE SYSTEMS

3 CREDITS

This course analyses the different pathways of food production systems. Include the European, Asian and American techniques for culture and production food. Emphasis in economic issues, soil, hydrologic and waste management systems of bioengineering for food productions. Include the study of cells and tissues techniques, aquaculture techniques processing with aseptic elements of processing.

FOOD 605 FOOD SAFETY DISEASE CONTROL

3 CREDITS

The food safety disease control course is aimed for students interested in the study of diseases from a population-based perspective. The course begins with an overview of globalization and epidemiology of foodborne diseases. The course will describe the biotic and abiotic factors that affect disease rates and the distribution of disease prevention. The course will also include up-to-date information and statistical analysis of emerging foodborne disease from around the world.

FOOD 606 FOOD PACKAGING AND PROCESSING

3 CREDITS

FOOD 606 covers important topics for the packaging and food processing. The course begins with the history of proper processing and packaging of food and regulators. Among the most important issues to be discussed are the different types of packages, packaging equipment, factors involved in the choice of package, aseptic packaging, shelf life studies, modified atmosphere packaging, active packaging for ecommerce and provisions, fasteners, seal integrity, tamper evidence. The course will also cover labeling and distribution issues including: automatic identification and data capture, graphic design printing, proper labeling and distribution. The combination of up-to-date topics will help students understand the importance of aseptic packaging and processing of food and techniques to ensure that kind of quality.

FOOD 607 FOOD SAFETY RISK ASSESSMENT

3 CREDITS

This course starts with the basic principles of risk assessment and where it fits in to the risk analysis process. It also looks at resource, strategy and communication issues that management face in risk assessment. In-depth focus on the applications of first hazard analysis and the identification of food safety hazards, as well as the emerging importance of risk assessment. Include risk assessment of food additive, food irradiation, animal drug residues, and food allergy response assessment, human health risk assessment of lead, arsenic and mercury in the human food chain.

FOOD 611 QUALITY MANAGEMENT IN THE FOOD

3 CREDITS

The course discusses hygienic practices, requirements for sanitation programs, and modern sanitation practices in food processing facilities. At the end of this course, students will have the knowledge to develop and maintain a sanitation program.

FOOD 691 GRADUATE PROJECT I

3 CREDITS

A supervised independent scientific project in food safety, food management or food science, leading to the completion of the master's requirement. The student will enroll in this course once his advisor gives authorization and has an approved proposal.

FOOD 692 GRADUATE PROJECT II

3 CREDITS

Continuation of a supervised independent project in food safety, food management or food science, leading to the completion of the master's requirement. The student will enroll in this course once his advisor gives authorization and has approved FOOD 691.

FOPE 800 PHILOSOPHY, LEISURE, QUALITY OF LIFE AND PHYSICAL EDUCATION

3 CREDITS

Philosophical analysis of physical education as a profession, its practices, the empirical basis that sustain them, and its range in the promotion of healthy and physically active lifestyles within the scope of reality of the beginning of the 21st century. Evaluation of the concept and the professional structure of physical education related to the development of healthy lifestyles and its components, the promotion of constructive use of leisure, the formation of a recreation behavior, leisure's problems and its implications for quality of life, and the development of programs and research that contribute to the development of the profession.

FOPE 801 HISTORICAL AND EMPIRICAL ANALYSIS OF PHYSICAL EDUCATION AT THE SCHOOL AND UNIVERSITY LEVELS

3 CREDITS

Evaluation of historical documentation, professional trends and research related to the development of physical education in Puerto Rico. The historical account will be an emphasis on school and University physical education in public and private sectors. There will be a review of research, published documents, theses and dissertations related to the history and development of physical education at school and University. In this way will be observed the different philosophical and research trends of physical education in Puerto Rico.

FOPE 802 MULTIDISCIPLINARY ANALYSIS OF PHYSICAL ACTIVITY IN SOCIETY

3 CREDITS

Analysis of the theoretical and empirical state of tools used by physical educators to train their students; the game, recreation, sport and physical fitness. Analyses the theories, research and biological, sociological, psychological, anthropological, educational and philosophical positions that are important in order to interpreted the role of the game, recreation, sport and physical activity in the formation and development of the individual and their impact on the quality of personal and social life.

HORT 401 INTRODUCTION TO HORTICULTURAL THERAPY

3 CREDITS

This course provides an initial look at horticultural therapy. It establishes the definition, theoretical bases, models, principles, clients and potential benefits of horticultural therapy. The therapeutic aspects of this practice and the psychological foundations to be considered as a practitioner will also be explored.

HORT 402 HORTICULTURAL THERAPY TECHNIQUES

3 CREDITS

This course covers the techniques used to determine the effectiveness of horticultural therapy when applied to a diverse client group. The different horticultural therapy modalities are presented, discussed and assessed with established professional metrics.

HORT 403 PROGRAMMING HORTICULTURAL THERAPY TECHNIQUES

3 CREDITS

This course covers the array of management methods and strategies utilized in a horticultural therapy program geared to providing clients with services to meet their diverse conditions and needs. The course covers funding, planning, organizing, and leading an effective organization.

HORT 404 PRACTICUM IN HORTICULTURAL THERAPY

3 CREDITS

This course consists of an internship in horticultural therapy that takes place in a professional setting where interns are supervised by a registered horticultural therapist who works closely with the intern to develop the knowledge, skills, and abilities necessary to provide effective horticultural therapy services.

MATH 121 INTERMEDIATE ALGEBRA

3 CREDITS

This course covers factorization of polynomials, linear inequalities, problem solving; absolute-value equations and inequalities; operations and simplifications with algebraic fractions; linear equation graphics, linear equations systems and solution methods; graphics, substitution and elimination. Topics include inequalities for two variables and rational exponentials, as well as solution of radical expressions, equations involving radicals, and quadratic inequalities. Emphasis is on problem-solving.

MATH 121L INTERMEDIATE ALGEBRA LAB

0 CREDITS

This course covers factorization of polynomials, linear inequalities, problem solving; absolute-value equations and inequalities; operations and simplifications with algebraic fractions; linear equation graphics, linear equations systems and solution methods; graphics, substitution and elimination. Topics include inequalities for two variables and rational exponentials, as well as solution of radical expressions, equations involving radicals, and quadratic inequalities. Emphasis is on problem-solving.

MATH 151 PRECALCULUS I

4 CREDITS

This is a preparatory course for differential and integral calculus in one variable. It is designed for students who plan to earn a degree in science, engineering, computer science and math education. The fundamental concepts to be studied in this course are equations and inequalities, systems of linear equations, functions (linear, absolute value, radical, quadratic and part-based), polynomial and rational functions, exponential and logarithmic functions.

MATH 151L PRECALCULUS I LAB

0 CREDITS

This is a compulsory laboratory, which aims to carry out activities complementary to those of the course. Tasks are designed to reinforce concepts and develop the skills needed to master the corresponding content. The set of activities of this laboratory envisages the study of the concept of function: from all its forms of representation; types of functions and their characteristics and properties; operations and applications.

MATH 152 PRECALCULUS II

4 CREDITS

This is a preparatory course for differential and integral calculus in one variable. It is designed for students who plan to earn a degree in science, mathematics, computer science, engineering, and math education. The fundamental concepts to be studied in this course are circular functions of angles, identities and trigonometric equations, applications of trigonometry, and conic sections.

MATH 152L PRECALCULUS II LAB

0 CREDITS

This is a compulsory laboratory that aims to carry out activities complementary to those of the course. Tasks are designed to reinforce concepts and develop the skills needed to master the corresponding content. The set of activities of this laboratory involves the study of circular functions of angles, identities and trigonometric equations, applications of trigonometry, and conical sections. This course is designed for students who plan to earn a degree in science, mathematics, computer science or engineering.

MATH 173 PLANE AND SPACE GEOMETRY I

3 CREDITS

This course centers on basic concepts of Euclidean Geometry including the straight line, angles, triangles, elementary constructions. It includes demonstrations using postulates, definitions, and theorems. Also included are the Theorem of Congruency, regular polygons, Pythagoras' Theorem, and its applications.

MATH 199 QUANTITATIVE METHODS I

3 CREDITS

Course for students of Business Administration School. Studies the following topics: Functions and their properties, linear and quadratic equations and its graph, linear inequalities, exponential and logarithmic functions, solution to systems of equations. Emphasis will be given to the applications.

MATH 201 BASIC STATISTICS

3 CREDITS

This course includes descriptive statistics topics such as: basic definitions, sampling techniques, frequency distributions and their graphical representations through histograms, line graphs, pie charts, warheads, bar graph, stem and leaf diagram. The measures of central tendency and dispersion are studied. Normal distribution of z values. The concept of simple linear regression and correlation is also included. The calculator and the computer are used responsibly to develop concepts and skills. Un semester y 3 horas de conferencia semanal.

MATH 221 CALCULUS I

4 CREDITS

This course is an introduction to differential and integral calculus in one variable with an emphasis on the process of derivation and integration of functions. It is designed for students planning to earn a degree in science, mathematics, computer science, or engineering. The fundamental concepts and skills to study and develop in this course include: limit, the derivative as a rate of change, derivatives of functions and techniques to calculate them, applications of the derivative, integration as the area under a curve or between curves in an interval, integration of functions and the Fundamental Theorem of Calculus.

MATH 221L CALCULUS I LAB

0 CREDITS

The fundamental purpose of this laboratory is to carry out activities complementary to those of the course. The set of activities of this laboratory pretend to develop conceptual mastery and operational skill in the management of the concepts and properties of differential and integral calculus in one variable. The fundamental concepts and skills to study and develop in this course include: limit, the derivative as a rate of change, derivatives of functions and techniques to calculate them, applications of the derivative, integration as the area under a curve or between curves in an interval, integration of functions and the Fundamental Theorem of Calculus.

MATH 222 CALCULUS II

4 CREDITS

The fundamental purpose of this course is to develop conceptual mastery and operational skill in the management of the concepts and properties of integral calculus; develop skill in the application of the integral and in the various integration techniques. In addition, develop conceptual and operational mastery of the concepts of sequences and series, and their analysis. This course is designed for students who plan to earn a degree in science, mathematics, computer science or engineering. The fundamental concepts and skills to study and develop in this course include integration techniques, defined integral applications and series analysis.

MATH 222L CALCULUS II LAB

0 CREDITS

The fundamental purpose of this laboratory is to carry out activities complementary to those of the course. The set of activities of this laboratory pretend to develop conceptual mastery and operational skill in the management of the concepts and properties of integral calculation; develop skill in the application of the integral and in the various integration techniques. In addition, develop conceptual and operational mastery of the concepts of successions and series, and their analysis. This course is designed for students who plan to earn a degree in science, mathematics, computer science or engineering. The fundamental concepts and skills to study and develop in this course include integration techniques, defined integral applications and series analysis.

MATH 223 CALCULUS III

4 CREDITS

The fundamental purpose of this course is to develop conceptual mastery and operational skill in the management of the concepts and properties of multivariable calculus. This course is designed for students who plan to earn a degree in science, mathematics, computer science or engineering. The fundamental concepts and skills to study and develop in this course include vectors and geometry of space, vector functions, partial derivatives, and multiple integrals.

MATH 304 BIOSTATISTICS

3 CREDITS

Study of theory, sampling methods, summarization and graphic representation of data. Measures of central tendencies, location and spread will be determined. Application of probability, combinations and permutations, probability distributions and the central limit theorem. Study of hypothesis testing, confidence intervals, T or Z test, correlations, linear regressions, Chi-square test, and variance analysis through cooperative learning, research projects, concept mapping, and oral presentations. One semester, 3 hours of lecture per week.

MATH 305 PROBABILITY STATISTICS I

3 CREDITS

The fundamental purpose of this course is to develop conceptual mastery and operational skill in the management of the concepts and properties of the analysis of theory and the application of probability and statistics, as well as its mathematical foundations. This course is designed for students who plan to earn a degree in science, mathematics, computer science or education specializing in mathematics. The fundamental concepts and skills to study and develop in this course include: probability theory, probability distributions and random variables, expected value, special probability distributions, sampling distributions, and statistical inference elements, that includes mean estimation and variance of a population.

MATH 322 ADVANCED MATH FOR ENGINEERS

4 CREDITS

This course will help to expand the math skills development by learning techniques in applied math such as linear algebra, integration, vectors and differential equations. Many physical laws and relations appear to be described by these techniques such as Work-Energy Theorem, Resistor Inductors and Capacitor Circuits, Simple Harmonic Motion and many others. The students will develop a strong math awareness to handle graduate studies in engineering.

MATH 340 DISCRETE METHODS

3 CREDITS

The course is designed primarily for science and education students majoring in mathematics. Topics include set theory, graph theory and combinational analysis as applied to computers. Group theory and Boolean algebra and their application to computers will also be discussed.

MATH 345 ABSTRACT ALGEBRA

3 CREDITS

This is an introductory abstract algebra course for students whose major is the teaching of mathematics at the secondary level. It includes the following topics: set theory, functions, binary operations, integers, groups, rings, integral domains, bodies, and polynomials.

MATH 350 LINEAR ALGEBRA

3 CREDITS

The fundamental purpose of this course is to develop conceptual mastery and operational skill in the management of the concepts and properties of linear equation systems, matrix, and vector spaces. This course is designed for students who plan to earn a degree in science, mathematics, computer science, engineering or education specializing in mathematics. The fundamental concepts and skills to study and develop in this course include homogeneous and non-homogeneous $n \times m$ linear systems, matrix operation, determinants, and vector spaces.

MATH 384 PROBABILITY STATISTICS I

3 CREDITS

Fundamentals of descriptive statistics; definitions and applications of the basic concepts of statistics. Measures of central tendency and dispersion, tables and graphs for representing data. Elements of probability, probability distributions and elementary theorems of conditional probability. Emphasis on the use of graphic calculator.

MATH 395 DIFFERENTIAL EQUATIONS

3 CREDITS

The fundamental purpose of this course is to develop conceptual mastery and operational skill in the management of concepts related to ordinary differential equations. This course is designed for students who plan to earn a degree in science, mathematics, computer science or engineering. The fundamental concepts and skills to study and develop in this course include ordinary first and second order differential equations as well as some special cases of higher order. It is emphasized in applications in physics, chemistry, and engineering.

MATH 510 APPLIED BIOSTATISTICS

3 CREDITS

Application of statistical processes in the biomedical sciences. The course presenting topics in descriptive and inferential statistics such as measures of central tendency, dispersion and position, probability theory, probability distributions, estimation and sample size, hypothesis testing, inference from two samples, principles of correlation and regression analysis, issues of descriptive and inferential statistics such as presented variance and non-parametric statistics. Emphasis on understanding and application skills. Technology and information resources should be use in a responsible way. The course consists of three (3) credits and thee (3) hours of lecture per week

MTEC 400 INTRODUCTION TO CLINICAL LABORATORY ADMINISTRATION AND BIOETHICS

2 CREDITS

This course will learn important concepts developed for the administration and supervision of clinical laboratories. It will emphasize the financial aspects, state and federal regulations, security, and tools to work together, with the public and special situations, ethics, statistical calculations and reporting of results. Also developed techniques for working aspects of education in their area of work.

MTEC 401 CLINICAL LABORATORY INSTRUMENTATION, METHODOLOGIES AND MOLECULAR TECHNIQUES

2 CREDITS

This course is intended to discuss and explain the appropriate use of clinical laboratory materials, supplements and equipment, and their relationship to the proper management of clinical samples in accordance with Universal Safety Precautions. Emphasis is placed on the discussion and diagnostic importance of clinical procedures, instruments and molecular tests used for clinical analysis. Basic concepts of calibration and validation of equipment are taught. Mathematical and Quality Assurance principles and processes needed to obtain reliable results that help in the diagnosis of diseases.

MTEC 402 CLINICAL PARASIT CL VIROLOGY

2 CREDITS

The course presents the techniques used for identifying parasites through clinical laboratory methods. It makes emphasis in the sample's analysis, handling, and processing. Studies parasite's life cycle and how it spreads. Methods and procedures for virus isolation, diagnosis and control for disease prevention, and clinical significance are presented. The importance of molecular techniques in the diagnosis of diseases caused by viruses or parasites will be discussed.

MTEC 403 CLINICAL PARASITOLOGY AND CLINICAL VIROLOGY

1 CREDIT

The student will practice in the area of parasitology the management, analysis, identification and report important results for a medical diagnosis. Emphasis will be placed on control and quality assurance in the clinical laboratory. The possible molecular techniques for the identification of parasites will be discussed. The student will practice in the area of parasitology the management, analysis, identification and report important results for a medical diagnosis. Emphasis will be placed on control and quality assurance in the clinical laboratory. The possible molecular techniques for the identification of parasites will be discussed.

MTEC 404 CLINICAL MYCOLOGY

1 CREDIT

This course is designed for the student to learn about the taxonomy, morphology, and pathogenesis of fungi. The procedures used to isolate and identify human-related pathogenic fungi will be discussed. Emphasis will be placed on clinical symptoms, treatment and epidemiology. Molecular tests and their importance in the identification of fungi will be presented.

MTEC 405 CLINICAL LABORATORY PRACTICE - MICROBIOLOGY

4 CREDITS

The clinical rotation in microbiology provide the student the experience of using a variety of techniques to identify pathogens, including cultivation and isolation, direct examination, serology and the use of automated equipment. The student will also learn various staining procedures and will be trained in the correct procedure for interpreting studies of bacterial susceptibility. Emphasis on control and quality assurance in the clinical laboratory is made.

MTEC 406 CLINICAL HEMATOLOGY AND HEMOSTASIS

4 CREDITS

This course studies of blood cells in normal and abnormal conditions. Students will be instructed in the theory and practical application of hematology procedures including quality control, quality assurance, safety, manual methods and / or automated. Sequences maturation of blood cells is discussed. Normal morphology and abnormal morphology related illness will be appreciated. Theme coagulation procedures and practical applications will be presented. Includes laboratory exercises based on commonly performed manual and semiautomatic methods. This course studies blood cells under normal and abnormal conditions. Students will be instructed in the theory and practical application of hematology procedures including quality control, quality assurance, safety, manual and/or automated methods. Maturation of blood cell sequences is discussed. Normal morphology and abnormal morphology related to the disease will be appreciated. Thematic coagulation procedures and practical applications will be presented. It includes laboratory exercises based on the most common manual and semiautomatic methods.

MTEC 406L CLINICAL HEMATOLOGY AND HEMOSTASIS LAB

0 CREDITS

The course provides students with the practical application of routine and special hematology procedures, both manual and automated, for red blood cells and white blood cells. The sequence of maturation of the cells, their morphology and their anomalies will be discussed. It will include the practice of techniques in the area of coagulation and how they relate to various health conditions. The course provides students with the practical application of routine and special hematological procedures, both manual and automated, for red and white blood cells. The maturation sequence of cells, their morphology and abnormalities will be discussed. It will include the practice of techniques in the area of coagulation and how they relate to various health conditions.

MTEC 407 CLINICAL LABORATORY PRACTICE - HEMATOLOGY

4 CREDITS

Rotation Hematology is the study of the blood and particularly its cellular components. Students begin their rotation familiar with the operation and theory of automated instrumentation. Emphasis is placed on the identification of white blood cells and the evaluation of the morphology of red blood cells by conducting differential manuals. Proper identification is essential for the accurate diagnosis of leukemia, anemia and infections. Instruments coagulation and coagulation tests are also studied. Students will practice in the areas of hematology and coagulation and acquire the skills needed to work in this area laboratory.

MTEC 408 CLINICAL IMMUNOLOGY AND CLINICAL SEROLOGY

3 CREDITS

This course includes the science of immunology and serology through the study of theories and processes related to the body's natural defenses. They include the immune response, the principles of antigen-antibody reactions, and the principles of serological procedures, as well as quality control, quality assurance and safety. Serological procedures used to assist in the detection or diagnosis of certain diseases will be presented. Emphasis will be given to the correlation of laboratory results with probable patient conditions. The student will perform basic techniques that apply to the area of immunology and serology.

MTEC 408L CLINICAL IMMUNOLOGY AND CLINICAL SEROLOGY LAB

0 CREDITS

This laboratory includes the performance of serological procedures used to help in the detection or diagnosis of certain diseases. Emphasis will be placed on the correlation of laboratory results with probable patient conditions.

MTEC 409 CLINICAL LABORATORY PRACTICE - SEROLOGY

1 CREDIT

In this practice rotation the student will learn the serological procedures currently used in the diagnosis of conditions. Emphasis will be placed on the importance of handling the equipment used to perform the samples, quality control and safety in the clinical laboratory. The student will have the opportunity to work with automated equipment that performs special tests and information systems in the clinical laboratory.

MTEC 410 CLINICAL CHEMISTRY

4 CREDITS

The student will learn about Clinical Biochemistry procedures and their clinical importance in medicine, with special attention in the following areas: electrolytes, base acid balance, carbohydrates, proteins, lipids, lipoproteins, diseases, enzymes, steroids, liver function, iron function, hemoglobin and porphyrins. Monitoring conditions such as Diabetes Mellitus, thyroid, kidney function, pregnancy and drugs will be presented in this course. The importance of quality assurance, method evaluation, and the establishment of benchmarks will be discussed. The student will have the opportunity to conduct class-related practice labs.

MTEC 411 CLINICAL LABORATORY PRACTICE - CLINICAL CHEMISTRY

4 CREDITS

Rotation in the Clinical Chemistry area is a health-related learning experience that allows the student to apply specialized theory of work, skills and concepts. Students will work with a variety of automated and semi- automated procedures, testing, safety, quality assurance in the clinical laboratory, and everything related to clinical laboratory work. A clinical professional provides direct supervision.

MTEC 412 STUDY AND ANALYSIS OF BODY FLUIDS AND URINE ANALYSIS

1 CREDIT

This course explains the basic concepts related to the physiology of the kidney and other body fluids. Students will learn the principles and procedures for physico-chemical and microscopic analysis of urine, feces and other bodily fluids, will know urinary tract diseases, hereditary diseases and metabolic diseases. Emphasis is placed on the comparison of normal and pathogenic samples. They will use methods and equipment to learn how to identify toxic products in the urine. They will work using quality control and safety in the clinical laboratory.

MTEC 413 CLINICAL LABORATORY PRACTICE - BODY FLUIDS AND URINE ANALYSIS

1 CREDIT

Students will learn about the physical, chemical, and microscopic characteristics of urine samples. Emphasis will be placed on the procedures of macroscopic analysis of urine and microscopic analysis. The students will work on the automated instruments of the clinical area of urinalysis and additional will process other corporal fluids that are worked in this area.

MTEC 414 CLINICAL BACTERIOLOGY

4 CREDITS

This course presents the bacterial nomenclature and pathogens in man. Developing skills for taking samples, handling and preservation is Emphasized. Students will identify the morphological Characteristics of pathogens and know the culture media used in the tests of identification. Biochemical and immunological microorganisms' ideas importance of clinical and molecular tests for identifying bacteria tests are performed. Discussion of molecular tests for the diagnosis of infectious diseases.

MTEC 414L CLINICAL BACTERIOLOGY LAB

0 CREDITS

In this laboratory students will apply the theory learned about the pathogenesis of microorganisms. Emphasis will be placed on collection, handling, quality control, identification, susceptibility testing, automated testing, and reporting of results. The usefulness of molecular samples and their importance in the early diagnosis of infectious diseases will be demonstrated.

MTEC 415 CLINICAL LABORATORY PRACTICE - BLOOD BANK

3 CREDITS

This rotation in the area of blood bank will provide the student with experiences in previous transfusion testing, including ABO and Rh testing, antibody detection, compatibility tests and procedures used in the identification of irregular antibodies. The student will be evaluated by strangers for identification purposes. Reactions to transfusion, ABO discrepancies and release of blood in emergency situations will be covered in this practice.

MTEC 416 CLINICAL LABORATORY PRACTICE - CASE STUDIES OF CLINICAL LABORATORY

1 CREDIT

In this practice the practical and theoretical concepts of the profession of medical technologist explains. It will emphasize on case studies related to the profession. The student will submit a draft of current interest related to the profession. Topics related to this project include the methods of literature research, teamwork, evaluation of the impact on clinical outcomes and the analysis and implementation of clinical applications.

MTEC 417 IMMUNOHEMATOLOGY

3 CREDITS

In this course, the student will learn about the study of blood groups, components used in a transfusion, their collection and storage of these. It includes the use of each of the components according to the patient condition. Includes discussion and investigation of adverse reactions to transfusion. It encompasses the HLA System and its clinical significance, newborn hemolytic anemia and autoimmune conditions, among others. The ethical and medical legal aspects in transfusion services will be emphasized. The student will practice in the laboratory area some of the functions performed by the Medical Technologist in the blood bank.

MTEC 417L IMMUNOHEMATOLOGY LABORATORY

0 CREDITS

In this laboratory, the student will practice routine blood bank procedures, including blood type and Rh, antibody detection tests, antibody identification, cross-checking, elution, and absorption techniques. Safety and quality assurance procedures in the blood bank laboratory are discussed.

OPSC 100 MATHEMATICS FOR OPTICS AND PHOTONICS

3 CREDITS

In this course the student reviews and develops the mathematics skills required for the Associate in Engineering Technology in Photonics and Lasers Degree. To help aspiring photonics technicians begin their studies with adequate math skills, this course pulls together topics in algebra, geometry, trigonometry, usage of physical units, and phasors, and applies those to specific, real-world optics and photonics scenarios. At the same time, the student becomes acquainted with terminology used to describe electromagnetic waves, electromagnetic energy, and laser and optical fiber systems.

OPSC 101 FUNDAMENTALS OF LIGHTS AND LASER

5 CREDITS

Fundamentals of Light and Lasers is the introductory course in the Associate in Engineering Technology in Photonics and Lasers Degree, and consists of a comprehensive study of photonics that provides the foundation required to prepare technicians in the areas of optics, electro-optics, lasers, and photonics. In this course, students will learn the basic physical principles of optics (geometric and physical optics) and in the lab they will develop the skills required to properly handle optical devices and components and to safely and efficiently manipulate laser beams.

OPSC 102 LASER SYSTEMS AND APPLICATIONS I

4 CREDITS

This is the first of two courses in the Associate in Engineering Technology in Photonics and Lasers Degree covering more advanced concepts in photonics and the operating principles, output characteristics, diagnostics, and applications for the most widely used laser types. These are described and classified according to their active medium, output wavelength, and applications. The lecture and lab will cover specific types of lasers such as diode-pumped Nd:YAG lasers, carbon dioxide (CO₂) lasers, and fiber lasers.

OPSC 103 LASER SYSTEMS AND APPLICATIONS II

4 CREDITS

This is the first of two courses in the Associate in Engineering Technology in Photonics and Lasers Degree covering more advanced concepts in photonics and the operating principles, output characteristics, diagnostics, and applications for the most widely used laser types. These are described and classified according to their active medium, output wavelength, and applications. The lecture and lab will cover specific types of lasers such as diode-pumped Nd:YAG lasers, carbon dioxide (CO₂) lasers, and fiber lasers.

OPSC 104 PHOTONICS ENABLED TECHNOLOGIES

3 CREDITS

This course on Photonics Enabled Technologies broadens the scope of Associate in Engineering Technology in Photonics and Lasers Degree by providing the student with specific applications of optics and photonics to industry related fields. As such, the student will have the opportunity to learn about specific optical and laser systems and their integration to measurement and manufacturing techniques. The laboratory component will provide the required practical experience for each of these technologies. The specific applications to be studied are: holography, fiber optics, microscopy, optical coatings, and lasers in manufacturing.

OPSC 110 ELECTRONICS FOR OPTICS AND PHOTONICS I

5 CREDITS

Electronics for Optics and Photonics I is the first of two courses that provide basic coverage of electricity and electronics fundamentals. This first part provides the student with an understanding of the basics of DC circuit theory and laboratory practice, including basic electrical concepts, electronic components, basic laws, and the use of measuring devices. It also introduces the student to the industry-standard Multisim simulation environment and the LabVIEW development environment.

OPSC 111 ELECTRONICS FOR OPTICS AND PHOTONICS II

5 CREDITS

Electronics for Optics and Photonics II is the second of two courses that provide basic coverage of electricity and electronics fundamentals. This second course provides the student with an understanding of the basics of AC circuit theory and practice, including the use of resistors, capacitors, inductors, transformers, diodes, transistors, and operational amplifiers. In the laboratory, students will learn to assemble basic AC circuits and analyze them using the industry-standard Multisim simulation environment and the LabVIEW development environment.

OPSC 120 INDUSTRY TECHNICAL INTERSHIP

5 CREDITS

During the Industry Technical Internship, students will have a real-world full-time technical experience with a company or institution in areas where optics and photonics are enabling technologies. Students will acquire technical experience and skills in a manufacturing, industrial, or research setting. This internship will also give the students feedback on their strengths and weaknesses working in an environment that requires teamwork, respect for authority and experience, and cooperation. Students will be given an opportunity to hone their “soft skills”, and in so doing be better prepared for paying careers when they graduate. The coordination with the internship center will be done through the faculty assigned to this course. In addition, the student will have a mentor at the company where he/she performs the internship. The mentor’s input will be part of the evaluation process of the course.

OPSC 201 FIBER OPTIC COMMUNICATIONS

3 CREDITS

This course on Fiber Optics broadens the scope of the Associate in Engineering Technology in Photonics and Lasers Degree by discussing specific applications of optics and photonics in fiber-optic communications. As such, it imparts the skills and theory necessary for someone to work in this field by providing a general understanding of optical fiber installation, connectorization, splicing, testing and troubleshooting. It also familiarizes the student with elements of fiber optics, including optical fibers, connectors, splice performance, end face evaluation, optical loss testing, and installation requirements as specified by the Telecommunications Industry Association (TIA), International Telecommunication Union (ITU) and National Electrical Code standards.

PHOP 255 WATER PURIFICATION AND TREATMENT SYSTEMS IN PHARMACEUTICAL & CHEMICAL PROCESSES

3 CREDITS

The course covers the major aspects related to high purity water systems in the chemical, and pharmaceutical industries. Emphasis will be in equipment set-up and maintenance, multimedia filtration, chlorination, softening, carbon adsorption, filtration, distillation, storage and distribution, steam in place.

PHSC 101 PHYSICAL SCIENCE

3 CREDITS

This course will consist of 3 hours weekly and contains the study at elementary level of mechanical, thermal and sound phenomena and will serve as it bases for the interpretation of the surrounding world and its practical applications. The approach of the course is characterized essentially for being inductive-deductive. In the analysis of the physical phenomena the qualitative one must prevail sometimes and, when be prudent, the quantitative one. The professor will use diverse strategies in classes like conferences, group discussion of information presented/displayed by individual students and discussions. It would be possible to be brought subjects that are not in the course and each student will discuss thorough this subject. When showing the concepts must lean in experimental demonstrations and the computerized technology must be used. The use of the computers in the classroom will allow: Accomplishment of experiments with mathematical models Automatization of physical experiments Problems would be solving using systems of equations no more than two equations, referred to the fundamental physical laws and some elements of trigonometry.

PHSC 102 PHYSICAL SCIENCE

3 CREDITS

This course will consist of 3 hours weekly and contains the study at elementary level of electrical, magnetic and luminous phenomena and will serve as it bases for the interpretation of the surrounding world and its practical applications. The approach of the course is characterized essentially for being inductive-deductive. In the analysis of the physical phenomena the qualitative one must prevail sometimes and, when be prudent, the quantitative one. The professor will use diverse strategies in classes like conferences, group discussion of information presented/displayed by individual students and discussions. It would be possible to be brought subjects that are not in the course and each student will discuss thorough this subject. When showing the concepts must lean in experimental demonstrations and the computerized technology must be used. The use of the computers in the classroom will allow: Accomplishment of experiments with mathematical models Automatization of physical experiments Problems would be solving using systems of equations no more than two equations, referred to the fundamental physical laws and some elements of trigonometry.

PHSC 201 GENERAL PHYSICS FOR HEALTH SCIENCES

4 CREDITS

A study of the properties and laws of motion, work, energy, heat and temperature, electricity and magnetism, sound and ultrasound, optics and vision. Clinical applications of gas pressure and flow laws. Nuclear radiation, X- ray and laser and their application to contemporary medicine. In the laboratory, emphasis is given to the application of the principles covered in the lecture related to the health science.

PHSC 203 GENERAL PHYSICS I

4 CREDITS

The course provides skills to understand the world that surrounds the student. The student will learn to explain physical phenomena and will discover principles and laws that have connections with other disciplines and apply to analog phenomena and broader situations. This way, he will recognize the broad scope of Physics. For this, the student will strengthen the correct use of the language of the discipline, perform cooperative experiments where will manipulate instruments and take measurements that will report clearly and precisely. Topics are covered in sequential manner, integrating an inductive and deductive format. The applications cover from the simple free fall to orbiting satellites, based on the laws of movement and their relationship with energy. Slightly emphasis is given on integral calculus. Student will be evaluated with a variety of instruments, in class as well as online Course.

PHSC 203L GENERAL PHYSICS I LAB

0 CREDITS

The course provides skills to understand the world that surrounds the student. The student will learn to explain physical phenomena and will discover principles and laws that have connections with other disciplines and apply to analog phenomena and broader situations. This way, he will recognize the broad scope of Physics. For this, the student will strengthen the correct use of the language of the discipline, perform cooperative experiments where will manipulate instruments and take measurements that will report clearly and precisely. Topics are covered in sequential manner, integrating an inductive and deductive format. The applications cover from the simple free fall to orbiting satellites, based on the laws of movement and their relation with energy. Slightly emphasis is given on integral calculus. Student will be evaluated with a variety of instruments, in class as well as online Course.

PHSC 204 GENERAL PHYSICS II

4 CREDITS

The course contains concepts, physical amounts and laws to interpret and to describe to the electromagnetic processes in the nature and the technique, as well as the fundamental characteristics of the waves (mechanical and luminous), presenting with a mathematical level of depth of differentials variations: derive and integration. Algebra and trigonometry will be used with amplitude, as well as the calculations with vectoral amounts. The differential calculus will be used with potential, sine, cosine and exponential functions. The laws of electromagnetism will appear in their integral form, but the situations to solve will be with fields of high symmetry (variant of the cases seen in classes).

PHSC 204L GENERAL PHYSICS II LAB

0 CREDITS

The course contains concepts, physical amounts and laws to interpret and to describe to the electromagnetic processes in the nature and the technique, as well as the fundamental characteristics of the waves (mechanical and luminous), presenting with a mathematical level of depth of differentials variations: derive and integration. Algebra and trigonometry will be used with amplitude, as well as the calculations with vectoral amounts. The differential calculus will be used with potential, sine, cosine and exponential functions. The laws of electromagnetism will appear in their integral form, but the situations to solve will be with fields of high symmetry (variant of the cases seen in classes).

PHSC 215 PHYSICS FOR ENGINEERING I

4 CREDITS

The course Physics for Engineering I provides skills to explain the world that surrounds the student. The student will discover principles and laws that have connection with other discipline and apply to analog phenomena and broader situation. This way, he will recognize the broad scope of Physics. The student will strengthen the correct use of the language of the discipline, perform cooperative experiment where they will manipulate instruments and take measurements that will report clearly and precisely. Topics are covered in sequential manner, integrating inductive and deductive format. The course contains concepts, physical amounts, and laws to interpret and to describe the mechanical movement of the bodies (Oscillations included) from the analysis of its interactions, as well as their thermal interchanges, presented everything with a mathematical level of depth of differentials variations: derived and integral. Algebra and trigonometry will be used with amplitude, as well as the work with vectorial amounts. The integral derived ones and from potential, exponential, sine, and cosine functions will be used so much in the theoretical analysis in classes, like problems that should be solve by students.). Emphasis will be placed on the development of the main knowledge, skills, and abilities of critical thinking through the resolution of both theoretical and experimental problems that allow the student to evaluate and propose solutions to them based on scientific reasoning. Competences related to communication and technology will be developed.

PHSC 215L PHYSICS FOR ENGINEERING I LAB

0 CREDITS

The course Physics for Engineering I provides skills to explain the world that surrounds the student. The student will discover principles and laws that have connection with other discipline and apply to analog phenomena and broader situation. This way, he will recognize the broad scope of Physics. The student will strengthen the correct use of the language of the discipline, perform cooperative experiment where they will manipulate instruments and take measurements that will report clearly and precisely. Topics are covered in sequential manner, integrating inductive and deductive format. The course contains concepts, physical amounts, and laws to interpret and to describe the mechanical movement of the bodies (Oscillations included) from the analysis of its interactions, as well as their thermal interchanges, presented everything with a mathematical level of depth of differentials variations: derived and integral. Algebra and trigonometry will be used with amplitude, as well as the work with vectorial amounts. The integral derived ones and from potential, exponential, sine, and cosine functions will be used so much in the theoretical analysis in classes, like problems that should be solve by students.). Emphasis will be placed on the development of the main knowledge, skills, and abilities of critical thinking through the resolution of both theoretical and experimental problems that allow the student to evaluate and propose solutions to them based on scientific reasoning. Competences related to communication and technology will be developed.

PHSC 216 PHYSICS FOR ENGINEERING II

4 CREDITS

The course Physics for Engineering II provides skills to explain the world that surrounds the student. The student will discover principles and laws that have connection with other discipline and apply to analog phenomena and broader situation. This way, he will recognize the broad scope of Physics. The student will strengthen the correct use of the language of the discipline, perform cooperative experiment where they will manipulate instruments and take measurements that will report clearly and precisely. Topics are covered in sequential manner, integrating inductive and deductive format. The course contains concepts, physical amounts, and laws to interpret and to describe to the electromagnetic processes in the nature and the technique, as well as the fundamental characteristics of the waves (mechanical and luminous), presenting with a mathematical level of depth of differentials variations: derive and integration. Algebra and trigonometry will be used with amplitude, as well as the calculations with vectorial amounts. The differential calculus will be used with potential, sine, cosine, and exponential functions. The laws of electromagnetism will appear in their integral form, but the situations to solve will be with fields of high symmetry (variant of the cases seen in classes). Emphasis will be placed on the development of the main knowledge, skills, and abilities of critical thinking through the resolution of both theoretical and experimental problems that allow the student to evaluate and propose solutions to them based on scientific reasoning. Competences related to communication and technology will be developed.

PHSC 216L PHYSICS FOR ENGINEERING II LAB

0 CREDITS

The course Physics for Engineering II provides skills to explain the world that surrounds the student. The student will discover principles and laws that have connection with other discipline and apply to analog phenomena and broader situation. This way, he will recognize the broad scope of Physics. The student will strengthen the correct use of the language of the discipline, perform cooperative experiment where they will manipulate instruments and take measurements that will report clearly and precisely. Topics are covered in sequential manner, integrating inductive and deductive format. The course contains concepts, physical amounts, and laws to interpret and to describe to the electromagnetic processes in the nature and the technique, as well as the fundamental characteristics of the waves (mechanical and luminous), presenting with a mathematical level of depth of differentials variations: derive and integration. Algebra and trigonometry will be used with amplitude, as well as the calculations with vectorial amounts. The differential calculus will be used with potential, sine, cosine, and exponential functions. The laws of electromagnetism will appear in their integral form, but the situations to solve will be with fields of high symmetry (variant of the cases seen in classes). Emphasis will be placed on the development of the main knowledge, skills, and abilities of critical thinking through the resolution of both theoretical and experimental problems that allow the student to evaluate and propose solutions to them based on scientific reasoning. Competences related to communication and technology will be developed.

PHSC 228 ENGINEERING AND AERONAUTICAL PHYSICS

3 CREDITS

This course provides the student with knowledge about the physical world that surrounds him and its application to aviation. You will understand the principles of aerodynamics and you will know laws that explain why these phenomena occur and how these laws apply to current aviation. In this way you will have a look at the wide scope of physics. For this you will strengthen your knowledge of the language of the discipline, through demonstrations and analysis of experimental data. Topics are covered revealing applications of the laws of physics to the case of particle motion, fluids, aerodynamics, and concepts of energy in particles that involve applications of electrical charges and interactions between them, through which some physicochemical properties can be explained. Of the matter.

PHSC 359 MODERN PHYSICS

4 CREDITS

It's an introduction to the fundamentals of modern physics, including Relativity, Blackbody Radiation, Photoelectric Effect, Compton Effect, The Atom, De Broglie Postulates, Particle Diffraction, Heisenberg Principle, Atomic Physics, Quantum Mechanics, Statistical Physics, Ionic, Covalent and Metallic Bonding, Van der Waals interactions, Molecules, Crystals, Mechanism of Conduction in Metals, Diffusion, Particle Scattering, Nuclear Physics, and Computational Chemistry. We will see how scientific theories evolve and depend on an interaction between theoretical reasoning and experimental measurement. We analyze how the main experimental discoveries of the time stimulated the development of new theories to understand them. This course establishes the general knowledge bases for Physical Chemistry II (CHEM 464).

PHSC 359L MODERN PHYSICS LABORATORY

0 CREDIT

We will reproduce experiments carried out after 1890 that transcendentally changed classical physics. Several of these experiments were the origin of quantum mechanics and many other technologies that we use today in medicine and engineering. The proposed experiments are Measurement of the speed of light, Young's Experiment-Interference and diffraction, Michelson-Morley interferometer, Blackbody radiation, Photoelectric effect, Measurement of the mass of the electron, Measurement of the e/m ratio for the electron, Emission of the hydrogen spectrum and the Frank-Hertz experiment.

PTTE 200 INTERSHIP IN TECHNOLOGY

2 CREDITS

Work in an industry minimum of 90 hours to acquire technical experience in the scientific area of the laboratory. Observe several presentations related to Good Manufacturing Practices (GMPs), incorrect practices in the industry and aseptic techniques in microbiological sampling. Prepare a PPT presentation related to the GMPs, aseptic techniques and determine incorrect practices in the industry.

REPR 650 RESEARCH PROJECT I

1 CREDIT

In this course, the student will develop a proposal for a research project that must be approved by his mentor and the School of Sciences and Technology. Upon proposal approval, the student must complete the appropriate documents and certifications (attend biosafety workshops, online compliance certifications, and filled out required documents) necessary to submit the research project to the AGMUS Compliance Office. The number of hours devoted to the course shall be established between the student and the mentor.

REPR 651 RESEARCH PROJECT II

1 CREDIT

The course involves a graduate research experience under the direct supervision of a mentor. Upon completion of the proposed research project, the student shall have at least two presentations (oral, poster or in combination) and a manuscript submitted to a peer-reviewed scientific journal. The number of hours devoted to the course shall be established between the student and the mentor.

SEMN 500 TECHNICAL WRITING AND SCIENTIFIC ARTICLES

1 CREDIT

The seminar explores the theoretical foundations required for scientific writing. It also evaluates the requirements described on various style manuals approved by the scientific communities. The students will analyze all required sections of a scientific paper. The course will also help the student in developing new trends in style and apply them to a print publication or digital. The student will develop the skills to write with precision, clarity and brevity the results of a research project. In the course, all concepts will be developed using responsibly technology, information skills, problem solving, case studies, research using the computer and virtual forums, among others. The course consists of one (1) credit and one (1) hour of lecture per week.

SEMN 501 FOUNDATIONS OF THE TRANSDISCIPLINARY APPROACH IN THE INVESTIGATIVE PROCESS

1 CREDIT

This seminar explores the theoretical foundations needed to understand and implement experimental designs with quantitative, qualitative or mixed investigation approaches. It also focuses on studying the basic steps used in the development of a research proposal. The students will analyze the traditional designs with multi, inter and transdisciplinary approximations within the field of Biomedical Sciences. The course concepts will be developed using the available technological resources, skills of information, case study, research in computer and virtual discussion forums, among others. The course consists of one (1) credit and one (1) hour of lecture per week.

SEMN 502 MANAGEMENT ASPECTS IN THE BIOMEDICAL SCIENCES

1 CREDIT

This seminar integrates the quality management and administrative functions with the Biomedical Sciences. The students will analyze the interaction between business components and scientific knowledge to optimize management in its various modalities. The course focuses in the managerial competencies for the development of a professional scientist able to launch and sustain a cost- effective business. The course concepts will be developed using the available technological resources, skills of information, case study, research in computer and virtual discussion forums, among others. The course consists of one (1) and one (1) hour of lecture per week.

TOPA 800 PRINCIPLES OF TOXICOLOGY AND PHARMACOLOGY

4 CREDITS

Study of the fundamental principles and integration of pharmacology and toxicology with an emphasis on the toxic or therapeutic effects of xenobiotics and drugs on human health. The process of exposure, absorption, distribution, biotransformation and excretion of toxic substances in the body is discussed and demonstrated in depth. Exercises on the dose response ratio and mechanisms of action of chemical agents are described and presented. Safety or risk assessment analysis due to exposure to chemical agents are introduced. The course discusses the multiple occupations that are integrated into the disciplines of pharmacology and toxicology and demonstrate their importance in society. The course will be developed through conferences, case study, and text chapter discussion.

TOPA 810 ETHICS AND RESPONSIBLE CONDUCT IN BIOMEDICAL RESEARCH

3 CREDITS

The course introduces doctoral students to the key concepts, principles, debates and legal regulations of research ethics and professional conduct. The purpose is to enable doctoral students to correctly identify ethical risks in research and to apply ethical concepts to research projects, as well as to professional conduct. In addition, the doctoral students will gain skills that will increase their ability to conduct responsible conduct of research through the research planning phase, while conducting research, and during the reporting and reviewing research phase. In addition to the theoretical content, students must complete the IBC and RCR certifications offered by the Compliance Office at UAGM.

TOPA 820 PHARMACEUTICAL MICROBIOLOGY

3 CREDITS

Pharmaceutical microbiology is a branch of microbiology that involves the study of microorganisms related with the generation of pharmaceuticals products. This course is a general study of microbiology that will introduce students to the fundamental biology of bacteria, fungi, protozoa and viruses, and its relevance to pharmacy. The content will emphasize in the understanding the treatment and prevention of infectious diseases, antibiotic resistance development, as well as the relevance to discovery of new biological drugs and human health. The students will learn the importance of use microorganisms in pharmaceutical industry to produce antibiotics, vaccines, and immunological products. Also, the students will be introduced to diagnostic tests and assays in which microorganisms, or their products are major constituent in them. The course is designed to prepare students for advanced study in microbiology, pharmacology, and the health sciences. In addition, the course will help students be able to make knowledgeable decisions, when events in which microbiological organism impact our daily life.

TOPA 830 ANATOMY & PATHOPHYSIOLOGY

3 CREDITS

This course is aimed at discussing the basic concepts and processes of anatomy and pathology of the human body. Anatomy is the science that studies the structures of the body and the pathophysiology studies the diseases associated with the body's systems. General concepts of the body's anatomy are discussed to provide introduction of pathological or duck-physiology conditions of the immune, nervous, endocrine, reproductive, circulatory, respiratory, digestive, renal, tegumentary, musculoskeletal systems. Knowledge of anatomy and duck physiology will give the student in Toxicology and Pharmacology, the basis for understanding how exogenous substances or drugs generate an effect on the human body.

TOPA 850 CLINICAL AND THERAPEUTIC PHARMACOLOGY

3 CREDITS

This course will discuss the fundamental concepts of pharmacology and pharmacotherapy and its applicability to clinical scenarios of multiple conditions. Changes produced by drugs in the body, their mechanisms of action, indications, and adverse mechanisms, contraindications and toxicity will be discussed. Tools will be provided to select from the most widely used drugs under predominant chronic conditions. Efficacy as well as systemic side effects are evaluated.

TOPA 860 APPLIED BIOSTATISTICS

3 CREDITS

Study and application of quantitative research and its scope in the fields of Toxicology and Pharmacology. The course presents statistical methods applicable to the type of data and objectives relevant to biomedical science disciplines. It examines the paradigms, premises and theories that underpin quantitative research, its data collection and analysis strategies. Statistical correlation analysis and hypothesis testing are emphasized. These include sampling models and techniques (Probabilistic and Non-Probabilistic), determination of sample size, inferential statistic, and internal and external validity. The writing of research reports is also included, emphasizing the required mathematical language. Also, this course will present the use of computers to perform statistical analysis.

TOPA 890 RISK ASSESSMENT IN TOXICOLOGY & PHARMACOLOGY

3 CREDITS

Human health risk assessment deals with the process to determine if possible adverse effects can result from exposure to environmental or medicinal substances. Understanding risk assessment as a method to determine health hazards is fundamental in the fields of toxicology and pharmacology. In pharmacology risk assessment relates to safety pharmacology where the potential undesirable pharmacodynamic effects of a substance on physiological functions is determined. The course will provide analytical and quantitative risk assessments methods to assess how chemical substances as well as medicinal agents can introduce health risks, and their short and long term effects. Concepts of safety pharmacology focused on investigating the potential undesirable pharmacodynamic effects of a substance are discussed and applied. In terms of pharmacological impact students will learn how risk assessment as well as safety pharmacology can protect patients participating in preclinical studies. Risk assessment as well as safety pharmacology rely on standardized methods to determine the safety of substances that are present in our daily lives as well as potential medicinal substances. The standardized method including determination of exposure, effects and long-term consequences will be covered in depth and applied by students in the course. The student will learn the importance of applying current scientific literature as well as validated data sets to determine the health risk of chemical and potential medicinal agents on humans. Additionally, the course will discuss and provide tools necessary to communicate to the public the results of the risk assessment.

TOPA 900 EPIDEMIOLOGY AND PUBLIC HEALTH

3 CREDITS

The course is aimed at studying how conditions and diseases are distributed in the population, mainly those triggered by substances or drugs that cause toxicity in the body, so that public health measures can be established to prevent and control them. The course emphasizes the principles, methods, and limitations of the different types of epidemiological studies that are performed in toxicological studies. Epidemiological data is interpreted, an association or causality between existing diseases or conditions and related variables is analyzed, and ethical and professional aspects are applied in the study of conditions or diseases.

TOPA 910 DRUG DISCOVERY AND DEVELOPMENT

3 CREDITS

This course focuses on fundamental aspects and strategies used in drug discovery, design, development, and interactions. Fundamental aspects include an introduction, history, and study of the physical, chemical, and pharmaceutical properties of drugs. It includes the study of the relationship between chemical structure and biological activity as well as drug discovery strategies, molecular modeling methods, and structural optimization to improve potency and therapeutic index. This course will allow the student to integrate and apply chemical and biological concepts in the design, development and interactions of drugs.

TOPA 915 COMMUNICATING SCIENCE FOR MEDICAL SCIENTISTS

3 CREDITS

The course is aimed at developing in medical scientists the competency to communicate the science of health, both orally and in writing. It emphasizes effective communication strategies for mass audiences, as well as those for specialized audiences. It includes the main strategies such as peer reviewed scientific research, in which scientists communicate research results in closed or open access sources. Other strategies such as presentations to open audiences as well as news reports to the general public is demonstrated.

TOPA 920 SEMINAR: JOURNAL CLUB

3 CREDITS

This graduate seminar course is focus in providing the students with the necessary skills to research literature, read scientific papers, summarized information and present their finding to the scientific community as well as the general community. It includes the study of the literature to strengthen and broaden the student's knowledge in the subjects covered during their previous studies in toxicology and its application on research. The course comprises the use of traditional and automated methods for storage and retrieval of scientific information giving emphasis to the toxicology field. The knowledge acquired in the course will be used to prepare a seminar in a topic of general interest in modern toxicology and pharmacology. Students will receive training in scientific writing and oral presentation. The seminar will give the student the opportunity to focus and present in areas of special interest to them.

TOPA 930 FORENSIC TOXICOLOGY

3 CREDITS

This course will discuss the fundamental concepts of forensic toxicology and its application in the legal and biomedical fields. In the judicial scenario and to determine causes of death it is important to evaluate the presence and potential relation of poisons or chemical agents with the cause of death. The course will present the fundamentals of postmortem toxicology, forensic drug testing, and human performance toxicology as the three major subdivisions of the discipline. Isolation and acquisition of appropriate biological specimens, chemical substances, or medication from biological matrices such as blood, urine, saliva, humor vitreo and tissues will be discussed. Appropriate sample

management to guaranty integrity of the samples will be discussed and demonstrated. The main analytical techniques applied in the field to analyzed common drugs and medications on human fluids will be described such as liquid and gas chromatography, mass spectrometry and immunoassays, among others. Integration of the obtained toxicological analyses into a court report will be presented.

TOPA 940 PHARMACOGENOMICS

3 CREDITS

Review of the basic concepts of genetics and molecular biology necessary to study how a person's genes respond in different ways to drugs. Pharmacogenomics is the mainstay of personalized medicine where administered drugs are designed and dosed for each person. One semester, three lecture hours per week

TOPA 950 LABORATORY ROTATION I: RESEARCH METHODS IN TOXICOLOGY & PHARMACOLOGY

1 CREDIT

Exposure to different experiences, and research projects in research settings, related to toxicology, and pharmacology. Students will be exposed to various research techniques and methods in the laboratories of faculty members aligned with their study specialty.

TOPA 951 LABORATORY ROTATION 2: RESEARCH METHODS IN TOXICOLOGY & PHARMACOLOGY

1 CREDIT

Exposure to different experiences, and research projects in research settings, related to toxicology, and pharmacology. Students will be exposed to various research techniques and methods in the laboratories of faculty members aligned with their study specialty.

TOPA 952 LABORATORY ROTATION 3: RESEARCH METHODS IN TOXICOLOGY & PHARMACOLOGY

1 CREDIT

Exposure to different experiences, and research projects in research settings, related to toxicology, and pharmacology. Students will be exposed to various research techniques and methods in the laboratories of faculty members aligned with their study specialty.

TOPA 960 COMPREHENSIVE EXAM

0 CREDIT

The comprehensive exam is the test given to graduate students towards the end of their coursework, with the goal of determining how ready the student is for the next step, their research dissertation. The exam consists of an oral and written component. Upon completion of all main courses and laboratory rotations proposed for year one and two, the student should be ready to take a comprehensive exam. The examination will cover the general concepts covered until this point. During the term, prior to the comprehensive exam, the student will identify the potential area of research and or research mentor, this will help delineate the comprehensive examination topics and concepts to be tested. A Comprehensive Exam Committee consisting of three members will design the exam. The exam will consist of five questions of fundamental and research concepts applied in the field of toxicology and pharmacology. The members of the comprehensive committee may or may not be the same members of the dissertation committee. Successful completion of the comprehensive exam will show: (a) that the student possess and demonstrate the fundamental subdisciplines and background of the field; (b) that the students is experienced in secondary (published) research in toxicology and pharmacology and is ready to design and generate original research; (c) that the student demonstrate written and oral mastery of secondary published research to qualify the student to move on to conduct primary and original research. The exam may also serve the purpose of evaluating previous coursework as preparation for future research and/or instruction in the student's specialty area. Successful completion of the exam is necessary to enrolled in the dissertation proposal course.

TOPA 970 DISSERTATION I: DISSERTATION PROPOSAL

5 CREDITS

The Dissertation I: Proposal course aims to familiarize the doctoral student with the components and procedures of the Doctoral Research Dissertation. The final goal of this course will be the generation of the Doctoral Research Proposal. The student must be assigned to a dissertation mentor who will lead their line of research. The main objectives and methodology should be clearly defined at the end of the course. According to the study type the compliance requirements and certifications of the IBC, ACUC, IBC or RCR must be completed. The student will defend his proposal orally and in writing in front of the dissertation committee composed of five (5) members including his mentor. The written proposal consists of three chapters: Chapter I-Introduction and literary/legal background; Chapter II- Problem, goals and objectives of the research; Chapter III- Proposed methodology and analysis. The oral presentation shall be closed to the committee. A Pass/Fail (P/F) is awarded to the student

TOPA 971 DISSERTATION II: DISSERTATION RESEARCH

18 CREDITS

Dissertation II: Research course prepares the student for the execution, development, and completion of the doctoral research. The student should have its dissertation proposal approved as this proposal serves as a guide. Doctoral dissertation is the final requirement for obtaining a doctorate in philosophy with a specialization in Toxicology and Pharmacology. This course explains the components, format, and style requirements of a doctoral dissertation. It also describes the process for the development and approval of the oral and written dissertation. As part of graduation requirements, the candidate must submit at least one manuscript for publication of a scientific paper in peer-review journals prior to defending the dissertation. The course prepares the student for the development of this manuscript and the process of submitting it for publication in scientific journals. The necessary graduation documentation, oral defense format and final requirements for the degree will also be discussed.

BUSINESS, TOURSIM, AND ENTREPERNEURSHIP ACADEMIC DIVISION

ACCO 110 BASIC ACCOUNTING FOR NON-ACCOUNTANTS

3 CREDITS

Study of basic accounting concepts and principles with the purpose of understand their application through the analysis of financial reports. It focuses the decision-making based on knowledge of fundamental concepts within an ethical framework that includes nature of the operating assets and their impact on financial reporting; recognition of current liabilities, contingencies and concept of interest; identification, characteristics, importance and effects of long-term debt. The course contains the shareholders' equity concept, components, characteristics and differences between various types of shares, dividends, classification and impact on cash and equity from shareholders and recognize the fundamentals differences between organizational structures such as corporation, partnership and sole proprietorship.

ACCO 111 INTRODUCTION TO ACCOUNTING I

4 CREDITS

Fundamentals of accounting. Analyzing and recording business transactions, the accounting cycle and preparation of the Financial Statements. Includes accounting for cash, accounts receivable and inventories.

ACCO 112 INTRODUCTION TO ACCOUNTING II

4 CREDITS

Tangible and intangible assets, the payroll system, application of accounting principles to partnerships, corporations and bonds. One semester, four hours weekly.

ACCO 201 INTERMEDIATE ACCOUNTING I

4 CREDITS

The accounting process and a review of the accounting cycle, the development of accounting theory and practice, preparation of financial statements including Statement of Cash Flows. Problems related to the control, valuation, presentation, and recording of cash; accounts receivable; Cost flow and special valuation methods of inventories. One semester, four hours weekly.

ACCO 202 INTERMEDIATE ACCOUNTING II

4 CREDITS

Control, valuation, income determination, records and financial statement presentation of plant and intangible assets, short and long-term investments, current and long-term liabilities. Includes accounting for corporations invested capital and retained earnings. One semester, four hours weekly

ACCO 203 COST ACCOUNTING

3 CREDITS

Fundamentals and basic concepts of cost accounting systems for cost accumulation, job order, process cost, joint costs and standard cost accounting. Includes the nature and quantitative aspects of departmental overhead and the relationship of accounting systems to decision making. One semester, four hours weekly.

ACCO 205 TAXES OF PUERTO RICO

3 CREDITS

History and purpose of income taxation, concepts and methods for determining taxable income of individuals and corporate enterprises, and the preparation of income tax returns according to the Internal Revenue Code of Puerto Rico, as amended. One semester, three hours weekly.

ACCO 295 MANAGERIAL ACCOUNTING

3 CREDITS

This course reviews the accounting process and financial statements. Analysis of financial information and accounting reports as a managerial tool such as sources of funds, analysis ratios, working capital and forecasting. It also prepares the student within the analytical skills of planning, organization and control of the business activities within the organization.

ACCO 297 FUNDS ACCOUNTING

3 CREDITS

This course studies the characteristics and categories of not-for-profit organizations and governmental entities, application of principles, concepts, and accounting procedures. It covers organizational structure, budget systems, financial statements, and municipal accounting systems in Puerto Rico.

ACCO 304 AUDITING

3 CREDITS

Generally accepted auditing standards (GAAS). Includes auditors' reports, internal control, the ethical and legal responsibilities of auditors, evidence and working papers, auditing programs, sampling techniques and the internal control of accounting systems. One semester, three hours weekly. Estándares de auditoría generalmente aceptados (GAAS). Incluye los reportes del auditor externo, controles internos, responsabilidad ética y legal, evidencia, planificación y documentación de la auditoría, programa de la auditoría, técnicas de muestreo y los controles internos de los sistemas de contabilidad.

ACCO 310 FORENSIC ACCOUNTING

3 CREDITS

This course presents the concept and development of Forensic Accounting (FA) through an analysis of its trends and institutions. Students also learn how research and fraud detection are conducted in this area. To fulfill this objective, each FA crime will be identified and explained; the methodology used to detect these crimes will also be studied. The main topic analyzed involves litigation services provided by accountants through proper evidence management and calculation of commercial damage. The course emphasizes a profound analysis of cybercrime. Students also learn the methodology of correct business valuation. Finally, practical cases are discussed in order to promote understanding of principles, unusual procedures, and relationships of FA.

ACCO 315 INTERMEDIATE ACCOUNTING III

3 CREDITS

This course covers fundamental principles of cost accounting; methods of determining the basis and classification of costs in a manufacturing, distribution or service organization; solutions to cost problems; preparation of cost reports; use of forms and records; and overhead and wage systems in industry.

ACCO 320 FEDERAL TAXES

3 CREDITS

Students will study the history and objectives of the federal income tax system. Topics include basic concepts of federal taxes, the various types of federal income tax returns, accounting periods, accounting methods, income computation and method of filling out tax returns.

ACCO 321 FEDERAL CONTRIBUTIONS II, CORPORATIONS

3 CREDITS

Students will study taxes on federal income, as well as the regulations applicable to corporations and societies. The course also includes topics related to taxes on inheritances and donations.

ACCO 350 COMPUTERIZED ACCOUNTING

3 CREDITS

This course familiarizes the student with the most common computerized systems in accounting and provides practice in the use of these systems. Students learn about the type of information that is stored, collection forms and reports produced by these systems. They also learn and practice the interrelationship that exists between them. The focus of the course is to practice the concepts of accounting through the use of systems already designed and programmed.

ACCO 405 PUERTO RICO TAXES II

3 CREDITS

The course centers on the study of the Puerto Rico Income Tax Law regarding corporations and special partnerships. Content also includes Municipality Patents Law, Properties Law, Excise Tax Law, State Unemployment Law, and State Disability Insurance Law.

ACCO 450 ADVANCING ACCOUNTING & FUND

3 CREDITS

The advanced accounting course consists of the study and discussion of the Generally Accepted Accounting Principles (GAAP) that regulate the analysis, registration and preparation of the reports related to mergers and consolidated financial statements. It covers topics related to accounting of branches and the liquidations of partnerships and corporations.

ACCO 500 ACCOUNTING SURVEY

3 CREDITS

Introductory coverage of financial and managerial accounting whose undergraduate major was not business. Overview of transactions analysis and basic elements of the accounting cycle for service and merchandising business. Preparation of financial statements: income statement, balance sheet and cash flows. Inventory costing methods.

ACCO 506 ADVANCED COST ACCOUNTING

3 CREDITS

The course deals with the study of the generally accepted cost accounting principles. Application of these principles in the planning and control of the elements of costs, including procedures for decision making. In addition, the study of standard costs, budgeting, analysis of variables and reasons leading to the success or failure of diverse programs of action.

ACCO 515 MANAGERIAL ACCOUNTING

3 CREDITS

This course emphasizes the study of managerial accounting within a framework of planning, control, and decision-making. It includes topics such as the cost-volume-profit relationship, capital investments, with a special interest in budget formulation and implementation.

ACCO 520 ACCOUNTING INFORMATION SYSTEMS

3 CREDITS

This course studies the adaptation and interpretation of accounting procedures and systems to electronic transaction processing.

ACCO 610 ADVANCED ACCOUNTING

3 CREDITS

The course deals with case studies and analysis of special problems in the field of advanced accounting. Topics include consolidated financial statements, foreign transactions, firm consolidations and mergers, as well as foreign trade and international accounting, and accounting of non-private non-government organizations.

ACCO 620 ACCOUNTING FOR GOVERNMENT AND NON-PROFIT ENTITIES

3 CREDITS

Analysis of the governmental accounting principles, control and presentation of financial information for government and not-for-profit institutions. Preparation of required financial statements. Governmental Funds, Universities, and other non-profit institutions accounting principles.

ACCO 702 FINANCIAL ACCOUNTING AND REPORTING I

3 CREDITS

The content of the course will cover the basic theory of accounting and practice, as well as the discussion of standard procedures established in the accounting profession. Study of the bodies that produce the generally accepted principles of accounting, the regulations of the Securities and Exchange Commission, the Company Accounting Oversight Board (PCAOB) and other governmental entities that establish procedures and reports. The course will emphasize the understanding and preparation of financial statements. In addition, it will include a detailed analysis of assets, liabilities, income, expense and capital accounts; as well as: cash and cash equivalents, accounts receivable, inventory, plant and equipment property, investment, intangible assets, goodwill, current liabilities, long-term debt, capital accounts, income and expense recognition, compensation and benefits and accounting for income taxes.

ACCO 703 FINANCIAL ACCOUNTING AND REPORTING II

3 CREDITS

The course will cover complex accounting transactions, the difference between accounting principles generally accepted in the United States and international financial reporting standards. The rules and principles of government accounting and non-profit institutions will be discussed. On the other hand, complex accounting transactions will be studied like accounting changes and error corrections, business combinations, contingencies, derivatives and hedge accounting, international monetary exchanges, leases, research and development, programming costs, subsequent events and fair market value.

ACCO 705 TAXES IN PUERTO RICO

3 CREDITS

The study of the tax laws currently applicable to employers operating in Puerto Rico and the determination of the tax liability associated to the applicable tax laws. Includes the preparation of the employers' payroll tax returns (FICA, FUTA, SUTA, SINOT, chauffeurs' insurance, workmen's compensation); real and personal property taxes, municipal license tax, and the sales and usage tax (IVU in Spanish). Aspects of recent changes of the income tax law. Use of computerized programs.

ACCO 706 AUDITING AND ATTESTATION

3 CREDITS

In the course the processes of planning, risk assessment will be discussed and will include the study and evaluation of the internal control structure. In addition, we will study how the audit will be conducted and how the auditor obtains and documents the evidence. The formation of the auditor's opinion will be analyzed, according to the different types of reports required. The aspects of professional ethics will be discussed.

ACCO 707 FEDERAL INCOME TAX

3 CREDITS

Discussion and analysis of the federal income tax law and the practices of the federal Internal Revenue Service and its procedures. Discussion of income tax principles for individuals and business entities. Application of legal provisions to prepare tax returns and how to represent clients before the Federal Internal Revenue System.

ACCO 710 ADVANCED AUDITING

3 CREDITS

The course covers concepts and procedures involved in auditing, professional ethics, audit standards, disclosure problems, and audit opinions on financial statements.

ACCO 711 FORENSIC ACCOUNTING AND FRAUD DETECTION

3 CREDITS

Include the study of investigative accounting procedures and techniques used in litigation support. Covers the basic theories and principles of forensic accounting and their application. Topics to be covered include financial reporting fraud, employee fraud, income reconstruction methods, testifying as an expert witness, evidence management, cybercrime, and business valuations. Forensic accountants help prevent and investigate corporate fraud. From tracking terrorist funding, to helping organizations stay compliant with Sarbanes-Oxley, to exposing money laundering, tax evasion and embezzlement.

ACCO 712 INTERNATIONAL ACCOUNTING

3 CREDITS

This course deals with a comparative analysis of accounting concepts and practices in different countries and the convergence of international accounting standards. It focuses on the problems associated with accounting in multinational corporations, including the transfer of funds and income measurements, consolidation problems, issues in transfer pricing, and policies appropriate for international mergers and company valuation for acquisitions.

ACCO 721 RESEARCH ACCOUNTING (CAPCOURSE)

3 CREDITS

Application of accounting principles to the solution of problems related to operational, functional and accounting requirements of an enterprise. Intensive review of theoretical and practical aspects in accounting with emphasis in ethics, critical analysis and presentation of current topics through written and oral discussion of recent publications and articles. A formal research project in a recent accounting issue is required.

ACCO 724 ACCOUNTING RESEARCH AND COMMUNICATION

3 CREDITS

Discussion and analysis of the techniques, strategies and basic tools of investigation in the area of accounting, auditing and taxes. Development of oral and written communication skills in the business environment.

ACCO 728 BUSINES ENVIRONMENT AND CONCEPTS

3 CREDITS

This course provides and overview of all the knowledge and skill that and professional accountant and auditor must demonstrate when performing professional services. This course will present five diverse subject areas. These content areas are corporate governance, economic concepts and analysis, financial management, information technology, operations and cost management.

ACCO 730 BUSINESS LAW AND REGULATIONS

3 CREDITS

Discussion of legal aspects of the business including the effect and implications of the principal and agent, contracts, relationship of debtor and creditor, business regulations and the different legal alternatives of the business structure. In addition, the principles of ethics and the duties of the accountant will be discussed.

ACCO 731 INTERNAL AUDITING

3 CREDITS

The course will introduce the students to the Internal audit field. They will be able to understand the internal audit function as a trusted advisor to management as well as and assurance and compliance professional. The course will discuss in detail the Institute of Internal Auditors International Professional Practice Framework, the Internal Control—Integrated Framework of the Committee of Sponsoring Organizations of the Treadway Commission, Enterprise Risk Management.

ACCO 733 INFORMATION SYSTEMS AUDITING

3 CREDITS

The course covers management's role in controlling information technology and addressing the major risks related to technology. Topics include information security, contingency planning, desktop computer controls, systems development controls, computer center operation controls, assurance of information related to on-line, client-server, web-based, internet, and other advanced computer systems. Students will learn approaches to evaluating and addressing technology risk throughout the organization from the perspective of internal and external auditing in addition to the view of every end user.

ACCO 745 CORPORATE TAXES

3 CREDITS

This course includes intensive study and depth of the statutes, regulations, and cases applicable to the taxation of corporations. The topics to be studied include the tax consequences in the organization of a corporation, distribution to shareholders redeem shares, liquidations on corporations and a corporate tax provision in the sale of assets and shares. The course will address the detailed study of the tax practice in transactions in a corporation and its effects.

ACCO 750 TAXES SEMINAR

3 CREDITS

Course designed to guide students to conduct research within their area of study under the direction and supervision of professor. The course is an individualized development. The course includes identification and discussion of problematic situations that can be investigated, analysis and events that relate to it. It also includes the recognition of independent and dependent variables of the problem, formulation of basic research questions, type of research, formulating hypotheses, and defining limitations of the study. It also discusses the aspect of the readings relevant to the research population and sample of the study, design of instruments to be used in data collection, identification and description of the operational procedures and statistics to be used in the analysis of data collected in the study. Then the student emphasizes the aspect of statistical presentation of the findings and their interpretation, summary, conclusions and recommendations. The topics covered in any thesis will be in accordance with taxes track.

BUSG 505 RESEARCH TECHNIQUES FOR BUSSINES ADMINISTRATION

3 CREDITS

The course develops research skills for the MBA student with direct application to the discipline of Business Administration. The content ranges from the conceptualization of the research idea through the writing and presentation of a research proposal. The course integrates critical thinking and statistical data analysis skills to the knowledge accumulated during the courses of the core component of the MBA's program in a research proposal under the quantitative or qualitative approach within the framework of Action Research.

BUSI 499 BUSINESS SIMULATION

3 CREDITS

This course is designed to apply fundamental marketing, distribution, operations, finance and accounting skills and knowledge to establish and develop a simulated virtual business. The student and teammates will be in constant analysis of the situations presented in the simulation to develop and implement strategies for the business success.

BUSI 600 FEDERAL BUSINESS LAW

3 CREDITS

State and federal Business laws. Contracts, agencies, partnerships, corporations, bankruptcy, and property laws, among others, and their applications to accounting and auditing situations.

CAIA 301 CULINARY ARTS NTERNSHIP ABROAD

1 CREDIT

Students will apply theoretical knowledge of culinary arts, demonstrate practical food production skills, and practice professionalism in an institution-approved by the university in an overseas environment. Upon completion of this course, students will gain a broader understanding of the demands and expectations of the food industry. At the same time, they will be able to improve their culinary skills. The student will be exposed to teamwork, variety of food products, cooking methods and culinary techniques while applying hygiene and sanitation procedures. They must complete a minimum of 350 hours. Throughout the course the following skills will be promoted: communication, ethics, and diversity. The internship coordinator will give students a seminar in which they will discuss different aspects of the internship, the course calendar and professional etiquette, among other topics.

CAPE 404 EVENT PRODUCTION CAPSTONE

6 CREDITS

Hands-on course featuring the planning of a real fundraising special event from beginning to end. It is designed to provide students with the opportunity to apply all the knowledge acquired in previous courses from the concentration and professional components of the program. Emphasis is placed on the student's ability to conceptualize, market, and manage an event project, and their capacity to achieve goals and objectives. The Internet will be used for research. MS Word, PowerPoint, Excel, and other open-source software will be used for projects, assignments and presentations. Blackboard, email, phone calls, and Box.net will be used to foster communication among stakeholders.

CAPH 452 RESTAURANT MANAGEMENT CAPSTONE

6 CREDITS

Practical course in which the students apply acquired managerial skills and technical knowledge of all previous courses to create and manage a fully operational restaurant. All students will have the opportunity to role play as restaurant Executive Chef, Sous Chef, Restaurant Manager and Assistant Restaurant Manager, while planning and executing all related duties in the front-of-the-house and back-of-the-house of the School Restaurant Laboratory. Students will also rotate in the various duties required to run an effective operation such as waiter, cook, steward and restaurant host, among other duties and positions. Emphasis will be given to the planning and organization process, including the menu development and costing, food serving size, portion control and quality, the equisition process, methods to control all operational costs, food handling, proper etiquette and overall guest experience nd satisfaction.

CAPH 460 HOTEL MANAGEMENT CAPSTONE

6 CREDITS

Integration of learned managerial skills and strategies through the analysis of management situations in the hospitality industry. The evaluation of strategic solutions to help students review and practice their management knowledge and capabilities will be assess through various methods. Case studies will be used to explore current trends and issues pertaining to the three areas of concentration: hotel, food and beverage and events and conventions planning. In-class discussion of current hospitality issues evaluating its impact to the hospitality industry both, locally and internationally. Emphasis is placed on the students' abilities to investigate, analyze and discuss these issues through oral and written work. Students will be guided in their effort to find a supervisory managerial level job in the hospitality industry.

CBIA 300 COMERCIAL BAKING NTERNSHIP ABROAD

1 CREDIT

Students will apply professional work experience in the field of baking and pastry, where they will apply knowledge and skills acquired throughout their degree. It is required to complete at least 200 hours in baking and pastry. The center will be selected by the student from a pool of centers abroad qualified and approved by the university. Upon completion of this course, students will gain a broader understanding of the demands and expectations in the field of commercial baking and pastry. The student will be exposed to product identification, preparation of breads, biscuits and other products, conversion, standardization, and measurement of recipes, while applying hygiene and sanitation procedures. In addition, throughout the course the following skills will be promoted: communication and customer service. The internship coordinator will give students a seminar in which they will discuss different aspects of the internship, the course calendar and professional etiquette, among other topics.

CHEF 105 CULINARY SKILLS & SAUCES

3 CREDITS

This course will provide the student with the basic knowledge for creating, stocks, mother sauces and its derivatives and thickening agents while maintaining a safe environment through hygiene and sanitation. The course also introduces the students to the proper handling of knives and basic cuts. Students will be encouraged to use scientific and quantitative reasoning while maintaining good communication and use the internet as a research tool.

CHEF 106 INTRODUCTION TO BAKING AND PASTRY

3 CREDITS

This introductory course will deliver basic competencies based on baking and pastry fundamentals. Students will be exposed to the historical aspects within this topic and acquire the knowledge of ingredients, baking methods and vocabulary used in professional and domestic baking and pastry. The importance of equipment, ingredients, weights, measures, technology, safety, hygiene and sanitation will be a key aspect that will set the tone of this course. Management techniques and professional behavior will be discussed as well as the mathematical influences relevant to recipe preparation and ingredient acquisition. The course will use the Internet as a research tool and email as a communication tool. The MS Word program will be used for writing projects.

CHEF 107 COOKING METHODS TECHNIQUES

6 CREDITS

Introduction to fundamental cooking theories and techniques in food preparation. Application of cooking methods will emphasize on sautéing, poaching, steaming, roasting, braising, baking, broiling and frying. The students will learn cooking techniques used as for fish, meats, poultries, vegetables, soups and starches. Sauce derivatives, breakfast cookery, plate development, knife skills and proper sanitation practices are also applied in this course. Theoretical presentations, demonstrations and extensive participation in lab sessions are used to develop the course. The course will use the Internet as a research tool and MS Words for paper and projects.

CHEF 108 BREADS AND DOUGHS

3 CREDITS

Introduction to the basics of bread making and its most relevant topics. Knowledge of ingredients, vocabulary and most used baking methods in the professional and industrial bakery will be learned. The importance of safety, hygiene and sanitation within the bakery will be established. The techniques of handling and use of professional equipment and machinery will be developed. The basis for the use of mathematics in the culinary field will be given, and its relevance in the preparation of recipes. The course will use the Internet as a research tool and email as a communication tool. The MS Word program will be used for writing projects.

CHEF 109 ARTISAN BREADS

3 CREDITS

Continuity in the development of the essential skills in the bakery, using the correct vocabulary and frequent baking methods in the elaboration of breads in the professional, artisanal and commercial sphere. Implement safety, hygiene and sanitation rules within the laboratory. Continuity will be given to the use of mathematics within the field of the bakery. The course will use the Internet as a research tool and email as a communication tool. The MS Word program will be used for writing projects.

CHEF 116 INTRODUCTION TO CULINARY CONCEPTS

3 CREDITS

Introduction to culinary fundamentals. Topics of study include history of gastronomy, including the evolution of sauces, general concepts of safety, hygiene and sanitation, kitchen organization and planning, equipment, tools and product identification, introduction to cooking methods, measuring units and recipe conversion. The course will use the Internet as a research tool and MS Words for paper and projects. Email will be used for communication purposes.

CHEF 200 INTRODUCTION TO BAKING

3 CREDITS

This course is a study of the fundamentals of baking including, dough, quick breads, pies, cakes, cookies, tarts and basic items made in a bakery. Student will also be exposed to critical thinking by the analysis of formulas, mixing methods and performing conversions. The course will emphasize the quality characteristics of the final product, using the correct proportions of ingredients and sanitation techniques. Students will be encouraged to use scientific and quantitative reasoning while maintaining good communication and use the internet as a research tool.

CHEF 201 PATISSERIE I

3 CREDITS

Introduction to the basic concepts of baking and pastry and its relevant skills. Knowledge of the ingredients, vocabulary, mixing methods, and proper presentation used in a professional bakery and coffee shop will be emphasize. The students will put in practice safety, hygiene and sanitation used in a professional bakeshop. The techniques for the proper performance within the field of baking and developing a micro business style coffee shop will be developed. The course will use the Internet as a research tool and email as a communication tool. The MS Word program will be used for writing projects.

CHEF 202 GARDE MANGER

3 CREDITS

This course is a study of specialty foods and garnishes. It will cover techniques of the cold kitchen, specialized vocabulary, and particular ingredients and know how to handle them correctly. Students will learn to prepare canapés, hot and cold hors d'oeuvre, appetizers, forcemeats, pâtés, galantines, terrines, salads, and sausages while maintaining sanitation standards. Curing and smoking techniques for meat, seafood, and poultry items will be practiced, along with contemporary styles of presenting food and preparing buffets. Students will be encouraged to use scientific and quantitative reasoning, critical thinking while maintaining good communication and use the internet as a research tool.

CHEF 203 MODERNIST CUISINE

3 CREDITS

Study of the origins, history and main themes of modernist cuisine and its main exponents. The competence-based course will focus on teaching and applying modernist methods and techniques in the preparation of selected recipes. Emphasis will be placed on the development of culinary knowledge and skills, and critical thinking will be promoted through innovation and the development of research skills necessary to complete a product research and development project. It will be based on the techniques learned and the use of the equipment and related technology. In summary, the course will focus on the plated presentation of recipes using a variety of modernist styles from the most complicated to the minimalist. Blackboard will be used as a means of communication and MS Office for the preparation of assignments and written projects.

CHEF 204 CULINARY NUTRITION

3 CREDITS

Introduction to the concept of nutrition, including calories, carbohydrates, lipids, proteins, minerals, water, and vitamins analysis. Student will apply these nutritional concepts in the kitchen using healthy cooking methods and techniques in order to promote better health. They will be preparing soups, salads, vegetables, poultry, meat, fish and desserts in a safe and hygiene environment. The course will also encourage students to critical thinking, use of effective information and communication skills in their case studies and laboratories experiences. They also will be encouraged to use scientific and quantitative reasoning while using the internet as a research tool.

CHEF 205 PATISSERIE II

3 CREDITS

This course encourages the application of the skills learned from the Patisserie 1 course and the integration of new skills or knowledge relevant to baking and pastry. The importance of safety, hygiene and sanitation will be established in addition to the techniques of handling and use of ingredients focused on the preparation of desserts. The course will use the Internet as a research tool and email as a communication tool. The MS Word program will be used for writing projects.

CHEF 206 ADVANCE BAKING, PASTRIES AND PLATED DESSERTS

3 CREDITS

The course develops and strengthens the techniques previously learned in the "Introduction to Baking" course. Students will prepare more complex and elaborate pastries and desserts considering traditional and modernist techniques. Emphasis will be given to plating desserts, baking techniques, hygiene and sanitation. Students will also be encouraged to use scientific and quantitative reasoning, critical thinking while maintaining good communication and use the internet as a research tool.

CHEF 207 CAKES: PREPARATION AND DECORATION

3 CREDITS

The course promotes concentration competences for the production, elaboration, assembly, decoration, and cost of celebration cakes. Consider the fundamental principles of hygiene, sanitation and food handling in a bake shop. The course is developed through theoretical presentations, demonstrations, problem solving and practices in the laboratory. Responsible use of technology in research for the development of recipes, decoration techniques and its portfolio will be emphasized. The course will use the Internet as a research tool and email as a communication tool. The MS Word program will be used for writing projects.

CHEF 209 REGIONAL PUERTORRICAN AND CARIBBEAN DESSERTS

3 CREDITS

This course focuses on regional, traditional Puerto Rican and Caribbean desserts. Within the course, students will be exposed to demonstrations and hands on experience. Likewise, students will also have the opportunity to make unique dessert from the Caribbean's. Emphasis will be given in the manipulation of recipes in a various scenario that includes presentation for large production, buffet style, typical and modern plated desserts. Students will be able to apply basic technics, proper handling, storage and sanitation of baked goods in a commercial and professional setting. The course will use the Internet as a research tool and email as a communication tool. The MS Word program will be used for writing projects.

CHEF 213 INTERNATIONAL CUISINE

3 CREDITS

Exposure to specific gastronomic cultures of Europe through seminars, conferences, demonstrations, menu discussions, investigative research, and recipe preparation and development. Emphasis is placed in traditional and contemporary European dishes of France, Spain, and Italy. Class activities include discussions of historic information about regional traditions, ingredients, cooking techniques, religion, and food and service protocol. The course will use the Internet as a research tool. The course will use the Internet as a research tool, MS Words for paper and projects, Email as means of communication and Power Point for presentation.

CHEF 214 REGIONAL AND SEASONAL PUERTO RICAN AND CARIBBEAN CUISINE

3 CREDITS

Exposure to the diverse gastronomic cultures from around the world through seminars, conferences, demonstrations, menus discussions, investigative research and recipes preparation and development. Emphasis is placed in traditional and contemporary dishes of Germany, Austria, England, Greece, Russia, Africa, Middle East, India, Japan, China, Indochina, Korea, US, Mexico, South America and the Caribbean. Class activities include discussions of historic information about regional traditions, ingredients, cooking techniques, religion, and food and service protocol. The course will use the Internet as a research tool. The course will use the Internet as a research tool, MS Words for paper and projects, Email as means of communication and Power Point for presentation.

CHEF 300 DESSERTS FOR SPECIAL DIETS

3 CREDITS

Using concepts and skills learned in the previous baking and pastry courses, this course focuses on the use of ingredients and skills for the elaboration of desserts that address conditions and diseases, diets and food patterns. In addition, this course compares and contrasts traditional ingredients in confectionery in order to prepare new products that are healthier according to dietary specifications. The production focuses on the modification of ingredients without losing perspective of the sensory elements of the pastry. The production covers all aspects of pastry and bakery, from basic baked goods to more elaborate pastries. The course will use the Internet as a research tool and email as a communication tool. The MS Word program will be used to write projects. Pre- requisite CHEF 205.

CHEF 301 BAKING AND PASTRY PRACTICUM

1 CREDITS

Professional work experience in the field of baking and pastry, where the student will apply the knowledge and skills acquired through the degree. The center will be selected by the student from a collection of centers qualified by the institution.

CHEF 361 RESTAURANT SUSTAINABILITY

3 CREDITS

Comprehensive study of sustainable concepts, principles, practices, applications and it's pertinence to the restaurant industry. Students will be able to assess restaurant's sustainable practices, by applying medullar quantitative and scientific evaluation skills, and suggest efficient actions to improve its financial, social and environmental impact. This course integrates a combination of activities such as: discussions, research, mathematical exercises, field investigation and a minimum of five hours hands-on, cooking and farm-to-table practices at the local farm or green house to apply classroom content integrating critical thinking, technology, ethics and diversity, and innovation competencies. Internet will be used as a research tool, the e-mail as a means of communications and MS Word and Power Point for papers and projects.

CHEF 425 MODERN BANQUET KITCHEN

6 CREDITS

Introduction to the fundamentals of quantity food production. The course examines the variety of methods and equipment used to prepare food in large quantities. The issues related to the preparation, presentation and service would be discussed. Students will apply cooking methods such as sautéing, poaching, steaming, roasting, braising, baking, grilling and frying. This course emphasizes on the responsible use of equipment, technology and information. Students will operate a banquet kitchen as well as use skills such as hygiene and sanitation, communication and critical thinking. They will also be encouraged to use quantitative and scientific reasoning to develop innovative ways to handle demand while observing good management practices.

CHEP 231 CULINARY PRACTICUM

1 CREDIT

This work -experience course is designed to develop and strengthen the skills in the food service industry to become proficient in them. Students will apply theoretical and practical knowledge by demonstrating ability in cooking methods, teamwork and hygiene and sanitation practices. The intern will select a practice center from a school pre-approved list. They are required to maintain good communication with practice center, practice coordinators and colleagues while observing ethics and diversity. A minimum of 350 hours of experience in the field will be required.

CHEP 231S CULINARY PRACTICUM

0 CREDITS

This work -experience course is designed to develop and strengthen the skills in the food service industry to become proficient in them. Students will apply theoretical and practical knowledge by demonstrating ability in cooking methods, teamwork and hygiene and sanitation practices. The intern will select a practice center from a school pre-approved list. They are required to maintain good communication with practice center, practice coordinators and colleagues while observing ethics and diversity. A minimum of 350 hours of experience in the field will be required.

COIS 111 SOFTWARE APPLICATIONS

3 CREDITS

Study of the fundamental concepts and applications of information systems relating to business. Integration of application programs for business productivity such as: database management system (DBMS), statistical and graphical functions in spreadsheets. The course develops an evaluative environment and through practical exercises in a computer lab.

COIS 112 INTRODUCTION TO DATA BASE

3 CREDITS

The course is an introduction to computers and electronic data processing. It includes historical development, data organization, storage systems and types of peripheral devices, as well as data input and output. Students are introduced to microcomputer use and applications, word processing, and spreadsheets. Requires laboratory.

COIS 201 DATA PROCESSING

3 CREDITS

The course is an introduction to computerized systems, their uses, and their benefits in Business Administration. Topics include the study of the basic concepts and technical terms in the field of information systems. The course also provides the opportunity for using applications in word processing, spreadsheets and graphics. Requires laboratory.

COIS 211 INTRODUCTION TO PROGRAMMING

3 CREDITS

This course develops the basic skills needed to produce simple application programs. It includes program design, coding and documentation. The student will learn computer programming concepts and the use of a programming language.

COIS 217 DATABASE

3 CREDITS

This course develops intermediate level skills to create, manipulate, store and manage objects in a database.

COIS 218 APPLICATION DEVELOPMENT

3 CREDITS

This course introduces students to object-oriented programming. Students will develop intermediate level applications using existing programming tools. It requires laboratory.

COIS 223 TECHNOLOGY MANAGEMENT

3 CREDITS

This course examines the technical and managerial challenges presented by emerging and evolving technologies. The forces that regulate the nature and pace of technological innovation and the management options available to both established and entrepreneurial organizations are considered. In addition, the sources of innovation, both internal and external, and the appropriate strategies and processes to capitalize on them are explored. The emphasis of the course will be on contemporary organizational structure, social impacts, decision making, innovation, management strategies, and organizational knowledge management. Students are expected to carry out reading, research and writing appropriate to their level.

COIS 304 HARDWARE AND SOFTWARE CONCEPTS

3 CREDITS

A survey of technical topics related to computer systems with emphasis on the relationships between hardware architecture, system software and applications software. Explores the architecture of processors and storage systems and its implications for systems software design are covered including their impact on the development of application programs in the business environment.

COIS 309 WEB PAGE I

3 CREDITS

This course develops in the student the skills needed to design, build, deploy and maintain web pages. Includes experiences with web pages design tools.

COIS 310 WEB PAGE II

3 CREDITS

This course is a continuation of COIS 309 with emphasis on interactivity between the web page and its users. It includes topics, such as: database management and transaction processing. It requires laboratory.

COIS 311 SOFTWARE VALIDATION

3 CREDITS

This course trains students in different methodologies and technologies for the validation and verification of computer programs. Program validation and verification ensures that the results are as expected and therefore have quality. It requires laboratory.

COIS 313 MOBILE APPLICATIONS

3 CREDITS

This course trains students in different methodologies and technologies for the validation and verification of computer programs. Program validation and verification ensures that the results are as expected and therefore have quality. It requires laboratory.

COIS 320 ANALYSIS SYSTEM DESIGN

3 CREDITS

This course provides the student with the basic skills necessary for the analysis, design and development of information systems. The students will learn how to develop logical and physical database models. It includes database modeling, Structured Query Language (SQL), and data base administration. It also includes basic concepts on project management. Requires laboratory.

COIS 408 EMERGING TECHNOLOGY

3 CREDITS

This course provides the student with the basic skills necessary for the analysis, design and development of information systems. The students will learn how to develop logical and physical database models. It includes database modeling, Structured Query Language (SQL), and data base administration. It also includes basic concepts on project management. Requires laboratory.

COIS 412 NETWORK TECHNOLOGY

3 CREDITS

Provides the background necessary to understand technology for local area networks (LANs), wide area networks (WANs), and the Internet. Requires laboratory.

COIS 425 OBJECT ORIENTED PROGRAMMING

3 CREDITS

The course centers on the study of the principles and fundamental concepts of the programming language JAVA. The course covers the design of well-structured applications using clear and precise procedures through the use UML. It promotes the effective use of the control structures, and the optimal performance of the operational environment, in applications developed for the Internet. Requires laboratory.

COIS 440 E-COMMERCE VIRTUAL STORE SIMULATION

3 CREDITS

This course presents the necessary technologies, protocols, and methodologies for the development of e-commerce or e-business. It surveys the various business models that have been introduced in the last few years and analyzes their economic and managerial foundations. The course also covers legal and security issues.

COMT 1101 COMPUTER LITERACY

3 CREDITS

This course is designed to meet the needs of all students on the basics of computer use, except in the case of those that belong to the programs that include specialized computer courses. It includes topics about computer hardware and their functions. Programs like Windows 10 and applications for word processing as well as use of spreadsheets, email and databases are also studied.

COMT 1110 OPERATING SYSTEM

3 CREDITS

This is an introduction to the diverse operating systems of personal computers; equipment handling using programming so to control operational activities of the computer. It exposes students to diverse systems, techniques and procedures in order to handle a computer using the operating systems (O.S.) and utilities. It also offers knowledge of the equipment used in programming and operating a computer.

COMT 1120 VISUAL BASIC I

3 CREDITS

Study of the theory and practice of the language of Visual Basic. It includes the elements of the language for the handling of the entrance and exit components, arithmetic, logic, structure, coding, test correction of logic and syntax errors and use of language interpreters. The applications will contain an environment business without discarding their use in the management and statistical processes.

COMT 1130 COMPUTER APPLICATION SPREADSHEET

3 CREDITS

This is an introductory course designed so that the students will acquire those basic skills that will enable them to apply the spreadsheet to diverse situations. The final goal is that they will do it on their own, on an intermediate level and eventually reach the advanced of this program. The students will be taught through lectures and practice the following: analysis of characteristics of text and number formats, editing of spreadsheets inserting and eliminating rows, columns and cells, as well as expanding and reducing them, also the application and elimination of graphs, borders, shadows and color. Mathematical functions, statistics and logic, multi-sheet documents, margin adjustment and design and creation of analytical graphs are also studied.

COMT 1131 PROGRAMMING LOGIC

3 CREDITS

This emphasizes on design techniques and the development of modular programming in a structured way, independent of a specific programming language. It includes analysis, problem solving and their solutions in computer use. Pseudo coding, flowcharts and other diagrams to develop the algorithms of problem solving using the three basic control structures: sequence, selection and repetition are also studied.

COMT 1140 PROGRAMMING IN COBOL I

3 CREDITS

Introduction to computer Programming in a commercial environment; it emphasizes on the fundamentals of structural programming, design development, proof, implementation and of document using the COBOL language. This course includes language syntax, data and file structure and implementation used to generate business reports.

COMT 1150 VISUAL BASIC II

3 CREDITS

Study of the fundamental concepts and principles of the object-oriented programming language. The course emphasizes an individualized style of modular programming, empathize on concepts of Data Base, using Visual Basic language. It also promotes the use of extensions source program coding, and applications for the development competitive skills for today's employment market. Requires laboratory.

COMT 1160 DATABASE

3 CREDITS

It provides basic skills relating to the design and development of database systems. Students will learn about database system analysis, modeling techniques and database development strategies.

COMT 1180 WEB ELECTRONIC COMMERCE

3 CREDITS

This course develops the skills necessary to design, create, implement and maintain electronic web pages. It includes experiences with web pages designing tools, database management and transaction processing.

COMT 1210 PROGRAMMING IN COBOL II

3 CREDITS

This is a continuation of COMP 1140. On his level, the student will write business applications using more advanced language resources. Reports will include control breaks, tables and sequential file maneuvers, both relative and indexed.

COMT 1240 SYSTEM ANALYSIS AND DESIGN

3 CREDITS

Study of the systems development cycle, with emphasis on the present system documentation, using the classic tools and techniques as well as the structured ones. It includes the use of these resources for describing the processes, the data flow, data structures, forms design for data gathering and reports. It also discusses data gathering activities and information, progress reports, and the transition from analysis to design.

COMT 1245 OBJECT ORIENTED PROGRAMMING

3 CREDITS

Study of the fundamental concepts and principles of the object-oriented programming language. The course emphasizes an individualized style of modular programming, using C++ language. It also promotes the use of extensions source program coding, and applications for the development competitive skills for today's employment market. Requires laboratory.

COMT 1250 VISUAL BASIC II

3 CREDITS

Study of the fundamental concepts and principles of the object-oriented programming language. The course emphasizes an individualized style of modular programming, empathize on concepts of Data Base, using Visual Basic language. It also promotes the use of extensions source program coding, and applications for the development competitive skills for today's employment market. Requires laboratory.

COMT 1300 INTEGRATIVE SEMINAR

3 CREDITS

Project implementations with a commercial approach considering all the steps for the analysis, design, review and programming using the language learned in previous courses are viewed in this course. The application of the concepts used to design and implement computerized systems in accordance with the requirements of a modern system is also emphasized.

CSGD 100 DIGITAL PHOTOGRAPHY FOR GRAPHIC DESIGNERS

3 CREDITS

This course covers the basic elements and principles of digital photography. The student will learn the use and photographic techniques used by photographers in the graphic design field. It will also learn the differences between digital cameras and analog film cameras. The student will become familiar with the use of auxiliary equipment and with computer digital software for picture editing.

CSGD 200 PRINCIPLES OF GRAPHIC DESIGN

3 CREDITS

This introductory course covers the history, fundamental practices, concepts and process of what is graphics. The student will experience the use of the tools used in graphic design, styles, concepts, color theory, typography, the grid, terminology and applications. The student will have analytical and critical evaluations about graphic design and publicity in the market, its impact and importance. Emphasis will be given in the development and research to achieve effective visual communication. We will learn the basis of ethical and legal aspects of advertisements, posters, announcements and others. The student will create simple compositions that will represent the phases of graphic design. In addition, it will demonstrate visual perception and graphic design skills based in the theory and techniques applied in the graphic industry.

CSGD 203 IMAGE DESIGN

3 CREDITS

This course covers the photo editing strategies to be applied on graphics design. The students will learn how to create photo manipulations; touch-ups, restorations, and montages by implement digital filters and textures to picture objects. The student will develop creative thinking to achieve innovative ideas. This course exposes the student to image editing software, like Adobe Photoshop.

CSGD 201 DIGITAL ILLUSTRATION

3 CREDITS

This course will explore digital illustration methods with a vector graphics editor program to conform to industry standards. Students will acquire hands-on experience with vector-based graphics to create logos, graphics for professional print and web, transform hand-drawn sketches on a sheet of paper into colorful digital illustrations, packages and poster design.

CSGD 202 PUBLISH DESIGN

3 CREDITS

This course explores the digital composition of multipage publications like catalogues, books, booklets, brochures, and other documents. The student will learn to work with a great amount of text – like titles, subtitles and text boxes and typography as the principal element of design; will integrate different image formats and how to work with space, all presented and arranged in carefully created layouts for print and digital distribution.

CSGD 210 ADVANCED GRAPHIC DESIGN

3 CREDITS

This course implements critical and creative skills to create a variety of professional and high-quality graphic designs such as id corporate design and advertising designs. This includes designs of corporate logo, brochure, newspaper ads, magazine full-color ads, poster, signs, packaging design and corporate presentation, among others.

CSGD 220 PORTFOLIO

3 CREDITS

This course centers on the design and creation of a professional portfolio, printed and online, as a requirement for the student to present his or her skills and creativity to be able to gain a position in the graphic design industry. The student will gain the necessary knowledge to be able to design a portfolio that will comply with what the industry's requirements like layout, how to organize and print their works, and how to apply marketing techniques to sell themselves, including creating a professional Internet profile.

CSGD 351 PROMOTION AND ADVERTISING DESIGN

3 CREDITS

This course covers the development of concepts and technical skills needed to create effective visual communications for successful advertising campaigns and promotions. The student will understand advertising and promotion concepts and will work with material provided by investigation, ideas, text and proposals to create and adapt the visual message to different means like print and web.

CSGD 420 PORTFOLIO

3 CREDITS

This course focuses on the development and creation of an advanced, interactive and online professional portfolio, as a requirement so that the student can present their skills and professional knowledge to opportunities in the areas of business and digital entrepreneurship. Students will implement design research, project management, and techniques to manage customer interactions. They will be applying new technologies (Augmented Reality and/or Virtual Reality) to their portfolio projects and will develop prototypes that demonstrate their application. They will create a personal brand that extends to all aspects of their presence. professional from an interactive digital portfolio to social media as part of your brand.

CSST 203 PC TROUBLESHOOTING AND MAINTENANCE

3 CREDITS

This introductory course teaches how to set up, operate, and maintain a personal computer. Students will gain practical hands-on experience in the following areas: installing software packages, preventive maintenance, diagnostic testing, and peripheral interfacing.

CSST 304 INTRODUCTION TO NETWORKS

3 CREDITS

This course is an introduction to the fundamentals, basic concepts, and terminology of networks. Topics include access and use of the Internet, intranet and networking hardware and software.

CSST 310 NETWORK HARDWARE INSTALLATION AND MAINTENANCE

3 CREDITS

This course covers the assembly of the components of a network. Students will apply their knowledge in the installation, configuration and troubleshooting in a network. They will learn how to connect buildings using microwave antennae and all the wiring to be used. They will learn about the use of tools for measuring the behavior of a network to identify problems.

CSST 315 LAN ADMINISTRATION

3 CREDITS

Study on the skills necessary to install, configure and diagnose Windows servers on a LAN (Local Area Network). Emphasis on current technologies, as well as the strategies needed to maintain a local area (LAN) network of efficiently and effectively.

CSST 320 DISASTER RECOVERY

3 CREDITS

This course presents methods to identify vulnerabilities and how to take appropriate countermeasures to prevent and mitigate failure risks for an organization. Also presents the students the principles of disaster recovery, including the preparation of a disaster recovery plan, assessment of risks in the enterprise, development of policies and procedures, understanding the roles and relationships of various members of an organization, testing and rehearsal of the plan, implementation of the plan, and actually recovering from a disaster.

CSST 410 NETWORK PROTOCOLS

3 CREDITS

Study and analysis of the fundamentals of networking technology based on TCP/IP and OSI layers or levels. Discussed the telephone network and architecture of the Internet as the higher level's protocols (http, smtp), transport protocols (UDP, TCP) and networks (IP) protocols. Protocols levels or layers links performance will be discussed.

ECON 221 MICRO ECONOMICS FOR BUSINESS

3 CREDITS

Study of economics from the viewpoint of the decision-making process. Manager's most important topics for the decision making for the firm: theory of supply and demand; theory of production and production costs; market structures; price theory and price determination.

ECON 222 MACRO ECONOMICS FOR BUSINESS

3 CREDITS

Study of the method, theory and practice of the economy and its effects in the individual, the firm and the society. Analysis of total production, employment, unemployment, business cycles, inflation, money system, fiscal and monetary policy and international business. Special emphasis in the macroeconomic analysis of decision making and theory application in managing private and public sector entities.

ECON 253 ECONOMIC DEVELOPMENT OF PUERTO RICO

3 CREDITS

Characteristics and trends in Puerto Rico's economic history, economic structure, agriculture, banking, transportation, communications, industrial development, public policy toward business, and international trade. Emphasis on contemporary ideas, issues and policies is addressed.

ECON 303 INSURANCE ECONOMICS

3 CREDITS

This course examines the principles of economic risk, its effect on distribution of resources and how public policy should be conducted in markets for risk. Preferences among risky scenarios: expected utility theory and the theory of risk aversion. Allocation of risk using markets for contingent claims vs. insurance pools in economies with complete information. The functioning of insurance markets when information is asymmetric, under moral hazard and adverse selection. The insurance markets function in a competitive equilibrium and what should be public policy. Role of asset markets in allocating risk.

ECON 363 GLOBAL ECONOMIC TRENDS

3 CREDITS

Study of, the economic, social, population, political, cultural and geographic environment that affects the economic development of the nations and regions of the world. Special emphasis on modern economic trends amid diversity.

ECON 400 MANAGERIAL ECONOMICS II

3 CREDITS

Analysis of modern theory of the firm and its applications: consumer behavior, price, production, costs, markets and economic efficiency. Allocation of the productive resources and the equilibrium theory.

ECON 401 MACROECONOMICS THEORY

3 CREDITS

Determination of national income, price systems, employment, fiscal and monetary policies in economic growth, analysis of expense, savings, investment and money.

ECON 402 MANAGEMENT ECONOMY

3 CREDITS

This course analyzes the managerial processes of the economy from the application of the theory microeconomics towards managerial decision making. Emphasizes optimal solutions price policies and production quantity to maximize the firm's profits; So as, game theory and industrial organization.

ECON 403 ENVIRONMENTAL ECONOMICS

3 CREDITS

Problems of the environment: pollution, government functions and market techniques to stop pollution. Economic analysis on cost and benefits of environmental quality. Analysis of government control measures and international efforts to protect the environment.

ECON 420 INTERNATIONAL ECONOMY AND FINANCES

3 CREDITS

The economy and international trade, the international monetary system, balance of payments, trade barriers, commercial policies and international financial institutions.

ECON 519 ECONOMICS

3 CREDITS

Study of the application of microeconomic theory and the tools of analysis of decision sciences to achieve efficient solutions in an organization. The fundamental topics included are demand theory, production and costs theory, and market structure.

ECON 520 MANAGERIAL MACROECONOMICS

3 CREDITS

Study of macroeconomic in terms of measurement, analysis and economic policy: National Income accounts, theory, employment, stability, economic development and international applications. Fiscal and monetary policy and its impact in the economic environment of the firm..

ECON 700 ENVIRONMENTAL ECONOMICS

3 CREDITS

The course focuses on analysis and study of the economic principles associated with renewable and non-renewable resource management, pollution, environmental protection and regulations, from a global perspective. The course emphasizes the application of economic principles to the environmental economy.

ECON 760 ECONOMIC ANALYSIS

3 CREDITS

The course deals with basic conceptual tools for the study of decision-making in uncertain conditions. Topics to be developed include references and risk attitude of the decision maker and the relationship of these elements to the utility maximization effect. In the second part of the course, traditional techniques of linear programming to determine particular solutions in maximization or minimization problems will be considered. We will focus on the interpretation of solutions (basic and general) and the existence of both. The third part of the course will cover basic notions of game theory. We will develop equilibrium concepts and study their applicability.

ENMA 201 ENTREPRENEURSHIP

3 CREDITS

This course offers students a basic understanding and overview of the business world and the entrepreneurial field. This includes topics related to develop a business plan, business ethics, management, marketing, finance, accounting and the legal aspects of commercial operations.

ENMA 300 ENTREPRENEURIAL INNOVATION

3 CREDITS

This course is designed to develop creativity and innovation of business ideas. Emphasis is given to the development of such ideas, creation, form, and their protection. The course stimulates and challenges the student to develop new business types, to know different existing business types, to make decisions, and risk taking. The course also looks for the development of the entrepreneurial character, and how he can turn his idea into a real business.

ENMA 301 BUSINESS FINANCIAL PLANNING

3 CREDITS

In this course, different financing alternatives available for public and private enterprises are analyzed. The financial plan components for different business types are examined in accordance with the characteristics and development stages of the enterprises. Computer programs are integrated to facilitate the preparation of the financial plan, financial statements, and financial forecasts.

ENMA 307 CORPORATE SOCIAL RESPONSIBILITIES

3 CREDITS

The study of the legal issues, taxes, and environmental issues that influence the business activity. Study of the content, its application, and implications of the ethical, social and economic regulations, including municipal, state, and federal laws.

ENMA 310 FRANCHISE, STRATEGIC ALLIANCES AND FAMILY BUSINESS

3 CREDITS

Family business, franchises and strategic alliances analysis or their particular characteristics, definitions and nature. Analysis of the advantages and disadvantages of them. Manage business relationships, conflicts, and shared decision-making.

**ENMA 400 BUSINESS FINANCIAL PLANNING
4 CREDITS**

In this course, different financing alternatives available for public and private enterprises are analyzed. The financial plan components for different business types are examined in accordance with the characteristics and development stages of the enterprises. Computer programs are integrated to facilitate the preparation of the financial plan, financial statements, and financial forecasts.

**ENMA 407 LEGAL, TAX AND ENVIRONMENTAL RESPONSIBILITY
3 CREDITS**

The study of the legal issues, taxes, and environmental issues that influence the business activity. Study of the content, its application, and implications of the ethical, social and economic regulations, including municipal, state, and federal laws.

**ENMA 408 ENTREPRENEURIAL SEMINAR
3 CREDITS**

The knowledge acquired is tested in real business situations. The entrepreneur project is worked independently under the supervision of a professor.

**ENMA 500 FOUNDATIONS OF ENTREPRENEURSHIP
3 CREDITS**

This course has been designed for professionals who are preparing to establish their own business as an alternative to self-employment within the currently socio-economic and market context. The foundations of entrepreneurship are studied from the conception and development of the business idea, challenges associated with the start-up, development and maturity of a company, business ethics and preparation of the business plan. In addition, laws, regulations, permits and incentives are examined to establish and maintain a business in the selected market.

**ENTR 300 INTRODUCTION TO ENTREPRENEURSHIP
3 CREDITS**

This course is designed to provide the student with a broad vision of an entrepreneurial career. It covers the principles and procedures of creative thinking and leadership. Creative Problem-Solving research and application will be used to develop creative leadership. By internalizing creativity principles and procedures students will develop a mindset and skills essential to leadership and entrepreneurship.

**ENTR 301 NEW VENTURE CREATION
4 CREDITS**

This course is about the translation of ideas into innovation, and ultimately into a product or service that may be commercialized through a new venture, either in an existing firm or in a startup company. A better understanding of the creative thinking processes behind innovation and entrepreneurship are developed during the course through exercises, readings, discussions, lectures, and guest speakers. A common thread throughout this class is a focus on strategic applications of innovations to the entrepreneurship processes.

**ENTR 360 ENTREPRENEURSHIP
3 CREDITS**

This course provides students the opportunity to apply the basic concepts of small business management using a teambuilding approach with participants from different disciplines. Different aspects for management of a small business will be studied, with emphasis on the formulation of solutions applicable to specific entrepreneurship problems. The preparation of a group project, including strategies and tactics for the development and administration of a small business will be required.

**ENTR 401 IDENTIFICATION AND EVALUATION OF ENTREPRENEURIAL OPPORTUNITIES
3 CREDITS**

Students will learn the concepts, techniques, and skills necessary to identify the two approaches to recognize entrepreneurship opportunities. Techniques for feasibility studies, development of a new business, and strategies for firm growth will be presented. In addition, personal characteristics needed to be a successful entrepreneur will be discussed.

ENTR 600 IDENTIFICATION AND EVALUATION OF ENTREPRENEURIAL OPPORTUNITIES

3 CREDITS

The course is designed to develop capabilities to manage the process of venture creation, including feasibility analysis, business planning, managing growth and harvest. The course allows students to discover core aspects of entrepreneurship and identify resources to translate ideas into business concepts. The students will acquire knowledge of concepts, techniques, and skills necessary to identify and evaluate entrepreneurial opportunities and translate these into a business entity. Feasibility studies techniques, development of business plans, and strategies to launch and further grow a venture will be presented.

ENTR 601 E-COMMERCE

3 CREDITS

This course introduces students to a wide range of issues of e-commerce from a business perspective. It provides students with skills, and tools of technology needed to help students to develop an understanding of the technologies used in the construction and administration of successful ecommerce applications of all types in business. Some topics explored in this course include: marketing strategies, security, privacy, infrastructure design, server management, legal liabilities, ethics, and acceptable use policies.

ENTR 602 BUSINESS PLAN DEVELOPMENT

3 CREDITS

Planning in emerging ventures has many purposes and uses. Firstly, planning serves as a mechanism to guide the entrepreneurial intentions and behavior, while monitoring the expected versus actual results. Secondly, access to finance requires the preparation of formal written plans that allow investors to see a glimpse of the yet inexistent venture. Throughout this module, planning in nascent firms will be discussed from the perspective of nascent entrepreneurs and potential investors. At completion of this module, the students are expected to have prepared a formal business plan ready for soliciting finance or venture capital. Therefore, the course dynamic will take an action learning approach in which the students will be writing their business plan as they are being introduced to different concepts. The development of the formal business plan will be aided by the use of business planning software.

ENTR 603 DESIGN AND ORGANIZATIONAL STRUCTURE FOR BUSINESS

3 CREDITS

This course is to help students obtain in-depth understandings of organizations through good comprehension of central theoretical perspectives and paradigms. This course will focus on determinants of an organization's success, focusing particularly on structure and design issues, as well as external environmental factors that impact organizational structure and functioning. A systems theory approach will be taken, making links to the strategic management, power and control literatures, as well as different forms of organizing (rational to natural organizing). Finally, the effect of macro-level factors on individual decisions and behaviors, and thus organizational effectiveness, will examine from a multiple levels-of-analysis perspective.

FINA 200 PERSONAL FINANCIAL PLANNING

3 CREDITS

Process of developing and implementing an integrated comprehensive plan to meet the financial goals of the individual and his family. Achievement of financial stability during the productive years, prepare financially for retirement and estate planning.

FINA 202 BUSINESS FINANCE

3 CREDITS

Introduction to basic financial theories and techniques. Studies of the various responsibilities of a finance manager from determining the best sources of funds for a company to the optimal decision of assets on which capital is invested. Use and interpretation of financial analysis, budget development, capital cost, short term financing in the need to balance the components of profit and risk.

FINA 204 MONEY AND BANKING

3 CREDITS

The nature of money, development and functions of financial institutions, the structures of the operations of the Central Bank of the United States and its relationship with monetary policy and international money markets. Analysis of the impact and significance of the monetary, fiscal and income in our economy.

FINA 240 RISK AND INSURANCE

3 CREDITS

Discussion of various forms of risk exposure and their attendant costs for individuals, business firms and other types of organizations. Special emphasis given to risks associated with product liability, business operations, fleet operations, professional responsibility, property loss, and workplace related injuries. Students will learn about risk management techniques such as risk assumption, prevention, diversification and risk transfer through insurance and other contractual means. Analysis of commercial policies related to property and liability, and an overview of insurance markets and applicable laws and jurisprudence in Puerto Rico.

FINA 301 FINANCIAL STATEMENT ANALYSIS

3 CREDITS

Study of the different methods and techniques used in the analysis of the basic financial statements. Analysis of the different financial statements used in business. One semester, three hours weekly.

FINA 305 PUBLIC FINANCE

3 CREDITS

Income sources and trends in government expenses, their effects on total consumption, savings and investment, fiscal policy, incidence and transfer of different types of taxes, and problems inherent in the different state and local taxes. One semester, three hours weekly.

FINA 308 REAL ESTATE AND PROPERTIES ADMINISTRATION

3 CREDITS

Discusses principles and common practices for acquiring, selling and managing real estate in Puerto Rico. Covers topics related to buying and selling property, mortgages and owners' rights, financing and assessments. Includes other types of property transactions and the State Property Registry. Special emphasis on condominiums, zoning laws, regulatory frameworks, permits, and state licensing requirements for real estate agents and/or brokers.

FINA 312 FINANCING INSTITUTIONS

3 CREDITS

Functions of the most important financing institutions in our economic system. Emphasis is on the management of banking institutions, savings and loan associations, insurance and investment companies, cooperatives and mutual funds.

FINA 320 BANKING POLICIES ADMINISTRATION

3 CREDITS

Analysis of the variables that affect commercial banking, structure, operations and profit included the balance sheet and its relation to other operational strategies to maximize profit and control risk, liquidity and evaluation of capital structure.

FINA 400 FINANCIAL INVESTMENTS

3 CREDITS

In this course, the key aspects to be considered when framing a draft financial investment will be studied. Aspects involving financial investment such as the market, organization and legal aspects that are part of the financial viability will be discussed. To do so, aspects such as working capital, fixed investment, projected revenue, funding sources and profitability will be analyzed. Hedging strategies using futures markets, options and other derivative assets will be covered using case studies.

FINA 401 INVESTMENT

3 CREDITS

This course includes the study of business cycles and their effects on assets financial statements. We also look at the fundamentals of investment, uncertainty, speculation, risk, given value and diversification. Will include the market knowledge, information sources, liquidity, portfolio investment, and interpretation of financial information.

FINA 406 MONETARY AND FINANCIAL POLICY

3 CREDITS

This course presents the monetary and financial policy process as the one in which the government, central bank or monetary authority of a country controls the money supply and interest rates with the goal of achieving a set of goals aimed towards the growth and stability of the economy. Money supply and monetary policies factors used by the authorities to influence the amount of money in circulation will be studied.

FINA 503 MANAGERIAL FINANCE

3 CREDITS

The course comprises the study of concepts and methods within the financial decision-making process. Emphasis is given to the theoretical and practical understanding of financial tools, which includes but is not limited to topics such as finance terminology, investments, corporate finance, and financial markets. The course also covers the application of financial information towards decision-making in a globalized context through cultural, socio-economics, political, and governance factors. Subjects included in the decision-making agenda are financial ratios, capital structure, capital budgeting and forecasting, the time value of money, and working capital management.

FINA 610 CORPORATE FINANCES

3 CREDITS

This course covers the theory and empirics of corporate finance. The starting point of the course is an introduction to the Modigliani-Miller irrelevance theorems, which describe a frictionless set-up in which capital structure is independent of the firms' characteristics or choices and is irrelevant for the valuation of the firm. A variety of deviations from this frictionless scenario are then studied. In these different cases we analyze optimal capital structure, payout policies, corporate taxation, financial distress, the use of capital structure as a signaling device, and control allocation, amongst others, and how these affect the firm's valuation and investment decisions. In addition, we will also cover topics related to corporate governance, initial public offerings, managerial compensation, financial constraints and mergers and acquisitions.

FINA 620 MONEY BANKING AND INVESTMENT MARKETS

3 CREDITS

Debt and equity markets are studied in this course. In the debt market, the primary and secondary markets are explored as sources of financing, with emphasis on bonds and mortgages. In the capital market, the primary market for issues is considered for the first time, and the secondary ones as the "Over the counter". Of course, both markets for some stakeholders are a source of financing and for others a source of economic resources in investments. With financial institutions, the different classifications of these financial intermediaries are considered, such as investment agents, banks and their classifications and characteristics, financial cooperatives, insurance companies and others. It is also considered the correspondence of banks with the banking system of the United States, the Federal Reserve System and the main agencies and regulatory bodies of banking transactions.

FINA 630 INVESTMENT

3 CREDITS

Evaluate different investment strategy and investment portfolio structure in order to maximize the outcome considering different economics situation and individual objectives. Asset and debt analysis and evaluation of a company. Performance risk of diverse investment, financial analysis, stock market, governmental politics and investment in the international market.

FINA 640 PUBLIC FINANCE AND FISCAL POLICY

3 CREDITS

Sources and use of government funds. Fiscal Policy and its impact for stability and development with emphasis in contemporary issues.

FINA 660 INTERNATIONAL FINANCE

3 CREDITS

This course is devoted to studying international monetary economics and finance both theoretically and empirically. We begin with a historical overview of the gold standard, the Bretton Woods's System, and current international monetary regimes and currency systems. We then examine theoretically and empirically the balance-of-trade and balance-of-payment accounts and their adjustments. Exchange rate systems and exchange rate determination and adjustments are also studied, with particular attention to empirical studies on exchange rate dynamics and their impact on macroeconomics. Special emphasis is given to the study of international monetary and financial arrangements, the financial sector, and financial instability and monetary and fiscal policy issues. Topics include issues of exchange rate volatility and its impact on the real and financial sector, foreign debt, capital flows, currency runs, and international portfolio choice; World Bank and IMF policies and issues concerning financial market liberalization; international financial regulations; and international financial architecture. There will be a heavy use of cases for the application of international finance concepts.

FINA 670 RISK AND INSURANCE

3 CREDITS

Analysis of the risk management problems in the business enterprise. Emphasizes methodology for risk analysis, techniques for risk and loss control, models for risk management decision making, and procedures for administering risk management policy relative to no speculative (insurable) risk. Includes product liability, property damage and bodily injury in the business environment.

FINA 705 OPTIONS, FUTURES AND OTHER DERIVATIVE MARKETS

3 CREDITS

The purpose of this course is to help prospective financial managers, general managers and senior functional managers gain a thorough understanding of what financial derivatives are, how they work, how they are used, and how to measure the risks and rewards associated with them. While using and trading derivatives can add enormous value to a firm, a lack of understanding of risk management techniques can easily lead to disaster. It is, therefore, vital for financial and nonfinancial firms to be knowledgeable about the latest tools, tactics, and strategies for risk management using derivatives. This course consists of two parts. The first part of the course deals with the structure of futures markets, pricing of futures contracts and hedging with such contracts. The second part of the course deals with options markets; strategies, pricing and position analysis and hedging with such contracts. The course will consist of lectures, discussions, problem solving, cases and market tracking.

FINA 745 THESIS – FINANCES

3 CREDITS

In master's thesis course, you will explore different ways of finding information, defining the scope of a project, and doing research, as well as different ways of communicating the results. The master's thesis course includes the stages of defining a topic and formulating a problem statement, selecting, and reviewing relevant literature, designing an empirical study as well as performing it, including data collection and analysis. Analyzing the empirical data, make theoretical conclusions and finally writing and rewriting a written report called a master's thesis. Students will work individually to write the thesis.

FINA 750 SEMINAR FINANCE

3 CREDITS

Integrates the principles of Finance with the discussion of contemporary issues. Emphasis in research, and case analysis. The course requires a formal research paper on a topic in Finance.

HIAB 247 HOSPITALITY INTERNSHIP ABROAD I

3 CREDITS

Students will have the opportunity to develop critical thinking, communication, and the ethics and diversity competencies by living outside of Puerto Rico with the purpose of working in a hospitality business abroad for a minimum of 250 hours. A customized internship abroad plan will be developed and approved by the Department to ensure maximization of the experience and compliance with program objectives.

HIAB 248 HOSPITALITY INTERNSHIP ABROAD II

6 CREDITS

Students will have the opportunity to develop critical thinking, communication, and the ethics and diversity competencies by living outside of Puerto Rico with the purpose of working in a hospitality business abroad for a minimum of 500 hours. A customized internship abroad plan will be developed and approved by the Department to ensure maximization of the experience and compliance with program objectives.

HIAB 249 HOSPITALITY INTERNSHIP ABROAD III

9 CREDITS

Students will have the opportunity to develop critical thinking, communication, and the ethics and diversity competencies by living outside of Puerto Rico with the purpose of working in a hospitality business abroad for a minimum of 750 hours. A customized internship abroad plan will be developed and approved by the Department to ensure maximization of the experience and compliance with program objectives.

HIAB 250 HOSPITALITY INTERNSHIP ABROAD IV

12 CREDITS

Students will have the opportunity to develop critical thinking, communication, and the ethics and diversity competencies by living outside of Puerto Rico with the purpose of working in a hospitality business abroad for a minimum of 1000 hours. A customized internship abroad plan will be developed and approved by the Department to ensure maximization of the experience and compliance with program objectives.

HMEV 302 INTRODUCTION TO SPECIAL EVENTS MANAGEMENT

3 CREDITS

Analysis of special events as an important economic driver for the tourism industry. Study of history, trends, terminology, types of events and the planning process. Emphasis on the process of planning a special event from the perspective of the event producer. The competences of critical thinking, information skills, scientific reasoning, and ethics and diversity will be developed through teamwork and field trips that allow students to propose solutions based on information researched and deep discussions.

HMEV 335 EVENT SALES AND SPONSORSHIP

3 CREDITS

From negotiating contracts with clients and vendors to selling the event idea to potential sponsors this course will help students develop the specialized sales skills required for the special events industry. Emphasis will be given to the process of identifying the right sponsors for an event, the development of a persuasive proposal, and implementation of a successful sponsorship campaign. Critical thinking, communication, technology, information skills, ethics and diversity, scientific and quantitative reasoning, and innovation will be developed through research projects, group presentations, and role plays.

HMEV 340 EVENT VENUE MANAGEMENT

3 CREDITS

Studies the management of an event facility from the venue perspective. Topics such as types of event venues, importance of marketing and sales, working with clients, sponsors, and VIPs, setups, safety and security, crowd management, ticket sales, food and beverage, legal issues and sustainability are covered. Careers in venue management are explored. Critical thinking, technology, and ethics and diversity competencies are developed through research projects, site visits, and presentations.

HMEV 345 EVENT EXPERIENCE DESIGN

3 CREDITS

Presents the key elements of event experience design and guides them in the creation of design concepts that meet client expectations. A wide range of elements from flowers, furniture, branded accents, lighting, entertainment, and technology will be covered as tools for creating experiences that translate the client vision into a viable and cost-effective concept. Critical thinking, communication, technology, information skills, ethics and diversity, quantitative reasoning, and innovation competencies are developed through the design and presentation of an event experience design proposal.

HMEV 350 EVENT TECHNOLOGY

3 CREDITS

Introduction to the technical production of events. Emphasis on the design of décor, lighting, audiovisuals, sound, and staging of special events such as festivals, television shows, concerts, sporting, and theatrical events among others. Special importance is given to safety and security, and the identification of the right elements for an event to work properly, look right, and be cost-effective. As part of the course students are required to practice technical production within the setting of at least one real event. Communication, technology, ethics and diversity, quantitative reasoning, and innovation competencies are developed through deep discussions, presentations, and special projects related to the technical production of events.

HMEV 406 SPECIAL EVENTS LOGISTICS

3 CREDITS

This course is a step by step guide to planning a fundraising special event. The course fosters teamwork and allow students to apply their acquired knowledge through the completion and discussion of related assignments and projects. Critical thinking, communication, technology, information skills, ethics and diversity, scientific and quantitative reasoning, and innovation competencies are developed through deep discussions, and related assignments and projects.

HMEV 455 PRACTICUM IN EVENTS

3 CREDITS

Practicum in a hospitality establishment. The student will work a total of 500 hours in areas within the Convention and Event Management Area. The practicum can be in hotels, sports events planning, conventions, or entertainment. The practicum location will be selected from a list of approved centers by the student and practicum coordinator. The Coordinator will impart students with a seminar in which they will discuss the different aspects of the practicum, the calendar, resume and professional etiquette, among other topics. The seminar will be equal to a full day or approximately 8 hours of duration, these are mandatory for students and failure to attend will result in the student's automatic drop from the course.

HMEV 455S PRACTICUM IN EVENTS

0 CREDITS

Practicum in a hospitality establishment. The student will work a total of 500 hours in areas within the Convention and Event Management Area. The practicum can be in hotels, sports events planning, conventions, or entertainment. The practicum location will be selected from a list of approved centers by the student and practicum coordinator. The Coordinator will impart students with a seminar in which they will discuss the different aspects of the practicum, the calendar, resume and professional etiquette, among other topics. The seminar will be equal to a full day or approximately 8 hours of duration, these are mandatory for students and failure to attend will result in the student's automatic drop from the course.

HMHM 302 INTRODUCTION TO HOTEL LODGING MANAGEMENT

3 CREDITS

This course is a study of all the departments in the lodging organization, linking theory with real world problems and solutions, and multidimensional teaching strategies to encourage the competences of critical thinking, communication, technology and innovation. This approach challenges students to identify the issues central to complex management problems, understand the structure of department resources, and harness those resources to solve problems in the workplace developing the ethics, diversity, and information skills competencies. The student will be introduced to hotel classifications, accommodations, front and back office operations, logistics, accounting, food and beverage, hotel engineering, and employment opportunities available in the various service sectors. Instruction is primarily textbook driven with accompanied online lectures and online classroom weekly discussions.

HMHM 303 HOSPITALITY FACILITIES MANAGEMENT

3 CREDITS

This course is offered as an introduction to the fundamental issues involved in the design and management of hospitality facilities. Students will learn how technology can streamline operations procedures, how to balance environmental concerns with guest satisfaction, and how to communicate effectively with hotel engineering personnel. Emphasis is given to maintenance, energy use, occupational health and safety, design and conservation issues, linking theory with real world problems and solutions, and multidimensional teaching strategies to encourage the competences of critical thinking, communication, technology and innovation. This approach challenges students to identify the issues central to complex management problems, understand the structure of department resources, and harness those resources to solve problems in the workplace developing the ethics, diversity, and information skills competencies. The greening of the hotel industry and the growing importance of minimization of water, waste, power and other sources/resources in the hospitality industry, with the imperative need to strike a balance between guest service satisfaction and environmental sustainability. Instruction is primarily textbook driven with accompanied online lectures and online classroom weekly discussions.

HMHM 304 INTRODUCTION TO LUXURY AND BUSINESS DYNAMICS

3 CREDITS

This course is offered as an introduction to the fundamental issues involved in the Luxury Hospitality Sector. It is focused on delivering exceptional personal service and creating memorable experiences for its clients and guests. Case studies will be used to explore current trends including boutique hotels, luxury travel cruises, spas, gastronomy wines and spirits, linking theory with real world problems and solutions, and multidimensional teaching strategies to encourage the competences of critical thinking, communication, technology and innovation. This approach challenges students to identify the issues central to complex management problems, understand the structure of the sector, and harness those resources to solve problems in the workplace developing the ethics, diversity, and information skills competencies. Emphasis is placed on management of fine dining, personal luxury goods, yachts, private jets, automobiles and other brand service industries. Instruction is primarily textbook driven with accompanied online lectures and online classroom weekly discussions.

HMHM 305 HOTEL OPERATION FRONT OFFICE AND HOUSEKEEPING

3 CREDITS

This course presents the student with an in-depth analysis and study of the major components of the room's division within a hotel at a managerial level. Emphasis is placed on the administration of the housekeeping and front office areas, linking theory with real world problems and solutions, and multidimensional teaching strategies to encourage the competences of critical thinking, communication, technology and innovation. This approach challenges students to identify the issues central to complex management problems, understand the structure of department resources, and harness those resources to solve problems in the workplace developing the ethics, diversity, and information skills competencies. Current topics in the division are explored, such as security and lost prevention, as well as elements of risk management. Instruction is primarily textbook driven with accompanied online lectures and online classroom weekly discussions.

HMHM 306 CASINO OPERATIONS MANAGEMENT

3 CREDITS

This course explores the casino composition, its history, types of operation, security, marketing and playing techniques of the table games and slot machines. It will focus on the organizational structure, the rules, and basic operation procedures. The course will be developed with situational analysis, problem solution, theme discussions and simulations.

HMHM 390 PRACTICUM HOTEL MANAGEMENT

3 CREDITS

Practicum in a hospitality establishment. The student will work a total of 500 hours in supervision areas within the Hotel Management Area. The practicum location will be selected from the list of approved practice centers by the student and approved by the ISHCA practicum coordinator. The School Practicum Coordinator will impart students with a seminar in which they will discuss the different aspects of the practicum, the calendar, resume and professional etiquette, among other topics. The seminar will be equal a full day or approximately 8 hours of duration. The seminars are mandatory for students and failure to attend will result in the student's automatic drop from the course.

HMHM 390S PRACTICUM HOTEL MANAGEMENT

0 CREDITS

Practicum in a hospitality establishment. The student will work a total of 500 hours in supervision areas within the Hotel Management Area. The practicum location will be selected from the list of approved practice centers by the student and approved by the ISHCA practicum coordinator. The School Practicum Coordinator will impart students with a seminar in which they will discuss the different aspects of the practicum, the calendar, resume and professional etiquette, among other topics. The seminar will be equal a full day or approximately 8 hours of duration. The seminars are mandatory for students and failure to attend will result in the student's automatic drop from the course.

HMHM 400 REVENUE MANAGEMENT ANALYTICS

3 CREDITS

Designed for students who are interested in higher level managerial positions in the hospitality industry, whom would be responsible for the financial performance of a hotel and formulating tactical pricing decisions to maximize revenues for hospitality organizations. The course will provide students the basic understanding of the revenue management process. Topics covered will include a review of the historical development of revenue management, reservation systems, forecasting demand, inventory control, cost analysis, pricing strategy, channel management, and revenue management tactics, i.e., overbooking, discount allocation, and demand management

HMNG 101 INTRODUCTION TO THE HOSPITALARY INDUSTRY

3 CREDITS

This course introduces the student to the most important areas within the Hospitality Industry, the professional career options within the industry and the management functions associated with each area. Special importance will be given to Lodging, Food and Beverage, and the Meeting industries. Case studies, group dynamics, teamwork, and class discussions will introduce students to effective management styles, the use of the decision-making process to resolve managerial situations and the development of strategic management thinking skills. Guest speakers from the industry will share their experiences with students. The course will use the Internet as a research tool, e-mail and Blackboard as means of communication, and MS Word and PowerPoint for projects and presentations.

HMNG 202 FOOD AND BEVERAGE MANAGEMENT AND MENU DEVELOPMENT

3 CREDITS

In this course students will be able to integrate food and beverage concepts, business principles, hospitality management theories and menu development principles. The course will apply the use of information skills, communication, quantitative reasoning and innovation competencies to study issues and principles relevant to the restaurant industry, including market analysis, menu development strategies, service systems, and restaurant metrics. The course will use the Internet as a research tool, the e-mail as a means of communications and MS Word and Power Point for papers and projects.

HMNG 207 BASIC WINES, BEERS, SPIRITS

3 CREDITS

This course explores the history, classification, methods of production and uses of wines, beers, and spirits. Sensory analysis, product knowledge, basic principles of food and wine pairing, service techniques and alcohol service related to the hospitality industry will be discussed. The course will use the Internet among other research tools, e-mail as means of communication and MS Word and Power Point for papers and projects.

HMNG 211 HOSPITALITY ETHICS

3 CREDITS

Debates of the ethical dilemmas commonly encounter by the hospitality employees. Discussion of overbooking regulations, breach of contract, sexual harassment, professional and personal relationships with peers and supervisors, abuse of power, schedule assignation and lies. Emphasis will be placed in the understanding of morale and its implication. The course will be developing through the analysis of case studies, readings, and day- today situations. The course will finalize with the development of a Code of Ethics. It will use the Internet among others research tools, Email as means of communication and MS Word for papers. Debates sobre los dilemas éticos que comúnmente encuentran los empleados de la hostelería.

HMNG 259 HOSPITALITY ACCOUNTING

3 CREDITS

Course provides students with the basic accounting concepts and principles in the hospitality industry, hospitality financial data, and the flow of financial information during the complete accounting cycle. Students will have the opportunity to produce and interpret financial statements. Topics covered will include aspects of the restaurant accounting and hotel accounting, among others. The course will use the Internet as a research tool, the Email as a means of communications and MS Word for papers and projects.

HMNG 281 GUEST SERVICE EXPERIENCE

3 CREDITS

The course will explore the role of service in the hospitality industry by focusing on guest service etiquette and restaurant dining service protocols for hotel operations and restaurants. It will contextualize communication, information and critical thinking competencies by analyzing, questioning and proposing solutions for situations with difficult guests. Emphasis will be given to developing the communication competency through the development of a professional image based on a dress code, vocal modulation, posture and body language without sacrificing personal identity. In addition, the course will introduce students to the principles, concepts, and systems of professional table service, including dining room organization, personnel management and dining room service protocols. Innovation competencies will be reinforced by planning and executing one special event involving guest service etiquette and restaurant dining room service. The course will use the internet among others research tools, e-mail as means of communication and MS Word and Power Point for papers and projects.

HMNG 291 TECHNOLOGICAL APPLICATION FOR THE TOURISM INDUSTRY

3 CREDITS

Hands-on course that introduces students to technological applications including spreadsheet, database presentation, word processing, and Web content management packages as they relate to the tourism industry. Students will learn how to organize, interpret and present information in a way that maximizes productivity and facilitates the delivery of excellent customer service within the tourism context. Critical thinking, technology and information competencies are developed through assignments and projects related to the tourism context.

HMNG 347 HOSPITALITY HUMAN RESOURCES MANAGEMENT

3 CREDITS

Comprehensive study of human resources, personnel supervision and effective communication as applied to Human Resources Management techniques within hotels, restaurants, events and other hospitality workplaces will be presented. The role, characteristics and skills of a supervisor and the principles of planning, recruitment, selection, staffing and organizing, training, performance management, coaching, counseling and discipline, controlling, delegation and decision making are topics of study. Other topics will include how to resolve conflicts, organizational behavior theories applied to the strategic management of a successful hospitality operation, important behavioral modification factors such as management styles, motivation, job satisfaction, employee empowerment, organizational culture, leadership, team-work, power structure and organizational change, will be discussed and analyzed. The course will use the Internet as a research tool, the Email as a means of communications and MS Word for papers and projects.

HMNG 351 PURCHASING AND COST CONTROL

3 CREDITS

This course will teach students the principles of food and beverage purchasing and cost control through the application of critical thinking, communication, technology, ethics and diversity competencies. Studies and analysis of cost control systems and methods in the areas of purchasing, receiving, storing and issuing within the hospitality industry will be discussed. The student will comprehend and practice techniques of forecasting, assessment and reporting for food and beverage cost control that determine hospitality profitability. This course uses basic mathematics applications, scientific and quantitative reasoning on a regular basis. The course will use the Internet as a research tool, the e-mail as a means of communications and MS Word and Power Point for papers and projects.

HMNG 360 HOSPITALITY FINANCE

3 CREDITS

Course provides students with the principles, methods and concepts of hospitality finance, cash management and its importance; the investment decisions regarding hospitality projects and capital expenditures; cash control during the various stages of operations; statement of cash flow; an introduction to feasibility studies, financial ratios analysis and working capital. The course will use the Internet as a research tool, the Email as a means of communications and MS Word for papers and projects.

HMNG 365 HOSPITALITY LAW

3 CREDITS

This course focuses on elements of business law, mostly torts (negligence), and property law and the effects thereof on the hospitality and tourism industries. It is intended to help the student to develop a practical managerial perspective on how the law applies generally to: the hospitality/tourism company's policies and practices, minimize the negative impact of the legal environment on the company, and foster an attitude of compliance and prevention. The course emphasizes in US Federal law, recognizing that also Puerto Rico law applies to hospitality companies. Students will examine relevant federal and state cases and statutes. The overall objective is to enable students to recognize, analyze, and evaluate legal issues for the purpose managing preventatively and apply appropriate decisions in the workplace.

HMNG 370 HOSPITALITY SALES AND MARKETING

3 CREDITS

This course immerses the students into the functions and principles of hospitality sales and marketing. Students will learn the essential sales and marketing functions. The course incorporates the development of a marketing plan with emphasis on sales and marketing techniques, target marketing, advertising, public relations, and market study and analysis. The course uses the Internet among other research tools, email as means of communication, and MS Word, Excel and Power Point for projects and presentations.

HMNG 375 SOCIAL MEDIA AND CONTENT DESIGN

3 CREDITS

This course presents the student with the start and use of digital marketing as well as social media as part of contemporary society, the influence of these in the globalized world, the impact they have in tourism and travel, but most importantly, how to use them as marketing tools. Evaluation of the use, service and advantages of the most important social media networks and applications while integrating critical thinking, communication, innovation and information management skills. Explanation of the good management of these types of media and the necessary strategies to connect with users through effective publications to motivate positive reactions in them and stimulate engagement, these techniques will help the student explore with ethics and diversity in the course.

HMNG 381 HOSPITALITY BUSINESS DEVELOPMENT AND ENTREPRENEURSHIP

3 CREDITS

Introduction to hospitality business management theory and practice in an entrepreneurial environment within the hospitality industry. Topics include financial and legal requirements of a startup venture, competitive market analysis, business plan development, and strategic planning, linking theory with real world problems and solutions, and multidimensional teaching strategies to encourage the competences of critical thinking, communication, technology and innovation. This approach challenges students to identify the issues central to complex management problems, understand the structure of the sector, and harness those resources to solve problems in the workplace developing the ethics, diversity, scientific and quantitative reasoning competencies. Working in teams, students develop concise presentation decks and detailed business plans in a competitive framework over the course of the semester, leading to presentations to a panel of experienced entrepreneurs. Instruction is primarily textbook driven with accompanied online lectures and online classroom weekly discussions:

HOPC 101 INTRODUCTION TO HOSPITALITY INDUSTRY

3 CREDITS

This course introduces the student to the most important areas within the Hospitality Industry, the professional career options within the industry and the management functions associated with each area. Special importance will be given to Lodging, Food and Beverage, and the Meeting industries. Case studies, group dynamics, teamwork, and class discussions will introduce students to effective management styles, the use of the decision-making process to resolve managerial situations and the development of strategic management thinking skills. Guest speakers from the industry will share their experiences with students. The course will use the Internet as a research tool, e-mail and Blackboard as means of communication, and MS Word and PowerPoint for projects and presentations.

HOPC 107 FOOD & BEVERAGE MANAGEMENT AND MENU DEVELOPMENT

3 CREDITS

Overview of foodservice and beverage operations in the commercial and non-commercial segments. Discussion of the fundamentals of managing these operations to maximize service, efficiency, and productivity. Emphasis is placed on menu theory, production planning and service techniques used to exceed guest expectations. The course is developed through class discussion and teamwork assignments and discussion. The course will use the Internet as a research tool and MS Words for paper and projects.

HOPC 108 HOTEL OPERATIONS-FRONT OFFICE AND HOUSEKEEPING

3 CREDITS

This course presents the student with an in-depth analysis and study of the major components of the room's division within a hotel at a managerial level. Emphasis is placed on the administration of the housekeeping and front office areas, linking theory with real world problems and solutions, and multidimensional teaching strategies to encourage the competences of critical thinking, communication, technology and innovation. This approach challenges students to identify the issues central to complex management problems, understand the structure of department resources, and harness those resources to solve problems in the workplace developing the ethics, diversity, and information skills competencies. Current topics in the division are explored, such as security and lost prevention, as well as elements of risk management. Instruction is primarily textbook driven with accompanied online lectures and online classroom weekly discussions.

HOPC 170 HOSPITALITY SALES AND MARKETING

3 CREDITS

This course immerses the students into the functions and principles of hospitality sales and marketing. Students will learn the essential sales and marketing functions. The course incorporates the development of a marketing plan with emphasis on sales and marketing techniques, target marketing, advertising, public relations, and market study and analysis. The course uses the Internet among other research tools, email as means of communication, and MS Word, Excel and Power Point for projects and presentations.

HOPC 180 GUEST SERVICE EXPERIENCE

3 CREDITS

The exploration of the role of service in a successful hospitality operation. Topics discussed encompass handling difficult guests, dealing with complaints, developing listening skills, and improving guest satisfaction. Introduction to the service philosophy. The course will use the Internet among others research tools, Email as means of communication and MS Word and PowerPoint for papers and projects.

HOPC 181 HOSPITALITY ACCOUNTING

3 CREDITS

Course provides students with the basic accounting concepts and principles in the hospitality industry, hospitality financial data, and the flow of financial information during the complete accounting cycle. Students will have the opportunity to produce and interpret financial statements. Topics covered will include aspects of the restaurant accounting and hotel accounting, among others. The course will use the Internet as a research tool, the Email as a means of communications and MS Word for papers and projects.

HOPC 190 TECHNOLOGICAL APPLICATIONS FOR THE TOURISM INDUSTRY

3 CREDITS

Hands-on course that introduces students to technological applications including spreadsheet, database presentation, word processing, and Web content management packages as they relate to the tourism industry. Students will learn how to organize, interpret and present information in a way that maximizes productivity and facilitates the delivery of excellent customer service within the tourism context. Critical thinking, technology and information competencies are developed through assignments and projects related to the tourism context.

HSUS 381 SUSTAINABLE TOURISM /HOSPITALITY BUSINESS PLANNING AND DEVELOPMENT

3 CREDITS

This course introduces the student to the fundamental changes that influence business institutions and managerial attitudes towards more sustainable natural resources management. Examines the philosophy, concepts and attitudes prevalent in practices of sustainable tourism in local and global destinations building strong moral and professional ethics in our students. This course will emphasize in regulations, policies, best practices and certifications in sustainable business planning and development. In addition, through the presentations of various guest speakers, field visits, case studies and group projects students will learn to innovate and develop new methodologies leading to critical thinking, scientific and quantitative reasoning. This course will emphasize in the development of research skills and strong communication practices. The course will use the Internet as a research tool, e-mail and Blackboard as means of communication, and MS Word and PowerPoint for projects and presentations.

HSUS 385 ENVIRONMENTAL MANAGEMENT SYSTEMS AND LEADERSHIP PRINCIPLES

3 CREDITS

This course examines the leadership role in the implementation of environmental management systems in a tourism/hospitality operation. Student will engage in discussions about environmental dilemmas enhancing their ethical competencies. This course will give emphasis to human resources, promotion-marketing and financial factors of a sustainable business operation promoting good communication skills. Actual resources consumption audit will be performed as part of course requirements. This course provides the tools to audit resources consumption and discusses strategies for environment conservation enabling the students to engage in profound critical thinking, scientific and quantitative reasoning. Students will have the opportunity to have field visits, case studies and group projects. Student will acquire innovative and technical skill in accordance to the industries future tendencies. The course will use the Internet as a research tool, e-mail and Blackboard as means of communication, and MS Word and PowerPoint for projects and presentations. This will help the student acquire more strong research skills.

HSUS 390 SUSTAINABLE TOURISM/HOSPITALITY ENTREPRENEURIAL PROJECT DEVELOPMENT _

6 CREDITS

This course leads the student to apply the knowledge acquired in previous courses to the development of a tourism/hospitality business that complies with all the characteristics, regulations and certification standards of a sustainable operation. The first phase of the project will include visits to local or international destinations to benchmark sustainable business and evaluate applicable best practices. This course will give special attention to moral and professional ethics, global and local innovation, scientific reasoning and research methodology. The second phase will be the actual development of a business plan for a tourism/hospitality enterprise with the presentation to a financing entity, engaging students in acquiring persuasive communication skills and strong quantitative reasoning. Course evaluations is based on project financial approval. Student will learn technological skills with the use of the Internet as a research tool, e-mail and Blackboard as means of communication, and MS Word and PowerPoint for projects and presentations.

HSUS 391 PRACTICUM IN HOTEL MANAGEMENT AND SUSTAINABILITY OPERATIONS

3 CREDITS

The course is a practical in sustainable hospitality operations work experience structured to provide exposure to management and training functions, job rotation tasks and/or projects not previously performed. Minimum 150 hours field experience is required. The practicum location will be selected from a list of approved sustainable operators centers by the student and practicum coordinator. The school practicum coordinator will impart students with a seminar in which they will discuss the different aspects of the practicum, the calendar, resume and professional etiquette, among other topics. The seminar will be equal to a full day or approximately 8 hours of duration. Two evaluations will be required by the supervisor assigned to each of the two areas to rotate front of the house, bar, banquets, purchasing, inventory, supervision, according to school standards. The seminars are mandatory for students and failure to attend will result in the student's automatic drop from the course.

HURE 640 COLLECTIVE BARGAINING

3 CREDITS

Emphasis is given to new forms of white-collar unionization, public sector labor relations, bargaining and quasi-bargaining. The course covers the development of American unions, union's structure and government, organizations campaigns and representation elections, labor agreement negotiation and administration, public policy. Emphasis on the national labor relations act and grievance arbitration process.

HURE 700 ORGANIZATION DESIGN & STRUCTURE

3 CREDITS

Maintaining a sustainable competitive advantage depends on the organization's capabilities: The way in which a firm structures its work, develops its culture, and motivates structures its work, develops its cultures its work, and motivates people to achieve its aspirations and well-defined strategic objectives. Creating a competitive advantage is based on the firm's human resource management plays a decisive role in the design organization architecture, which changes as strategic opportunities for the organization structure is the main topic of this course.

HURE 720 TRAINING METHODOLOGY AND DESIGN

3 CREDITS

This course is designed to provide the student knowledge and administrative skills and techniques about the methodology and the processes that promote the growth and development of organizations through the design and implementation of training programs that facilitate continuous learning and synergy among human resources..

HURE 740 INTERNATIONAL HUMAN RESOURCE

3 CREDITS

The International Human Resource (IHR) has formed a vital practice in the life and growth of enterprises. Globalization has forced companies to use new tactics in business matters. This course introduces the student to the field of IHR, mega-tendencies and globalization. We will study the historical evolution of the multinational corporation, as well as the current organizational strategies and structures used by many of these corporations. Then, we will identify different parts of national work markets with a view to use them to upgrade IHR viability. Finally, it focuses on the functional aspects of international human resource management.

HURE 750 HUMAN RESOURCES SEMINAR

3 CREDITS

This course is a compendium of the topics selected from all the courses offered in the Human Resources Management specialization. This seminar includes the search, reading, analysis, discussion of articles, cases, sections of new books on human resources and other sources of current information the field of human resources and other sources current information the field of human resources. The course also requires the preparation of a research paper on a topic chosen by the student and accepted by the course professor.

HURM 611 LABOR RELATIONS

3 CREDITS

A comprehensive study of the main laws, practices and fundamental processes that govern the labor relations in Puerto Rico. Emphasis is made on the impact of the labor legislation and the collective bargains over the employees, labor unions and the organizational performance. The course includes the discussion of employee rights, prerogatives and obligations of the parties involved and the implications for the organizations.

HURM 614 SECURITY HYGIENE AND LABOR QUALITY MANAGEMENT

3 CREDITS

The study of employee security and protection, disabilities, industrial hygiene, health, and the legislation related to these areas and its' impact in the management of the human resources. The focus is in the responsibility to create a culture of safety and health in an organization. Emphasis is made on the importance of the strategic development and handling of the policies and practices associated with the prevention and costs related to the health, safety and protection, violence, controlled substances, welfare and ergonomics, among others.

HURM 615 INTERNATIONAL HUMAN RESOURCES

3 CREDITS

Study of the philosophy, theories, policies and predominant practices in the field of human resources management applied to an international context. It focuses on the analysis of the principal strategies applied to the human resources field, and their effect on the organizational dynamics in a global economic market. It will emphasize on the study of the impact of cultural, economic, labor, human and logistic factors.

HURM 705 PRODUCTION AND OPERATIONS MANAGEMENT

3 CREDITS

Study of the principle and management concept into a business environment this include business strategy, the time period in which objective are to be achieved, performance measurement and resource management, all in a management function involved.

HURM 710 HUMAN RESOURCES MANAGEMENT

3 CREDITS

The course deals with philosophy, techniques and policies of the management of human resources in modern organizations. A conceptual model of personnel administration is discussed. The analysis is supplemented with classical case studies.

HURM 714 TRAINING, PLANNING AND ADMINISTRATION

3 CREDITS

The evaluation of methods, concepts, theories and strategies for the integral human resources development as a function of the individual and organizational needs and expectations. It will emphasize the training need assessment, instructional design, development and evaluation of training and development programs. It will also analyze research designs and other mechanisms for the evaluation of the effectiveness and efficiency of the teaching and learning process, transference and results measurement.

HURM 715 ADVANCED SUPERVISION

3 CREDITS

The course provides the student with the skills and knowledge necessary to carry out effectively the managerial functions of planning, organization, direction and control of personnel.

HURM 716 PERSONNEL RECRUIT AND SELECTION

3 CREDITS

The course centers on revision and analysis of the different stages of the personnel recruitment and selection process, beginning with the identification of the need to recruit, up to the moment an employment offer is made.

HURM 720 PERFORMANCE EVALUATION

3 CREDITS

This course was designed to provide a general vision and understanding of the theory associated with performance appraisal, its methods and the way it is related to the Human Resources System in the organization. It includes the discussion of performance appraisal methods and tools for the evaluation and development of performance appraisal instruments. The course will also provide a view of the legal aspects and international contexts of the performance appraisal.

HURM 725 LABOR LAW

3 CREDITS

The course promotes the analysis, evaluation, and discussion of local and federal laws pertaining to the employer-employee relationship in Puerto Rico. Topics discussed include fair employment practices, wage and salary legislation, anti-discrimination laws, promotion, termination, and other pay-related actions.

HURM 730 COMPENSATIONS AND BENEFITS

3 CREDITS

The principles underlying employee compensation are studied in the course. Different wage and salary systems and their benefits programs found in modern businesses are examined. The creation, implementation and maintenance of a salary plan, together with the methods of job evaluation for value determination are topics considered.

HURM 732 OCCUPATIONAL HEALTH AND SAFETY

3 CREDITS

The course covers fundamental aspects of existing legislation and policies regarding occupational health and safety, compensation, and distribution of responsibilities.

HURM 735 HUMAN RESOURCES SEMINAR

3 CREDITS

Course designed to guide students to conduct research within their area of study under the direction and supervision of professor. The course is an individualized development. The course includes identification and discussion of problematic situations that can be investigated, analysis and events that relate to it. It also includes the recognition of independent and dependent variables of the problem, formulation of basic research questions, type of research, formulating hypotheses, and defining limitations of the study. It also discusses the aspect of the readings relevant to the research population and sample of the study, design of instruments to be used in data collection, identification and description of the operational procedures and statistics to be used in the analysis of data collected in the study. Then the student emphasizes the aspect of statistical presentation of the findings and their interpretation, summary, conclusions and recommendations.

HURM 738 KNOWLEDGE INTEGRATION IN HUMAN RESOURCES

3 CREDITS

This course was developed to provide to the student of the Graduate Program in Human Resources, the opportunity to examine and compare their knowledge with the actual conditions of the organizations. The student can identify, discuss and analyze in a critical way the concepts and theories in management using real situations of different organizations. The analysis will be in an integrative way in which the student can use the knowledge acquired in their concentration courses.

HURM 743 HUMAN RESOURCES ANALYTICS AND METRICS

3 CREDITS

The course introduces students to the use of metrics, analysis, and interpretation that are critical to human resources. A rigorous methodology for human resources metrics is used. It discusses the strategic management and methodologies of Balance Score Card, as well as the development of surveys, the forecasting of the workforce and the calculation of absenteeism and rotation costs. At the end of the course, students must integrate, analyze, and interpret data to make more information decisions about human resources management.

HURM 745 THESIS – HUMAN RESOURCES

3 CREDITS

In Master's Thesis course, you will explore different ways of finding information, defining the scope of a project, and doing research, as well as different ways of communicating the results. The Master's thesis course includes the stages of defining a topic and formulating a problem statement, selecting, and reviewing relevant literature, designing an empirical study as well as performing it, including data collection and analysis. Analyzing the empirical data, make theoretical conclusions and finally writing and rewriting a written report called a master's thesis. Students will work individually to write the thesis.

INBU 350 INTERNATIONAL BUSINESS

3 CREDITS

This course centers on presenting the concepts and administrative implications of international business practices in the area of products and services merchandising all around the world. The course will emphasize the pros and cons of economic theories, government policies, business strategies and the organizational structure of international business.

INBU 603 GLOBAL BUSINESS EMERGING MARKETS

3 CREDITS

This course explores and analyze the economic, political and cultural dynamics of emerging markets since World War II to current times. Along the course, students will develop the ability to compare and contrast different time's frames and diverse global markers. Some of the emphasis students will find on INBU 608 will be placed on the effects of government, the rights of free trade, entrepreneurship, administration, and financial institutions. The history from a number of very diverse regions such as India, Russia, China, the "Asian dragons", Saudi Arabia, Argentina, Chile, the Caribbean and the European Union, will be studied as a way of learning from different global business and investment strategies from a diverse perspective.

INBU 610 INTERNATIONAL BUSS ENVIRO

3 CREDITS

This is an introductory course in international business. The basic content of the course includes (1) an overview of the means of conducting international business, with an emphasis on what makes international different from domestic; (2) the effects of the social systems within countries on the conduct of international business; (3) the major theories explaining international business transactions and the institutions influencing those activities; (4) the financial exchange systems and institutions that measure and facilitate international transactions; (5) the dynamic interface between countries and companies attempting to conduct foreign business activities; (6) corporate strategy alternatives for global operations; and (7) international activities that fall largely within functional disciplines.

INBU 630 IMPORT/EXPORT MANAGEMENT

3 CREDITS

Managing the export/import department; government regulations affecting imports; financing, insuring, transporting, and marketing of exported or imported raw materials and finished products; methods of purchasing foreign products and selling domestic goods abroad; joint marketing; licensing; distributor relations.

INBU 709 INTERNATIONAL BUSINESS IN LATIN AMERICAN AND THE CARIBBEAN

3 CREDITS

This course is focused on the business activities carried out across Latin America and the Caribbean. The course reveals macro environment aspects: politic, economy, legal and regulatory, technology, cultural and other and how they impact the multinational enterprise that wishes to establish itself in the region. Furthermore, it analyzes the particularities of the region from the functional perspective of the business organization.

INBU 710 LEGAL ENVIRONMENT OF INTERNATIONAL BUSINESS

3 CREDITS

A study of the international political, bureaucratic, and legal structures regulating and governing international trade, including multilateral and bilateral arrangements. Schemes for the removal of trade barriers, methods of international contracting, and doing business abroad in the context of international legal environment will be a primary course focus.

INBU 712 CONTEMPORARY AFFAIRS IN INTERNATIONAL BUSINESS

3 CREDITS

This course is designed to provide students with the opportunity to examine and analyze topical issues in International Business. Such rapid changes in global environments may put potentially significant impact on the international business and the home and/or host nations associated. This subject assumes students to have fair degrees of understanding in the complexities of global cultural, political, economic, organizational, and financial forces of international business environments and recognize how they affect their firm. As contemporary issues around, international business continue to evolve but many times unpredictably, challenges for firms to adjust, reshape and/or reconstruct their strategic directions and thereby organization and management structure become inevitable. This subject will introduce past, current and emerging issues in international business environments and equip students to apply theories/concepts learned from first hand international business subjects into more coherent and real-life practices.

INBU 720 INTERNATIONAL BUSINESS STUDIES

3 CREDITS

The International Business Studies course is an intensive course that explores the business in the context of Latin America and the world. This course is taken outside of Puerto Rico in one of the Partner Universities of our School of Business. Possible topics are: marketing, bilateral trades, financial markets, strategy, work environment, culture, history and law. Also, some local companies will be visited.

INBU 745 THESIS – INTERNATIONAL BUSINESS

3 CREDITS

In Master's Thesis course, you will explore different ways of finding information, defining the scope of a project, and doing research, as well as different ways of communicating the results. The Master's thesis course includes the stages of defining a topic and formulating a problem statement, selecting, and reviewing relevant literature, designing an empirical study as well as performing it, including data collection and analysis. Analyzing the empirical data, make theoretical conclusions and finally writing and rewriting a written report called a master's thesis. Students will work individually to write the thesis.

ITMA 501 BUSINESS ANALYTICS

3 CREDITS

Business intelligence transforms data into intelligence knowledge for decision making, tactics and organizational strategies. Data analysis allows you to measure trends, relationships, predictions, or comparisons of a data set through text and data mining algorithms. In this course the student will be able to learn and interact with technological tools that will allow them to analyze and produce results. The student will be able to generate visualization and dashboard environments, as well as the use of query language for the creation of knowledge.

ITMA 525 INFORMATION SECURITY AND ASSURANCE

3 CREDITS

An introductory course to the various technical and administrative aspects of Information Security and Assurance, this course provides the foundation for understanding key issues associated with protecting information assets, developing protection and response to security incidents, and designing a consistent, reasonable information security system, with appropriate intrusion detection and reporting features.

ITMA 600 BUSINESS CONTINUITY AND DISASTER RECOVERY PLANNING

3 CREDITS

The study of this course will examine the preservation of business activities when faced with disruptions of disasters. This involves the identification of real risks, proper risk assessment, and countermeasure implementation.

ITMA 610 FORENSIC CYBERNETICS

3 CREDITS

This course is closely related to legal evidence found in computers and digital storage media. The discovery is important to explain the current situation of digital artifacts such as a computer system, a storage medium such as a hard disk, electronic documents such as e-mail in the process of searching for information regarding the subject matter. Forensic Cybernetics is also interconnected with several categories such as network forensics, forensic data, multimedia, and telecommunications forensics.

ITMA 615 INFORMATION TECHNOLOGY AND COMMUNICATIONS

3 CREDITS

Information Technology helps students understand technical concepts underlying current and future developments in information technology. There will be a special emphasis on networks and distributed computing. Students will also gain some hands-on exposure to powerful, high-level tools for making computers do amazing things, without the need for conventional programming languages.

ITMA 620 INFORMATION TECHNOLOGY SERVICE MANAGEMENT

3 CREDITS

This course provides comprehensive first-level training for anyone involved in support and delivery of IT Services. The course covers the fundamentals of the IT Infrastructure Library (ITIL) Service Delivery and Service Support. It also covers new technologies for electronic data management.

ITMA 630 POLICY AND ADMINISTRATION IN INFORMATION TECHNOLOGY SECURITY

3 CREDITS

This course will give a detailed examination of a systems-wide perspective of information security, beginning with a strategic planning process for security. Includes an examination of the policies, procedures and staffing functions necessary to organize and administrate ongoing security functions in the organization. Subjects include security practices, security programs, and continuity planning and disaster recovery planning.

ITMA 635 DATA WAREHOUSE MANAGEMENT

3 CREDITS

The course is designed to prepare students for the management of data warehousing using databases. The student will learn how to plan, design, and develop all the methodology to build a successful data warehouse.

ITMA 745 THESIS – SECURITY IN INFORMATION SYSTEMS

3 CREDITS

In Master's Thesis course, you will explore different ways of finding information, defining the scope of a project, and doing research, as well as different ways of communicating the results. The Master's thesis course includes the stages of defining a topic and formulating a problem statement, selecting, and reviewing relevant literature, designing an empirical study as well as performing it, including data collection and analysis. Analyzing the empirical data, make theoretical conclusions and finally writing and rewriting a written report called a master's thesis. Students will work individually to write the thesis.

MAIS 830 WEB-BASED INFORMATION ARCHITECTURES

3 CREDITS

The course deals with design, creation, and usage of web sites and related software. The course focuses on how to use search engines optimally, design e-business sites, analyze competition, and how to archive page access paths in the service of successful e-commerce infrastructures. The course addresses issues related to the creation of search engines, as well as web-based information architectures.

MAIS 842 WORLD NETWORK SERVICES

3 CREDITS

Students will explore and construct web services designed for use in other servers over the Internet. Topics include design and implementation of new services that facilitate collaboration and education. Participants will design, develop, and deploy web services. If appropriate, the web services created will be linked together to demonstrate the concept of web service supply chains.

MAIS 852 MULTIMEDIA SYSTEMS

3 CREDITS

The course centers on the study of theoretical and practical issues in designing multimedia systems. Topics include an introduction to multimedia systems, compression techniques, synchronization, user interface, storage, and operating system support for digital audio and video, as well as network and transport protocols for multimedia.

MANA 131 HUMAN RELATIONS IN BUSINESS

3 CREDITS

Concepts dealing with the interaction and interpersonal relations of individuals and groups within organizations. It includes an analysis of soft skills and group behavior.

MANA 204 BUSINESS LAW

3 CREDITS

The course centers on studying the legal aspects of common ethical behavior that affects business transactions, with emphasis on Puerto Rican legislation. Special attention is given to contracts, sales, and marketable securities, transfer of property, deeds and mortgages.

MANA 210 MANAGEMENT

3 CREDITS

This course provides students an understanding of the basic functions of management. It empathizes the processes of planning, organizing, leading, and controlling activities effectively and efficiently to achieve organizational objectives.

MANA 213 PERSONNEL MANAGEMENT

3 CREDITS

Study of the theories, principles and processes of the human resources management. It includes the recruitment, training, supervision, motivation and direction of these resources and the related legislation.

MANA 230 ORGANIZATIONAL BEHAVIOR

3 CREDITS

Application of the systems to the study of human behavior as individuals and in groups as determinants of organizational effectiveness, the formal and informal group, leader role in conflict management, perception, learning, socialization, motivation, efficient management of stress, awareness and development of values.

MANA 260 MANAGERIAL STRATEGIES

3 CREDITS

Study of special topics and their application on the pharmaceutical industry. The concept of total quality, the importance of internal and external clients, the use of methods and tools to problems solutions and its prevention will be discussed. the course explains and demonstrates the benefits of implementing a continuous improvement strategy achieve business and personal goals.

MANA 316 SMALL BUSINESS ADMINISTRATION

3 CREDITS

The course centers on planning, distribution of space and handling of materials, analysis of investments, inventory control, quality control, and the analysis of methods to determine employee efficiency for small businesses. The course centers on planning, distribution of space and handling of materials, analysis of investments, inventory control, quality control, and the analysis of methods to determine employee efficiency for small businesses.

MANA 321 LEADERSHIP AND SUPERVISION

3 CREDITS

This course provides a general view of the concepts, methods, and modern supervisory techniques needed to become an efficient business manager. It emphasizes the supervisor's responsibility and authority and highlights the role and functions of the supervisor. Theory is combined with practical observations, so that the student can become aware of all the fiscal, human and psychological resources that the supervisor must use in order to administer efficiently and effectively.

MANA 322 MANAGEMENT SERVICES

3 CREDITS

This course provides a complete and comprehensive picture of the management of service organizations. Students explore the principles of service management theory as it relates to various service industries as well as the role and responsibilities of managers. Course content include contextualization of the service sector and its role in the economy, strategic management of services, service portfolio management, innovation in the service sector, services marketing and service quality practices.

MANA 340 OPERATIONS MANAGEMENT

3 CREDITS

Principles of production management applied to problems such as product design, objectives, policies, work, method and standards, plant location, layout, scheduling, maintenance, inventory, quality control, operations analysis, performance and cost control.

MANA 401 ENTERPRISE STRATEGY

3 CREDITS

This course integrates the knowledge acquired in the first three years of business administration. It includes the strategic study organizations at all stages and their social and environmental impact.

MANA 404 LABOR RELATIONS

3 CREDITS

The course presents a multinational approach to labor relations but places special attention on Puerto Rico. Students will analyze the origins of labor unions in Puerto Rico, as well as labor laws and federal laws related to the island. Arbitration and complaint procedures and the selective analysis of current situations in labor will also be studied.

MANA 405 INTERNATIONAL MANAGEMENT

3 CREDITS

This course studies the different management processes and structures from an international perspective. The managerial roles and functions, the selection, recruitment, training, evaluation, and promotion of employees are some of the issues analyzed in this course from the international management perspective. Emphasis is given to the study of international management strategies and structures, and how the cultural differences, institutional diversity factors, and political risks impact the international management activities.

MANA 433 DATA ANALYSIS AND PROJECTIONS FOR DECISION

3 CREDITS

This course provides the student with the concepts, methods and tools for the application of quantitative analysis in decision making and problem solving in organizations. The use of electronic spreadsheets is emphasized to support management processes including budgets, financial and production projections, feasibility analysis, cost analysis, inventory controls and models to optimize productivity among others.

MANA 435 SUPPLY CHAIN MANAGEMENT

3 CREDITS

This course provide student with the fundamentals of the supply chain management. Emphasize the planning, management and control of the supply chain, purchase process, resource planning and allocation, inventory management and performance and metrics along the supply chain.

MANA 482 BUSINESS WORK EXPERIENCE PRACTICUM

3 CREDITS

This course is designed for students working toward the Bachelor's Degree in Business Administration. Requires a minimum of 15 hours per week of supervised work in government, banking, business offices, or in a public or private organization. The practice is supplemented with readings, reports and group discussions.

MANA 501 ORGANIZATIONAL BEHAVIOR

3 CREDITS

Fundamental Course directed to provide to the student a theoretical conceptual base and applied around the conduct organizational to group, individual level and organizational. It will be focused in the study of the impact of the individuals, the groups and the organizing structure in the behavior in the organizations for the purpose of applying similar knowledge for the achievement of the effectiveness of the businesses.

MANA 601 RESEARCH METHODS

3 CREDITS

The course examines the nature and scope of research design and its application to management science. It also incorporates the statistical tools commonly used in the research process and in the development of a research proposal.

MANA 603 MATERIAL MANAGEMENT

3 CREDITS

This course presents an introduction to the concept of materials management and its functions of production planning and control, control of inventories, purchasing, and physical distribution. It includes a study of the techniques of materials control applicable to the manufacturing industry, emphasizing the relationship of these to the overall functioning of the enterprise.

MANA 606 PURCHASING MANAGEMENT

3 CREDITS

In this course students will learn the concepts and techniques that will allow them to manage effectively the purchasing function, which is of vital importance for the efficient operation of every organization. This course covers topics related to the purchasing process, purchasing policy and procedures, supplier evaluation, selection and measurement, negotiation, contracts, costs, purchasing transportation services, and others.

MANA 607 SUPPLY CHAIN MANAGEMENT

3 CREDITS

This course explores the challenges of integrating the various functions under the umbrella of supply chain management into the organizations. Students learn what it is an integrated supply chain management system and how will greatly improve an organization's profits, productivity and quality of their products and services, market share and profitability. Also, this course examines management and technical aspects of quality improvement. Specifically, will enrich the understanding of Total Quality Management (TQM) and Six Sigma concepts and techniques for managing, controlling and improving quality needed for continuous improvement of organization with a supply chain perspective.

MANA 609 QUALITY CONTROL SYSTEM

3 CREDITS

The course is oriented towards the development of procedures for the activities of Quality Control. The national standards are covered general rules of quality. This course relate to students with the detailed procedures that describe how to do quality systems for the service.

MANA 610 STRATEGIC MANAGEMENT

3 CREDITS

Operating in a global rather than domestic arena presents the manager with many new opportunities. However, with these new opportunities come the challenges of managing strategy, organizations, and operations that are more complex, diverse, and uncertain. Unlike purely domestic competitors, companies that compete across borders have to make choices about which product to offer around the globe; where to compete within the world; where to locate the various activities of the firm; and how to organize to effectively coordinate its worldwide activities. This course focuses on these challenges in order to develop and implement corporate strategies in a global environment. It is structured to provide students with conceptual and practical understanding of the strategic challenges of multinational corporate management.

MANA 612 INTERNATIONAL STRATEGIC MANAGEMENT

3 CREDITS

Operating in a global rather than domestic arena presents the manager with many new opportunities. However, with these new opportunities come the challenges of managing strategy, organizations, and operations that are more complex, diverse, and uncertain. Unlike purely domestic competitors, companies that compete across borders have to make choices about which product to offer around the globe; where to compete within the world; where to locate the various activities of the firm; and how to organize to effectively coordinate its worldwide activities. This course focuses on these challenges in order to develop and implement corporate strategies in a global environment. It is structured to provide students with conceptual and practical understanding of the strategic challenges of multinational corporate management.

MANA 613 MANAGEMENT OF DIVERSITY

3 CREDITS

Study of the complex dynamics of diversity in the organization and the strategies to promote unity and avoid stereotypes in order to achieve its mission and objectives. Evaluation of demographic trends and value diversity in labor force and its projections in the organizational structure. Analysis of the impact and legal implications in management related to discrimination for sex, ethnic origin, age, disability, sexual orientation, and religion.

MANA 618 INTERNATIONAL MANAGEMENT

3 CREDITS

This course deals primarily with the managerial practices and functions that characterize successful international corporations. It covers issues of organizational structure, planning and budgeting systems, management development and human resources, ethics, cross-cultural issues, the applicability and adaptation of culture-bound policies, communications, and the management of multi-cultural teams. Emphasis is placed on the processes by which multinational organizations are managed, including conflict management, multi-country integration mechanisms, and negotiation strategies.

MANA 622 SERVICE MANAGEMENT STRATEGY

3 CREDITS

Service companies are becoming more valuable every day, as the economy in many countries is moving from manufacturing to a service economy. This course contributes to the development of management strategies that make the service a competitive advantage in organizations. In this course the student explores the dimensions of the service and the importance of customer satisfaction for business growth. The course highlights the value of a service culture and the active role of the human resource as a service provider. This course also looks at the service concept and competitive strategy, and managing service operations.

MANA 625 TOTAL QUALITY MANAGEMENT

3 CREDITS

The course centers on the presentation of the principles and concepts of the total quality management philosophy and its application in business and industry.

MANA 626 MANAGEMENT CONSULTING

3 CREDITS

This course is designed to review the consulting profession with a subsequent emphasis on organizational consulting matters. An effort will be made to develop competencies in a variety of skills necessary to practice consulting. The course is relevant for those 1) who are specifically interested in developing as consultants and / or 2) whose current or future jobs involve personnel consulting or line management using consultants. This course provides the opportunity to become familiar with the typical phases of a consulting project. In addition to discussing these phases in class, it will be discussed how consultants work similarly and differently with their clients. The functional specialty areas in which most consultants practice will also be studied. We conclude the course with discussions of ethical issues, professional concerns, and expert testimonials from consultants.

MANA 700 BUSINESS DEVELOPMENT

3 CREDITS

Designed to foster entrepreneurship and self-employment development in MBA students. Primary attention given to managing a new and rapidly growing business. Alternate sources of capital examined and conditions of utilization of each source established. Various growth strategies considered along with supporting public policy and personnel requirements for entrepreneurial success.

MANA 701 INVENTORY MANAGEMENT

3 CREDITS

As a vital function of an organization's operational structure, effective Inventory Management is key to improving a company's customer service, cash flow and profitability margin. Inventory Management gives you these essential to achieve a complete success. As a vital function of an organization's operational structure, effective Inventory Management is key to improving a company's customer service, cash flow and profitability margin. Inventory Management gives you these essential to achieve a complete success.

MANA 717 MATERIALS MANAGEMENT AND CONTROL SEMINAR

3 CREDITS

Course designed to guide students to conduct research within their area of study under the direction and supervision of professor. The course is an individualized development. The course includes identification and discussion of problematic situations that can be investigated, analysis and events that relate to it. It also includes the recognition of independent and dependent variables of the problem, formulation of basic research questions, type of research, formulating hypotheses, and defining limitations of the study. It also discusses the aspect of the readings relevant to the research population and sample of the study, design of instruments to be used in data collection, identification and description of the operational procedures and statistics to be used in the analysis of data collected in the study. Then the student emphasizes the aspect of statistical presentation of the findings and their interpretation, summary, conclusions and recommendations.

MANA 719 KNOWLEDGE INTEGRATION IN MATERIALS MANAGEMENT AND CONTROL

3 CREDITS

This course was developed to provide to the students of the Graduate Program in Materials Management and Control, the opportunity to examine and compare their knowledge with the actual conditions of the organizations. The student can identify, discuss and analyze in a critical way the concepts and theories in materials management using real situations of different organizations. The analysis will be in an integrative way in which the student can use the knowledge acquired in their concentration courses

MANA 720 ADVANCED PRODUCTION MANAGEMENT

3 CREDITS

Study of advanced topics in the following areas: strategy process, productivity, balancing line, project management, managerial strategies, capacity planning, TQM concepts, inventory control, and resource management. The student will have the opportunity to develop strategies and implement effective processes that can meet business needs. This exhibit readings and presentation of cases.

MANA 722 BASIC PRINCIPLES OF PROJECT MANAGEMENT

3 CREDITS

The course offers students theoretical and practical training in the use of a methodology that has been accepted and tested worldwide, specifically, the one proposed by the PMI® (Project Management Institute) in its PMBOK® guide (Principles Guide of the Project Management). This document has become the standard for managing different kinds of projects successfully.

MANA 724 PROJECT MANAGEMENT HUMAN RESOURCES

3 CREDITS

The course centers on the analysis of all the topics that have been related with the Human Resources, the communication, the contracting and the labor law, besides, this course details topics like: motivation, leadership, conflicts, decision taking, meeting driven, interviewers and more topics related. Also, this course analyses the faculties that a Project Manager must have and how should be his relation with the team work in particular and with all the people involved in the whole plan.

MANA 726 STRATEGIC PLANNING IN PROJECT MANAGEMENT

3 CREDITS

This course was designed to develop students' competence in strategic definition and strategic planning, and their application to Project Management activities as one of the core processes of the discipline. The course also introduces students to the identification and development of the organization and Project Strategy. Students will also be introduced to the development of the strategic planning process based on organizational strategies and the development of the strategic plan for the Project. In addition, the importance of strategic decision making in the process will be emphasized.

MANA 727 CONCENTRATION TEST MATERIALS MANAGEMENT AND CONTROL

3 CREDITS

This course was designed to provide students the opportunity to integrate the knowledge obtained in their concentration, to review the main theoretical concepts, and to take the specialty test to obtain the degree. During the course, students must review both theoretical and practical concepts of their concentration. At the end of the course the student must take the concentration test.

MANA 728 QUALITY RISK MANAGEMENT PROJECTS

3 CREDITS

The course centers in the discussion and analysis of the quality management principles in the context of the Project Management activity.

MANA 729 RISK MANAGEMENT PROJECT

3 CREDITS

The course centers on the discussion and analysis of risk management principles in the context of the Project Management activity.

MANA 730 PROJECT COST AND PROCUREMENT MANAGEMENT

3 CREDITS

The course deals with project management concepts in the areas of project costs and acquisition. It will include costs estimation techniques, project budget preparation, and cost control. The course also includes discussion of costs and acquisition planning, hiring, auctions, managing and contract closing. The evaluation of the managerial process applied to different project experiences will be emphasized.

MANA 733 PROJECT SCHEDULE MANAGEMENT

3 CREDITS

This course introduces advanced techniques for planning, managing, and controlling the schedule. The student will learn to create, analyze, and manage the critical path. The student will study resource leveling and scheduling within constraints (limited resources, time, cost, quality, risk, and communication). The student will learn how to use scheduling software at an advanced level. The student will study advanced formal scheduling techniques, such as earned schedule and program evaluation and review technique (PERT).

MANA 734 QUALITY AND RISK MANAGEMENT IN PROJECTS

3 CREDITS

Discussion and analysis of the quality management principles in the context of the project management activity. The course must include the methodology established by the Project Management Institute (PMI) in the Project Management Body of Knowledge (PMBOK). Discussion and analysis of the risk management principles in the context of the Project Management activity.

MANA 735 PROJECT SCOPE MANAGEMENT

3 CREDITS

This course covers advanced topics in managing scope within projects and their context. It covers scope verification and validation. Finally, change control and configuration management is explained in detail, as it is a necessary mechanism to ensure that such changes are handled in a managed and controlled way in order to keep the project on track.

MANA 738 KNOWLEDGE INTEGRATION IN MANAGEMENT

3 CREDITS

This course was developed to provide students of the Graduate Program in Human Resources the opportunity to examine and compare their knowledge with actual conditions in organizations. The student can identify, discuss, and analyze in a critical way the concepts and theories in materials management, using real situations of different organizations. By practicing integrative analysis, students will be able to use knowledge acquired in their concentration courses.

MANA 736 MANAGEMENT SEMINAR

3 CREDITS

In this course the student has the opportunity to develop, under the instructor's supervision, a research paper on a specific aspect of the management of the firm.

MANA 742 SIMULATION

3 CREDITS

The course is held in a simulated environment of businesses and their managers to get the most out of it. This program tries to business using the same variables, relationships, and developments in the world of business realities. Consists of several cycles of decisions (commercial, production, research and development, human resources, finance). The Simulator aim to provide a representation of business realities. Play business complexity, and at the same time achieve the pedagogical objectives previously commented, involves limiting the scenario of the game and therefore a set of rules that sketcher only the capacity for action of the participants. Simulation seeks to maximize the efficiency of the decision-making process, and get the most, joining a team of students (managers) responsible for the direction of a company competing in a market simulated by the program.

MANA 744 STRATEGIC BUSINESS CONSULTING

3 CREDITS

Strategic consulting aims to prepare students for internal and external management consulting process. Topics include industry analysis, consulting skills development, consultant-client relationships, stages of consulting (contracting, data collection and diagnosis, feedback and the decision to act, developing client commitment, implementation, results, and accountability), ethics of consulting, differences between internal and external consulting, understanding resistance, managing meetings, project management, and management of consulting firms. Provides and in-depth understanding of strategy consulting. Explore defining and understanding the strategy consulting assignment, client relationship, work methodology, value creation, presentation and follow up. Examines individual, interpersonal and organizational theories of development of intervention effectiveness. Develop an understanding of how internal and external consultants add value to the organizations.

MANA 745 THESIS - MANAGEMENT

3 CREDITS

In Master's Thesis course, you will explore different ways of finding information, defining the scope of a project, and doing research, as well as different ways of communicating the results. The Master's thesis course includes the stages of defining a topic and formulating a problem statement, selecting, and reviewing relevant literature, designing an empirical study as well as performing it, including data collection and analysis. Analyzing the empirical data, make theoretical conclusions and finally writing and rewriting a written report called a master's thesis. Students will work individually to write the thesis.

MANA 750 ADVANCED STATISTICAL METHODS

3 CREDITS

Students will gain experience working with advanced statistics. They must work with statistical software such as SPSS, analyzing data related to their areas of interest. Topics include multiple linear regression, discriminate analysis, factor analysis, cluster analysis, analysis of variance, and analysis of qualitative data.

MANA 762 MANAGEMENT THEORY

3 CREDITS

The purpose of this course is to provide students an inventory of theories to address key issues in Management and Organizational Research. The objectives of the course are: (1) to understand the role of theories in the development of scientific research; (2) identify and describe theories to analyze contemporary management and organizational issues; (3) compare and contrast the underlying assumptions of management and organizational theories; and (4) apply deductive and inductive models in management and organizational research.

MANA 800 BUSINESS DATA ANALYSIS

3 CREDITS

The course centers on managerial data analysis to transform raw business data regarding management process and markets into organized information, in order to identify meaningful patterns and relationships useful to interpret and perform analysis for improved decision-making. The course stresses the theoretical development and the practical application of each technique. The student may integrate the use of statistical analysis capabilities of PC based computer software, summarize raw data, and interpret patterns in those data, make and interpret statistical inferences, execute and interpret rudimentary regression analysis, recognize limitations of statistical analyses and identify pitfalls in their interpretations.

MANA 830 ADVANCED HUMAN RESOURCE MANAGEMENT

3 CREDITS

Advanced studies in Human Resources Management. Topics include employee selection, performance appraisal, compensation, training and development, human resources policy and strategy, and other areas of human resource management.

MARK 134 INTRODUCTION TO MARKETING

3 CREDITS

This course is designed to provide a broad introduction to the field and practice of marketing. The student will understand how strategic marketers sell products and/or services. In order to create successful marketing strategies, marketers must consider the relationship between marketing and external forces. Therefore, students also need to study how consumers think and behave in response to marketing, how other members of the distribution chain (such as retailers or manufacturers) and sellers interact, and how the environment and marketing are mutually affected.

MARK 206 CONSUMER BEHAVIOR

3 CREDITS

Study of concepts and applications of consumer behavioral patterns. Emphasis is on five major areas: consumer behavior, consumers and market segments, environmental influences on consumer behavior, individual determinants of consumer behavior, decision process. One semester, three hours weekly.

MARK 220 SOCIAL MARK FOR NON-PROFIT

3 CREDITS

The course centers on a description of the shift in industry from a production-oriented approach to a consumer-oriented approach. Topics include the role of sales management in a production-oriented firm and a customer-oriented firm; changes in the nature of sales management, and managerial challenges in sales management.

MARK 233 FUNDAMENTALS OF MARKETING

3 CREDITS

This course studies marketing as a strategic business function and social process, including problems and policies of manufacturers, intermediaries in the marketing of goods and services. Studies distribution, integrated communications (promotion), functions of marketing and sales departments, market research and analysis applied to economic, political, and sociocultural conditions in Puerto Rico and the rest of the world.

MARK 308 SALES

3 CREDITS

Study the foundations of professional selling, as creating, communicating and delivering value. Also, initiating, developing and enhancing customer relationships.

MARK 320 MARKET RESEARCH

3 CREDITS

Application of the scientific method in the collection, analysis and use of market data. Literature search and experimental work is used in the solution of marketing problems. Covers the importance of organizational and individual initiative, the traditions, methods and objectives of research in marketing. One semester, three hours weekly.

MARK 321 CUSTOMER SERVICE MANAGEMENT

3 CREDITS

Throughout the course the student will gain a comprehensive understanding of the core competencies required for developing and implementing effective customer service. Customer service is increasingly becoming a vital business issue as organizations realize the benefits of an integrated, strategic customer service management system for providing effective customer support management systems. The course also aims to teach students the importance of planning a CRM strategy, it is essential to focus on the customer's values and to collect information about their requirements and, based on this, to further analyze the relationship between the degree of importance and the degree of satisfaction for each requirement.

MARK 322 E-MARKETING

3 CREDITS

This course consists of the study and application of concepts and terminology of e-business, e-commerce, e-marketing and e-entrepreneurship. The course also studies the needs of businesses to adapt to constant and continuous market and technology changes. Strategic, administrative and operational plans are developed for the creation of new businesses and improvement of existing ones. Emerging technologies, open markets, ethics and legal issues are considered.

MARK 323 MARKETING INTEGRATED COMMUNICATION

3 CREDITS

In this course is studied the role of communication in the marketing objectives of an organization is studied. Topic include the nature of communication; marketing resources, effect of society, attitudes and individual preferences in communication; media and the relevance of public relations.

MARK 330 RETAIL

3 CREDITS

This course familiarizes students with the decisions involved in running a retail firm, as well as the concepts and principles for making those decisions. The student will gain an understanding of retailing trends, technology in the industry, merchandise planning and management, pricing, location, promotional strategies, human resource management, store design and layout, customer service, and the international movement of retailers. The course will give students insight into the retailing environment and will allow them to make decisions for effective management. The course also provides a good foundation for those interested in owning or running a small retail business or those interested in pursuing a retail career as a merchandise buyer or store manager.

MARK 400 SERVICE MARKETING

3 CREDITS

The course provides a perspective of the Service Marketing focused on service as a product and service to support the product and the application of its principles to the marketing mix. The student will gain the knowledge and practical skills for creating effective strategies in marketing services to meet changing needs, expectations and understanding consumer behavior. Topics include consumer behavior and positioning in the context of the service, the essential elements in the creation of service, the physical and electronic distribution, as well as pricing and promotion as a tool to educate the consumer. Service marketing and consumer behavior will be studied, as well as the positioning in the context of the service, the essential elements in the creation of the service, the service through physical and electronic distribution channels, and price and promotion in service.

MARK 407 MARKETING ANALYTICS & OMNICHANNEL ADVERTISING

3 CREDITS

Digital analytics plays an important role in strategic decision making. On the other hand, Omnichannel advertising is employed involves how to create offers to consumers across all possible channels in an integrated manner. This course provides students with the skills involved in the role of omnichannel advertising and how the role of digital analytics enables strategic decision making for successful digital campaigns.

MARK 410 INTERNATIONAL MARKETING

3 CREDITS

The course covers the history and basic principles of marketing as applied to international marketing. Emphasis is placed on the cultural, political and legal framework. Topics include managerial considerations, pricing systems and distribution channels.

MARK 415 SALES FORECASTING

3 CREDITS

This course studies different quantitative and qualitative methods to predict the uncertain nature of business in sales, such as moving average, exponential smoothing, time series, simple linear regression, Delphi method, expected value, decision tree diagram and Bayes' theorem.

MARK 421 PRODUCT AND BRAND MANAGEMENT

3 CREDITS

Brands are one of the most valuable assets of any company. However, many marketing decisions are oriented to pricing, communication or distribution in isolation without considering its impact on the value of the brand. In this course, the marketing strategies are examined from the perspective of brand strategies and tactics leading to the development of strong brands and maximizing the value of existing brands. Specifically, brand management includes product management, brand positioning, development and measurement of brand equity over time. Topics include approaches to consumer positioning and brand identity, creating points of difference and competitive advantage, communications and marketing messages, brand development portfolios, sub-brands, line extensions and distribution strategies.

MARK 440 STRATEGIC MARKETING

3 CREDITS

This course will emphasize strategic decision making, specifically on marketing strategy design, implementation, and evaluation. The primary purpose of this course is to apply marketing frameworks and concepts to make strategic decisions that will result in a competitive organization. Marketing concepts will be used in an integrated approach, as the firm's tools to design profitable interactions with its customers and competitors. This course is focused on helping students become a strategic marketer, so that he can be able to create, gain support for and execute marketing plans that will build strong and enduring businesses.

MARK 510 MARKETING MANAGEMENT

3 CREDITS

The course is aimed at developing students' capability for analysis and decision-making in situations requiring verbal and written solutions to marketing problems. It includes the study of strategic marketing, segmentation, positioning, and target market. Also present is the study of information systems, marketing research, and consumer behavior.

MARK 511 MARKETING

3 CREDITS

This is a directed introductory course that examines the environmental factors such as strategic marketing, process of strategic planning, segmentation, positioning and market goal. As well as information and marketing research system, and the characteristics psychographic and demographic of consumers. The individual factors that affect the decision of shopping, social and cultural factors of consumer and industrial markets and the management of existing products, among others. they are also studied. A global or international marketing perspective is part of this course.

MARK 610 ADVANCED MARKETING MANAGEMENT

3 CREDITS

The course centers on the study of marketing management through the use of quantitative analysis and marketing policy. Students will engage in a detailed analysis of the responsibilities of the distribution manager, including planning, organizing, directing, and coordinating the activities of personnel in charge of specialized tasks, such as promotion, sale management, and pricing.

MARK 615 ADVERTISING AND PROMOTION

3 CREDITS

The course centers on analysis of problems related to marketing communications and promotions methods. It introduces basic concepts of management promotion, including institutional promotion and public relations.

MARK 701 INTERNATIONAL MARKETING

3 CREDITS

The course is a systematic study of the international market. It views the market on a global scale and discusses the advantages that this evaluation may represent for business enterprises. It provides the conceptual frame of reference and the analytical tools, which will enable the manager to explore the alternatives and possibilities on a world scale and to understand the diversity and complexity.

MARK 703 MARKETING RESEARCH

3 CREDITS

This course examines the use of the scientific method in the acquisition, analysis and interpretation of marketing information. Various research methods, such as exploratory, descriptive and experimental approaches will be examined. The most recent studies in the systematic gathering of internal and external information needed for making marketing decisions will be considered.

MARK 704 CONSUMER AND BRAND RESEARCH

3 CREDITS

Brands are the core of marketing, because of that, new products and services are vital to all companies, for that, early-stage research with groups and individuals, can do a good job of exploring unmet consumer needs and can help to prioritize features and identify new opportunities. Marketers need accurate and timely information in order to derive the types of insights that assist in making sound marketing decisions and providing quality experiences to various target audiences. Although marketing research can provide this information, the digital marketplace has generated particular challenges and opportunities when it comes to conducting primary research. In this course, the student will focus on the tools and techniques associated with analyzing market opportunities. Both quantitative and qualitative approaches are covered. Also explores how the digital environment has influenced research practices. The course also covers several methods of data gathering, data analysis, insight generation, and particular research issues related to brand management.

MARK 708 CONSUMER BEHAVIOR IN DIGITAL MARKETING

3 CREDITS

The course studies the different theories developed and used to understand the conduct of the consumer. This is seen through analysis of the consumer in terms of how this it acquires, organizes and uses the information to form its judgments. One considers the effect from the demographic data, the personality and the social group in the consumption. It applies the knowledge of the conduct of the consumer to the development of strategies that tend to influence the decisions of consumption of the people occurs emphasis to the investigation like resource.

MARK 709 CONSUMER BEHAVIOR

3 CREDITS

In the course, the behavior of consumers is identified and analyzed for the planning and implementation of effective marketing strategies in the development and strengthening of the brand. The psychological knowledge of the consumer, their environment, the ethical, social and anthropological aspects that can influence purchasing behavior are discussed. The course explores the realities and consequences of buyer behavior in traditional and digital markets considering the e-commerce of the target market as an important trend.

MARK 719 BRAND MARKETING

3 CREDITS

The course uses cases and a project to teach students the processes, tools, and best practices used to develop new products and services. During the course, the student will learn how to assess and evaluate the quality of different models and techniques. Also, the student will learn how to write an effective New Product Development (NPD) Plan that integrates all of the components of new product development into a cohesive, integrated plan for any new product or service. Topics include reasons for new product failure, new product adoption, stage gates and project management tools, idea generation, design tradeoff decisions, concept testing and forecasting. The goal of the course is to develop the conceptual, analytical, and decision-making skills expected of managers working in this field.

MARK 720 CORPORATE SOCIAL MARKETING

3 CREDITS

Corporate Social Responsibility promotes changes and positive impacts on companies. Therefore, the corporate social marketing course presents an approach focused on the use of commercial resources for the research process that allows the development, implementation and control of advertising campaigns as agents of behavior change. Thus, focusing on improvements to public health, social security, the environment and the common welfare. La

MARK 730 MARKETING AND ADVERTISING

3 CREDITS

The course centers on analysis of problems related to marketing communications and promotions methods. It introduces basic concepts of management promotion, including institutional promotion and public relations.

MARK 731 BRANDING COMMUNICATION STRATEGY

3 CREDITS

The course studies and analyzes the components of marketing communication. From sales promotion, event sponsorship, direct marketing and brand placements to movies and TV shows, point-of-sale displays, the Internet, podcasts, influence marketing), Personal selling and public relations, are available to help a company compete effectively, develop brand loyalty in customers and generate greater profits. It emphasizes the role of each of these components within the overall marketing program of a company. Advertising is now much more diverse and dynamic and is part of a process known as Integrated Brand Promotion (PIM).

MARK 741 CUSTOMER RELATIONSHIP MANAGEMENT

3 CREDITS

Customer relationship marketing (CRM) enables organizations to successfully implement strategies, practices and technologies focused on profitably acquiring and retaining customers. The course provides research, understanding and decision-making practices for the development of CRM strategies that allow defining the practices and methodologies of effective relationships with customers.

MARK 745 THESIS - MARKETING

3 CREDITS

In Master's Thesis course, you will explore different ways of finding information, defining the scope of a project, and doing research, as well as different ways of communicating the results. The Master's thesis course includes the stages of defining a topic and formulating a problem statement, selecting, and reviewing relevant literature, designing an empirical study as well as performing it, including data collection and analysis. Analyzing the empirical data, make theoretical conclusions and finally writing and rewriting a written report called a master's thesis. Students will work individually to write the thesis.

MARK 760 DIGITAL MARKETING

3 CREDITS

Current marketing efforts require a continuous presence on the Internet to achieve positioning, thus differentiating digital marketing from online marketing. This course provides and encourages the knowledge, analysis and development of marketing campaigns and strategies using digital tools. Therefore, research processes and the application of strategy for optimization of social networks, search engine optimization (SEO), search engine marketing (SEM), content marketing, among other factors that favor the development and growth of strategies are worked on. effective digital marketing.

MARK 765 SOCIAL MEDIA BRAND STRATEGIES

3 CREDITS

Social media is changing how business perform. Currently, brands use this type of platform to increase brand awareness, identify key audiences, generate leads and build meaningful relationships with customers. This course covers these topics on aspects of marketing in social networks, evaluation of metrics, how you can use social networks to segment and target markets, and the development of brand strategies where the public becomes the protagonist through generation and participation of contents. The course will provide knowledge, perspectives and practical skills necessary to develop marketing strategies that take advantage of the opportunities inherent in the social interactions of social media and consumer to consumer to achieve business and brand marketing objectives.

MARK 770 BRANDING DIGITAL ADVERTISING

3 CREDITS

The advertising for brands in digital environments has changed the way of managing content to more specific and personalized audiences. This course is designed to provide you with the basic concepts of strategy and digital media analysis. Through the course we will go deeper into how to develop a digital advertising strategy and we will address issues of search engine marketing, keyword management and content management. In the end the students will be able to understand how to develop a digital advertising plan and how they create a dialogue considering the conversation with the consumer.

MARK 785 MARKETING ANALYTICS

3 CREDITS

The new era of marketing requires an understanding the role of data to make decisions. This course will introduce marketing analysis. We will study several tools to generate marketing knowledge from empirical data in areas such as segmentation, orientation and positioning, satisfaction management, customer life cycle analysis, and product decision making. At the same the course gives you the skills you will need to perform vital daily functions. At the end of the course, you intend to provide competencies that you can implement in making data driven marketing decisions.

MARK 790 DIGITAL MARKETING STRATEGIES

3 CREDITS

This course is designed to develop the strategic thinking and strategic processes of an integrated digital marketing campaign. Through the course, students will have the opportunity to integrate the knowledge acquired through their previous courses through digital strategic planning and implementation. At the same time the course will provide you with the skills you will need to perform vital daily functions. The course focuses on the integration of a digital campaign through a dynamic simulation platform which will observe thinking and strategic implementation through how it responds to market conditions, web optimization and development, digital advertising, and analytics. digital.

METR 602 COMPETITIVE BENEFITS FOR MEDICAL TOURISM DESTINATIONS

3 CREDITS

In this course, students will identify the essential components of medical tourism. They will study the competitive advantages of well-known destinations such as Puerto Rico, United States and the Caribbean. Students will analyze laws, incentives, sponsorships, and required permits needed for the implementation, and the development of competitive model in the medical tourism industry.

MIXO 179 INTRODUCTION TO BAR SERVICES AND OPERATION

3 CREDITS

Basic principles of the composition, organization, administration and inventory of a bar. The types of equipment required, basic fundamentals in beverage preparation, cost control, bartender responsibilities and laws related to the service and uses of alcoholic beverages are covered throughout the course. The course will use the Internet tools for MS Word research to deliver work and projects, e-mail as a communication strategy and PowerPoint for presentations.

MIXO 180 HANDLING AND SERVING WINES

3 CREDITS

Familiarization and study of wine including its history, classification, production, service and food pairing. The student will have the opportunity to visit suppliers and distributors of wines. The functions and duties of the Sommelier or Wine Steward will be discussed. Service techniques will be studied and practiced. This course will require the use of the Internet as a research tool, MS Word as the basis for the presentation of works and special projects.

MIXO 182 BEERS AND SPIRITS

3 CREDITS

Familiarization and study of beers and spirits including its history, classification, production, service and food pairing. The student will have the opportunity to visit or receive the visit of suppliers and distributors. The functions and duties in the management of these will be discussed. Service techniques will be studied and practiced. This course will require the use of the Internet as a research tool, MS Word as the basis for the presentation of works and special projects.

MIXO 184 MODERN COCKTAILS

3 CREDITS

The course gives the opportunity for the student to integrate the knowledge acquired in previous courses on preparation of cocktails with and without alcohol. The student can prepare modern cocktails according to the new consumption trends. How to organize a bar, cleaning and sanitation are topics that will be covered during the course. This course will require the use of the Internet as a research tool, MS Word as the basis for the presentation of works and special projects.

MIXO 185 CLASSIC COCKTAILS AND MIXOLOGY

3 CREDITS

The course gives the opportunity for the student to integrate the knowledge acquired in previous courses on preparation of classic cocktails and their variants. The student can prepare classic cocktails according to the new consumption trends. How to organize a bar, cleaning and sanitation are topics that will be covered during the course. This course will require the use of the Internet as a research tool, MS Word as the basis for the presentation of works and special projects.

MIXO 187 BARTENDING PRACTICUM

3 CREDITS

Opportunity to learn through their experience. The student will work within the bar and beverage industry to gain on the job work experience as a bartender. Each student will need to apply acquired knowledge for a minimum of 100 hours. Evaluations from supervisors and the ISHCA internship coordinator and a final project presentation discussing the students learning experience will be required. Oportunidad de aprender a través de su experiencia.

MSEC 112 MEDICAL TERMINOLOGY AND ABBREVIATIONS

3 CREDITS

This course introduces the student in the knowledge and use of the vocabulary, concepts and terms frequently used in medical offices and other places where health services are offered. It is divided into four basic sections: 1) etymology of the medical terms (prefix, root, and suffix) 2) common abbreviations 3) systems of the human body (function, organs, conditions, or related diseases) 4) medical specialties' and sub-specialties' and their functions. The course includes concepts that will be useful in the process of selecting a diagnostic code using the ICD-10 classification system.

MSEC 113 MEDICAL SERVICES BILLING

3 CREDITS

This course aims that the student understands and familiarizes with the different health insurance companies in Puerto Rico. It emphasizes in cards, contracts, and coverages that insurance company's offer and the code system that service providers are required to use. The course presents the correct documentation necessary to submit claims based on the patient's insurance selection. Also discusses the future adjustments that will have the claims process and presents the CMS 1500-2012 (HIPAA 5010) invoice as the manual alternative for claims coded with the ICD-10 classification system.

MSEC 201 CLINICAL AND PROFESSIONAL CODING

3 CREDITS

In this course the student will learn to identify and select services' codes procedures and diagnoses that are assigned to outpatient services. Skills will be practiced manually using the ICD-9-CM, ICD - 10 CM and CPT book. The student will use the appropriate code in the CMS 1500 form-2012 and any information required to be coded. Also, the student will use the progress note, superbill and the evaluation and management guide to help speed up the coding process. Emphasis will be in the ICD-10-CM coding and in coding of services and CPT procedures.

MSEC 210 RECONCILIATION AND AUDITING

3 CREDITS

This course aims students to acquire the knowledge to assess the claims and payment process, identify possible errors, reconcile the evidence of payment, recover and mitigate loss for unpaid medical services and know the steps to follow in order to perform an audit in a medical office or outpatient areas. The student will learn the technical or specialized vocabulary and terminology commonly used in the insurance companies and the health insurance industry. Emphasis is given to the procedures that are used in the different health insurance companies, Medicare, Government Health Plan and their policies, claims and payment skills, policies, billing procedures and audit processes.

MSEC 215 HEALTH SAFETY AND MEDICAL/LEGAL ASPECTS

3 CREDITS

This course studies one of the many uses of medical records: its use as legal protection to the patient and to the institution that provides the health care services. It covers the legal requirements of medical records in relation to its retention, security controls, maintenance, and confidentiality regarding information treatments, within the institution as well as outside. Emphasizes is given in the application of professional ethics and legal medical aspects in the health information system.

MSEC 230 BILLING AND ELECTRONIC RECORD

3 CREDITS

In this course the student performs activities related to the billing of medical bills, referrals, preauthorization, and other elements of transmission related to billing for medical services (PHI). The student learns to use a clearinghouse and a program (Office Management / Secure Claim) to complete the billing process. The transmission process recipients are insurance providers, pharmacies, and other services providers. Students learn to work with an electronic medical record designed for medical offices (EHR) and feed the required campuses the corresponding data fields. In addition, students work with the digitalization of paper and electronic documents and establish the rules of migration, the electronic prescription and safety rules.

OFAD 121 KEYBOARDING

3 CREDITS

The course centers on developing keyboard skills and touch-typing, enabling the student to enter data quickly and precisely in any electronic system. Students are introduced to the ten-key pad. El

OFAD 122 PRODUCTION OF DOCUMENTS I

3 CREDITS

Continues the development and improvement of keyboarding skills and techniques. Emphasis on business correspondence, memos, simple reports and two-page reports, simple and complex tables, and employment documents.

OFAD 221 PRODUCTION OF DOCUMENTS II

3 CREDITS

Development of skills in the production of business documents, such as letters with special lines, reports with footnotes and endnotes, tables, table of contents, among others. Emphasis on the quality of documents, development of basic skills at optimum levels and proofreading.

OFAD 280 ELECTRONIC DOCUMENT MANAGEMENT SYSTEMS

3 CREDITS

Provides principles and methods relating to the organization and operation of various systems of record administration, protection and control of records. Provides training in modern methods for record classification and control systems.

OFAD 282 OFFICE ADMINISTRATION

3 CREDITS

Study of administrative procedures and its applications to office administration. Basic concepts of selection, training and supervision of the personnel. Provides for analysis, design, administration, and control of office administrative systems.

OFAD 291 CURRENT OFFICE PROCEDURES AND INTRODUCTION TO TELECOMMUNICATIONS

3 CREDITS

The course develops the essential office skills for effective performance in the business world. Emphasizes the need for develop good working habits, decision making and work organization. The course emphasizes the development of business vocabulary and the application of office procedures.

OFAD 300 COMMERCIAL WRITING DIRECT TO THE COMPUTER

3 CREDITS

The course studies the varied and different methods utilized to create and produce documents (correspondence) by administrative personnel. Emphasis is placed in the development of different types of documents utilizing common means of creation, such as machine dictation, handwritten and rough drafts and computer keyboarding composition.

OFAD 306 INTEGRATION OF OFFICE TECHNOLOGIES APPLICATIONS I

3 CREDITS

The course provides the students with the skills and techniques to create pages with all kinds of design elements, such as formatted text, lines, photographs and pictures using applications, such as word processors, spreadsheet, electronic presentations, among others. Also, the students can create print publications, such as newsletters, brochures, activities programs, invitations, postcards, calendars.

OFAD 307 MICROCOMPUTER BUSINESS APPLICATIONS

3 CREDITS

Training in the use of business applications, such as: word processing, spreadsheet, electronic presentations, and database.

OFAD 323 INTEGRATION OF OFFICE TECHNOLOGY APPLICATIONS II

3 CREDITS

This course is designed to introduce the students to basic and intermediate concepts and applications of spread sheets and data bases. The students will learn to use various electronic spread sheet applications as well as create and manage database programs, data files, and produce documents and reports. Emphasis is given to good working habits, organization of work, use of technology and good working interpersonal skills.

OFAD 380 OFFICE SIMULATION

3 CREDITS

This course is designed to help students in the transition from classroom to office environment. Applications and development skills through exercise simulation by using modern technology equipment.

OFAD 382 PRACTICUM INTERNSHIP AND SEMINAR

3 CREDITS

This course requires a minimum of 15 hours per week of supervised work in government, banking, business offices, or in a public or private organization. The practice is supplemented with readings, reports and group discussions. One semester, one-hour lecture weekly.

OFAD 422 SIMULATED OFFICE

3 CREDITS

This course is designed to help students in the transition from classroom to office environment. Applications and development skills through exercise simulation by using modern technology equipment.

OFAD 424 DEVELOPMENT AND PLANNING PROFESSIONAL TRAINING

3 CREDITS

Introduces the students in the planning and implementation of workshops within an office setting. The course includes planning activities for a simple orientation of new employees, develop of workshops for employees in the use of new technologies, and develop administrative systems for the office as well as the workplace.

OFAD 482 OFFICE PRACTICUM

3 CREDITS

Application of concepts and skills related to the Office System career through supervised work within a community office. It requires a minimum of 168 hours in office internship during the semester. Emphasis is given in developing initiative and assuming responsibility. Includes seminar course to reinforce interpersonal skills such as cooperative work, good manners, soft skills, create oral presentations and effective Internet skills.

OFAD 491 ADMINISTRATIVE OFFICE PROCEDURES

3 CREDITS

The course studies the process of administration, organization and communication. It emphasizes the following areas of office administration: personnel selection, professional development, supervision, motivation, performance-assessment, analysis of positions, job evaluation, salaries, measuring work performed and employee productivity. The course is developed through the analysis of situations, case evaluations and decision- making.

QUMA 600 SIX SIGMA

3 CREDITS

This course presents the quality tools used in manufacturing and service organizations in order to achieve improvements in productivity.

QUMA 626 TEAMWORK DEVELOPMENT

3 CREDITS

The course promotes discussion, analysis, and comparison of the principles of quality theories.

QUMA 655 QUALITY STATISTICS

3 CREDITS

The purpose of this course is to discuss, understand and apply statistical methods to control and improve the quality process of different types of organizations. During the course students will learn about statistical quality improvement techniques and how to use statistical analysis to help organizations increase productivity and gain competitive advantage.

QUMA 727 ISO STANDARD DEVELOPMENT PRINCIPLES

3 CREDITS

This course provides an overview of the ISO 9000 including its history and origin, the technical requirements of these standards and guidelines for the implementation in a Total Quality environment or in a traditional environment. In addition, this course will provide the understanding on how to choose the appropriate standard from among the several of the ISO 9000 standards.

QUMA 728 TOTAL QUALITY IN HUMAN RESOURCES MANAGEMENT

3 CREDITS

This course presents the principles and practice of total quality management and its application to human resources management. Includes the analyses, discussion, and application of the different techniques associated with that total quality paradigm.

QUMA 729 REENGINEERING

3 CREDITS

Discussion, analysis, and application of tools, techniques, methods, models, and technology for the transformation and re-engineering process in the organization

QUMA 745 THESIS - QUALITY MANAGEMENT

3 CREDITS

In Master's Thesis course, you will explore different ways of finding information, defining the scope of a project, and doing research, as well as different ways of communicating the results. The Master's thesis course includes the stages of defining a topic and formulating a problem statement, selecting, and reviewing relevant literature, designing an empirical study as well as performing it, including data collection and analysis. Analyzing the empirical data, make theoretical conclusions and finally writing and rewriting a written report called a master's thesis. Students will work individually to write the thesis.

QUME 250 MANAGERIAL QUANTITATIVE METHODS

3 CREDITS

Pre-calculus for Business Administration and Economics students. Includes: linear equations, linear inequalities, relations and functions. Logarithmic and exponential functions, financial mathematics and matrix algebra. Application problems are included for each content area within the Business Administration and Economics context.

QUME 251 QUANTITATIVE METHODS II

3 CREDITS

Differential calculus and introduction to integral calculus with application for Business Administration and Economics. Topic covered are: the concept of limit, continuity, derivative of a function, basic rules of differentiation, applications of derivatives, compound interest, marginal analysis, graphics and function optimization. Introduction to integral calculus. One semester, three hours weekly.

QUME 310 QUANTITATIVE METHODS FOR FINANCES

3 CREDITS

This course will study the quantitative methods applied to financial, banking and insurance industries within a global context. It will introduce the perspective of market risk measurement and insurance risk management. The course surveys methods for evaluating risk and consider multivariate methods for evaluating portfolios. Analysis of active and passive components, income statement and equity will be covered as part of the financial, banking and insurance decision-making.

**REHU 401 OCCUPATIONAL SECURITY AND SAFETY
3 CREDITS**

The course emphasizes the study of safety and security, disability, and health of employees in the workplace. Students will know the laws related to these areas and the impact on human resources management in developing practices and policies to preserve and promote the safety and health of employees. The course focuses on the responsibility that creates a safe place to work for the organization as well as for the employee, taking into consideration aspects such as accidents, medical services, wellness programs, prevention, and quality of life at work.

**REHU 427 MEASUREMENT AND EVALUATION
3 CREDITS**

The course will provide students with a thorough understanding of management and performance evaluation measure because of its link to the rest of human resource practices and their potential to direct the efforts of employees.

**REHU 611 LABOR RELATIONS
3 CREDITS**

A comprehensive study of the principal labor laws, the practices and the fundamental processes related to the field of labor and industrial relations. It emphasizes the impact of labor legislation and the collective agreements on the employee, union and management relations. It will also analyze the development function and coping mechanisms of the interaction processes between the union, the employees and the management. It will discuss the rights, prerogatives and obligations of the involved parties and their implications for the organizational system.

**REHU 614 HEALTH AND SAFETY SYSTEMS
3 CREDITS**

The study of safety and security, disabilities, industrial hygiene, health, and legislation related to these areas and the impact in human resources management. The course focuses on the responsibility involved to create a safe place for working. Insurance, medical services, prevention, and quality life in work are discussed.

**REHU 615 INTERNATIONAL HUMAN RESOURCES
3 CREDITS**

Study of the philosophy, theories, policies and predominant practices in the field of human resources management applied to an international context. It focuses on the analysis of the principal strategies applied to the human resources field, and their effect on the organizational dynamics in a global economic market. It will emphasize the study of the impact of cultural, economic, labor, human and logistic factors.

**STAG 504 GRADUATE STATISTICS
3 CREDITS**

Study and practice of basic statistical techniques used in research. Emphasis is placed on descriptive and inferential statistics for parametric and non-parametric samples based on quantitative reasoning. The fundamentals of statistics, measures of central tendency and dispersion, correlation and regression, normal distribution, estimation and hypothesis testing, sampling, analysis of variance, chi-square and non-parametric tests, are analyzed. The course requires the use of technology and programs for statistical analysis, among other assessment techniques.

**STAT 201 INTRODUCTION TO BUSINESS STATISTICS I
3 CREDITS**

Study of central tendency and dispersion measurements, sampling methods, probability theory, binomial probability distribution, normal density probability function and linear regression. One semester, three hours weekly.

**STAT 300 ELEMENTS OF STATISTICS I
3 CREDITS**

The course deals with statistics for the Social Sciences Students. It include sampling, averages, mode, median, probability and others.

**STAT 301 ELEMENT OF STATISTICS II
3 CREDITS**

Statistics as applied to psychology, economics and other social sciences. Includes topics as: probability and probability curves random variable, statistical inference, non-parametric test and correlation coefficient. Experimental design, decision making theory, multivariable and bivariable lineal analysis.

STAT 410 INTERMEDIATE STATISTICS FOR BUSINESS

3 CREDITS

This course will study probability and statistical concepts and quantitative tools used in financial modeling and decision-making. The students will analyze and evaluate concepts and methods of statistical analysis in decision-making. The study of statistical reasoning will include statistical sampling, probability modeling and statistical inference, hypothesis testing, regression models use of statistical software, and unified statistical decision criteria. Therefore, this course will cover the Application of key concepts and inferential analysis using software such as Excel ® or SPSS ® and its tools for statistical analysis.

STAT 505 STATISTICS INSTRUMENT RESEARCH

3 CREDITS

The course focuses on work with statistics software. It includes the following topics: experimental design, sampling, data collection, descriptive analysis, and statistical inference. The student will carry out a small research project in which these concepts and skills will be applied.

STAT 555 STATISTICS DECISION MAKING

3 CREDITS

The course consists in three divisions: descriptive statistics, probability, and statistical inference. Include the study of probability distributions, hypothesis testing and statistical test; chi squared analysis, regression, lineal correlation, ANOVA and T test. The main purpose of this course is giving support to process of decision making based on statistical data analysis.

STAT 750 STATIST AND EXPERIMENTAL DESIGN

3 CREDITS

The course focuses on hypothesis testing of environmental quality. It covers sampling distribution, hypothesis testing, designed experiments (completely randomized design, randomized complete block design, Latin square design, and factorial experiments), parametric and non-parametric analyses, as well as statistical software applications.

SUMA 607 SUPPLY CHAIN MANAGEMENT

3 CREDITS

This course explores the challenges of integrating the various functions under the umbrella of supply chain management into the organizations. Students learn what it is an integrated supply chain management system and how will greatly improve an organization's profits, productivity and quality of their products and services, market share and profitability. Also, this course examines management and technical aspects of quality improvement. Specifically, will enrich the understanding of Total Quality Management (TQM) and Six Sigma concepts and techniques for managing, controlling and improving quality needed for continuous improvement of organization with a supply chain perspective.

SUMA 610 STRATEGIC COST MANAGEMENT

3 CREDITS

The course is designed to provide the student with an in-depth understanding of the role of management with cost reduction as a critical tool in the business strategy redirecting emphasis from price to total cost of ownership. This course starts with an in-depth presentation and understanding of direct and indirect costs of a product or system, the strategic role of purchasing, the procurement process and management with an emphasis on the role of information flow. It also considers the complexities and importance of strategic performance measurements, developing strategies on reducing/managing costs beyond the initial manufacturing cycle time and cost to make parts.

SUMA 612 OPERATIONS MANAGEMENT

3 CREDITS

This course examines the strategic, tactical and operational importance of operations management to the overall performance of the company. The course deals with the design and management of products, processes, services within the supply chains. The course addresses strategic issues like the size and location of manufacturing plants, supply chain technology; tactical issues like plant layout and structure, project management methods, and equipment selection and replacement. And Operational issues like production scheduling and control, inventory management, quality assurance, traffic and materials handling, equipment maintenance policies, capacity planning, aggregate planning, and Just-in-time.

SUMA 615 DEMAND MANAGEMENT AND FORECASTING

3 CREDITS

This course examines integrated supply chain models synthesizing demand forecasting, supply management, production, and enterprise systems. Students will explore the integration of ERP technology utilizing information technology systems proficiently to support logistics management. The emphasis of the course is to gain exposure to specific business forecasting techniques, learn to apply statistical tools used to forecasting, evaluate supply chain performance, and design supply chain solutions. This course also reviews the strategic role of information systems, managing data resources, managing international information systems and ethical and social impact of information systems.

SUMA 618 PURCHASE STRATEGIES

3 CREDITS

This course explains the role of purchasing and how purchasing fits into the overall structure of an organization and its importance in maintaining efficiency. Students learn how purchasing managers keep stock of inventory, work with vendors and evaluate the quality of goods. This course also addresses the art and science of negotiation learned through experience gained in simulated negotiations. Students are exposed to negotiate with vendors secure deals for supplies. This class reviews the laws and regulations that relate to purchasing. Because purchasing managers make many legally agreements with vendors, contract law is also emphasized, students learn about different types of contracts, enforcement of warranties and options for legal recourse in disputes with suppliers.

SUMA 745 THESIS - SUPPLY CHAIN

3 CREDITS

In Master's Thesis course, you will explore different ways of finding information, defining the scope of a project, and doing research, as well as different ways of communicating the results. The Master's thesis course includes the stages of defining a topic and formulating a problem statement, selecting, and reviewing relevant literature, designing an empirical study as well as performing it, including data collection and analysis. Analyzing the empirical data, make theoretical conclusions and finally writing and rewriting a written report called a master's thesis. Students will work individually to write the thesis.

THSA 401 TOURISM AND HOSPITALITY STUDY ABROAD I

3 CREDITS

In this course, the student will have the opportunity to acquire international exposure outside of Puerto Rico in a foreign university. The student will enroll in a foreign university in the equivalent of (3) credits of Universidad Ana G. Méndez. This equivalent must be of 45 hours and study discipline. The course to be taken abroad must be related to one of the following fields: tourism, travel, hospitality, events, gastronomy, culinary arts or languages that are not taught at Universidad Ana G. Méndez. Moreover, it should be pre-approved by the school to guarantee compliance with programs objectives. Student is expected to evolve as an independent being and develop a global perspective that provides him with the ability to better understand diversity and globalization. Also, to take the global environment and situations into consideration when taking professional and personal decisions.

THSA 402 TOURISM & HOSPITALITY STUDY ABROAD II

3 CREDITS

In this course, the student will have the opportunity to acquire international exposure outside of Puerto Rico in a foreign university. The student will enroll in a foreign university in the equivalent of (3) credits of Universidad Ana G. Méndez. This equivalent must be of 45 hours and study discipline. The course to be taken abroad must be related to one of the following fields: tourism, travel, hospitality, events, gastronomy, culinary arts or languages that are not taught at Universidad Ana G. Méndez. Moreover, it should be pre-approved by the School to guarantee compliance with programs objectives. Student is expected to evolve as an independent being and develop a global perspective that provides him with the ability to better understand diversity and globalization. Also, to take the global environment and situations into consideration when taking professional and personal decisions.

THSA 403 TOURISM & HOSPITALITY STUDY ABROAD III_

3 CREDITS

In this course, the student will have the opportunity to acquire international exposure outside of Puerto Rico in a foreign university. The student will enroll in a foreign university in the equivalent of (3) credits of Universidad Ana G. Méndez. This equivalent must be of 45 hours and study discipline. The course to be taken abroad must be related to one of the following fields: tourism, travel, hospitality, events, gastronomy, culinary arts or languages that are not taught at Universidad Ana G. Méndez. Moreover, it should be pre-approved by the School to guarantee compliance with programs objectives. Student is expected to evolve as an independent being and develop a global perspective that provides him with the ability to better understand diversity and globalization.

Also, to take the global environment and situations into consideration when taking professional and personal decisions.

**THSA 404 TOURISM & HOSPITALITY STUDY ABROAD IV
3 CREDITS**

In this course, the student will have the opportunity to acquire international exposure outside of Puerto Rico in a foreign university. The student will enroll in a foreign university in the equivalent of (3) credits of Universidad Ana G. Méndez. This equivalent must be of 45 hours and study discipline. The course to be taken abroad must be related to one of the following fields: tourism, travel, hospitality, events, gastronomy, culinary arts or languages that are not taught at Universidad Ana G. Méndez. Moreover, it should be pre-approved by the school to guarantee compliance with programs objectives. Student is expected to evolve as an independent being and develop a global perspective that provides him with the ability to better understand diversity and globalization. Also, to take the global environment and situations into consideration when taking professional and personal decisions.

**UNRE 201 UNDERGRADUATE RESEARCH METHODS
3 CREDITS**

A study of fundamentals of research processes, ethical aspects, principles of responsible conduct and their application in the development of a proposal. The course focuses on scientific processes that include hypothesis formulation, definition of specific goals, experimental designs and statistical analysis. Application of the concepts and basic research skills in the development of formal methodologies that are appropriate for the solution of problems that interest the student. Analysis and discussion of scientific papers is applied to the development of communication skills. The course is developed by means of case studies, searches in electronic data bases, oral presentations, work in small groups, and practice in the development of a research proposal which will be presented orally and in written format. Application of the responsible use of electronic media for the dissemination and presentation of research.

**WEBD 300 WEB ANIMATIONS FOR GRAPHIC DESIGNER
3 CREDITS**

This course explores techniques through the use of a visual interface software like Adobe Flash for the creation and manipulation of interactive content, like cartoon animation, advertisements, games, text, sound, and pixel and vector images that will be viewed across the Web.

**WEBD 316 WEB DESIGN FOR GRAPHIC DESIGNER
3 CREDITS**

This course introduces the student to the practice of web design by working with visual interface software that allows the making and editing of web sites, blogs, and mobile apps. The student will use the design skills learned in other classes, like image editing and vector illustration creation, and apply this knowledge into creating functional and visually appealing web sites.

HEALTH SCIENCES ACADEMIC DIVISION

**ACMN 660 CASE MANAGEMENT IN ADVANCED NURSING
4 CREDITS**

In this course, the student will know the historical perspective and the evolution of the role of the case manager. Students will learn the role of the case manager in a specialized health care environment considering the communication and dynamics in the policies of health care organizations to ethnically and culturally diverse patients. Collaborate and work with critical thinking skills to provide case management skills to patient care. Students will be able to analyze internal and external factors in the face of consulted matters that impact the resources and distribution of the systems. The course allows to analyze the impact that affect the distribution systems of resources and services. They study the evidence-based guidelines available in case management practice. Emphasis is also placed on community support resources, health care organizations such as corporate entities, utilization management, ethical legal controversies, public policy legislation, and planning and discharge. It also includes general aspects of literacy (technological aspects) in manage care and the health systems.

ACMN 661 CASE MANAGEMENT I

4 CREDITS

In this course, critical thinking is used to analyze the various perspectives of the management of health services, including ethical factors, and the controversies (Issues) that arise between the different disciplines are analyzed. Marketing strategies, financial management, health care costs, budget concepts are discussed, with particular emphasis on reimbursement systems and total quality management (TQM) of culturally and socially diverse patients. It puts the student in touch with the skills of the case manager: leadership, problem solving, decision making, communication, teamwork, and negotiation skills. It also includes general aspects of literacy (technological aspects) in case management and health systems.

ACMN 662 CASE MANAGEMENT II

4 CREDITS

This course allows the student apply the process and models of case management through the continuing of care, its logistics, similarities and differences with patients of different conditions. It includes the screening of patient's symptoms and need for services; an estimate of the family's needs; development of intervention protocols, and the development of clinical pathways, including discharge planning. Includes patient and family education, evaluation of the patient's response to treatment and management based on the analysis of variables. The case manager's participation related to long term conditions and terminal illness is discussed. Emphasis is on ethical-legal aspects and the relationship to nursing practice.

ACMN 663 ADVANCED NURSING PRACTICE IN CASE MANAGEMENT

3 CREDITS

This clinical practice course provides the student with the opportunity to use critical thinking to explore, examine, expand, and apply case manager theories as a specialist in the area of case management, in an organizational setting considering the communication, ethical-legal aspects, and the dynamics in the policies of health care organizations to an ethnically and culturally diverse patients. Participants will have the opportunity to rotate through different clinical scenarios and be exposed to direct case management experiences, guided by experienced preceptors who offer them the opportunity to analyze, synthesize and integrate learning and evaluate the effectiveness of the practice as future specialists in case management (evidence-based). To achieve the development of the role and through different strategies, the student designs his objectives, plans, controls and evaluates his learning experiences. In addition, he uses literacy aspects (technological aspects) in case management practice.

CCNA 665 ADVANCED NURSING WITH CRITICALLY ILL ADULTS I

4 CREDITS

This course has been designed to provide the Master's Nurse with the tools that enable them to provide nursing care to critically ill adult / geriatric clients. In this course, aspects related to the psychosocial, growth and development, spiritual, cultural and physical areas of the patient are studied. The ethical-legal considerations related to the care of these clients are widely analyzed. The primary care role of the Master's Nurse with the critically ill client who presents damage to the neurological, gastrointestinal, renal, and endocrine systems from the health-disease continuum is discussed. In addition, advances in medicine and technology are discussed. Nursing care is discussed based on the steps of the Nursing process to promote excellence in adult / geriatric care from the healthy client to the critically ill client.

CCNA 667 ADVANCED NURSING PRACTICE OF CRITICAL CARE OF THE ADULT PATIENT

4 CREDITS

This course will train you to provide nursing care to the critically ill young, middle adult patient. The nursing process, critical thinking, knowledge of advanced physical estimation and knowledge of complex health conditions will serve as a frame of reference in the planning of care to be offered from a continuous health-disease. In addition, communication, ethical-legal considerations, literacy (technological aspects) are widely used to provide health care to an ethnically and culturally diverse population. The practice will be carried out in different critical care settings in hospitals that have such facilities. The student will complete a total of 135 hours of clinical practice per semester.

CCNA 673 ADVANCED NURSING WITH CRITICALLY ILL ADULTS PART II

4 CREDITS

This course has been designed to provide the critical care master's nurse with the tools that enable them to provide care to culturally diverse and critically ill adult clients. Critical thinking and communication skills are used to analyze aspects related to the psychosocial, growth and development, spiritual, cultural and physical areas of the patient. The ethical-legal considerations related to the care of these clients are widely analyzed. The role of the master's nurse as caregiver of the critically ill client that presents damage to the respiratory and cardiovascular systems from the health-disease continuum is discussed. In addition, care for the critically ill patient with trauma, burns, and shock is included. Hemodynamic monitoring, interpretation of dysrhythmias and ventilatory assistance are also analyzed. Nursing care is discussed based on the steps of the nursing process, the literacy (technological aspects) to promote evidence-based excellence in adult care from the healthy client to the critically ill client.

**HESC 125 HUMAN ANATOMY AND PHYSIOLOGY I
4 CREDITS**

Study of the basic microscopic and macroscopic structure of the human body with their respective integrated functions, of five initial systems; Integumentary, skeletal, muscular, nervous and endocrine, understanding how the support, movement, communication and control of our body is. It will have a suggested book as a basis for knowledge. It will emphasize active learning through analysis of clinical cases, discussion of open questions, oral presentations and laboratories using anatomical models and virtual dissection that encourage the search for information, critical analysis and development of good oral and written communication, maintaining the importance of recognizing the pathology from the knowledge of normality, visualizing the human body as a whole.

**HESC 125L HUMAN ANATOMY AND PHYSIOLOGY I LAB
0 CREDITS**

Study of the basic microscopic and macroscopic structure of the human body with their respective integrated functions, of five initial systems; Integumentary, skeletal, muscular, nervous and endocrine, understanding how the support, movement, communication and control of our body is. It will have a suggested book as a basis for knowledge. It will emphasize active learning through analysis of clinical cases, discussion of open questions, oral presentations and laboratories using anatomical models and virtual dissection that encourage the search for information, critical analysis and development of good oral and written communication, maintaining the importance of recognizing the pathology from the knowledge of normality, visualizing the human body as a whole.

**HESC 126 HUMAN ANATOMY AND PHYSIOLOGY II
4 CREDITS**

Study of the basic microscopic and macroscopic structure of the human body with their respective integrated functions, of the remaining seven systems; cardiovascular, lymphatic, immune, respiratory, digestive, urinary and reproductive, understanding how transport, defense, respiration, nutrition and reproduction of our body is. The suggested book continues to be a basis for knowledge. Emphasis will be placed on active learning through analysis of clinical cases, discussion of open questions, oral presentations, practical laboratories identifying structures in anatomical models and virtual dissection, which encourage the search for information, critical analysis, development of good oral and written communication, always maintaining the importance of recognizing the pathological from the knowledge of the normality of the human body seen as a whole. With the approval of this course, the knowledge of anatomy and physiology is completed along with the competencies that our students require to develop in a competitive, inclusive and globalized working world.

**HESC 126L HUMAN ANATOMY AND PHYSIO II LAB
0 CREDITS**

Study of the basic microscopic and macroscopic structure of the human body with their respective integrated functions, of the remaining seven systems; cardiovascular, lymphatic, immune, respiratory, digestive, urinary and reproductive, understanding how transport, defense, respiration, nutrition and reproduction of our body is. The suggested book continues to be a basis for knowledge. Emphasis will be placed on active learning through analysis of clinical cases, discussion of open questions, oral presentations, practical laboratories identifying structures in anatomical models and virtual dissection, which encourage the search for information, critical analysis, development of good oral and written communication, always maintaining the importance of recognizing the pathological from the knowledge of the normality of the human body seen as a whole. With the approval of this course, the knowledge of anatomy and physiology is completed along with the competencies that our students require to develop in a competitive, inclusive and globalized working world.

**HESC 207 MICROBIOLOGY
4 CREDITS**

The course provides students with microbiology fundamentals and their relationship to individual health. The course permits the student to develop skills and competencies necessary for effective and safe performance in the clinical- hospital setting. Through the theoretic component the student familiarizes himself with different groups of microorganisms, paying major attention to those which affect human health. Attention is focused on the basic principles of microbiology such as morphology, physiology, identification and bacterial afflictions, molds, viruses and their relationship to diseases. In addition, infection epidemiology, host defenses and immunological principles and the application of this knowledge in the prevention of disease are developed in this course. The laboratory component provides the student with skills related to aseptic techniques, disinfection, tincture, isolation and culture of microorganisms. Methods of bacterial growth control are also emphasized. One semester, three hours of lecture and three hours of laboratory per week.

**HESC 207L MICROBIOLOGY LAB
0 CREDITS**

The course provides students with microbiology fundamentals and their relationship to individual health. The course permits the student to develop skills and competencies necessary for effective and safe performance in the clinical- hospital setting. Through the theoretic component the student familiarizes himself with different groups of microorganisms, paying major attention to those which affect human health. Attention is focused on the basic principles of microbiology such as morphology, physiology, identification and bacterial afflictions, molds, viruses and their relationship to diseases. In addition, infection epidemiology, host defenses and immunological principles and the application of this knowledge in the prevention of disease are developed in this course. The laboratory component provides the student with skills related to aseptic techniques, disinfection, tincture, isolation and culture of microorganisms. Methods of bacterial growth control are also emphasized. One semester, three hours of lecture and three hours of laboratory per week.

**HESC 220 PATIENT CARE
2 CREDITS**

This course will provide a discussion and demonstration of the most common patient care procedures and techniques, emphasizing the physical and psychological wellness of the patient during the diagnostic imaging procedure. The initial component introduces the basic principles of medical-legal practice, medical ethics, infection control and professional communication. The final component emphasis is patient care in critical and emergency situation.

**HESC 230 SECTIONAL ANATOMY
4 CREDITS**

This course will provide for the study of clinical applications in sectional anatomy. Topics include the study of human anatomy, emphasizing axial, sagittal, coronal and oblique plains. This course is designed to aid imaging modality students in recognizing, locating and identifying differences between a normal anatomy and pathological anatomy on various computer images.

**HESC 230L SECTIONAL ANATOMY LAB
0 CREDITS**

This course will provide a study of the clinical applications of sectional anatomy. Topics include a study of human anatomy, with an emphasis primarily on the axial, sagittal, coronal, and oblique planes. It provides so that students of the imaging modality can recognize, identify and differentiate between normal anatomy and pathological anatomy in the various computerized images. This course meets 45 hours of theory and 45 hours of laboratory for one semester.

**HESC 231 CROSS SECTIONAL ANATOMY I
4 CREDITS**

The Sectional Anatomy 1 course emphasizes the study of the gross anatomy of the abdomen, pelvis and inferior limb of the human body in transverse (parallel and angular), sagittal, and coronal sections. Through an active and participative setting (that includes socialized discussions, power points presentations, cooperative work with models, drawings, plates, X rays, sonography, CT and MRI images, and internet sites; assignments, oral reports) the course guide students to establish and describe relations between structures, particularly among soft tissues and skeletal constants, observe, describe and analyze the section under study, recognize normal and abnormal anatomy, classify the section as transverse, coronal or sagittal, and identify with criteria both the structures present and the body area where the section is located. The students will discover and understand the course content through diverse science processes, and exhibit responsibility for completing on time course's tasks, duties and commitments with peers. They will use writing, oral presentation and drawings as a way to describe, analyze and evaluate what anatomical sections communicate, to build a functional anatomical/technical vocabulary, to categorize, compare and contrast, make inferences, and present arguments to sustain and refute their opinions.

They will use diverse strategies to solve problems and apply the information learned to new situations.

HESC 232 CROSS SECTIONAL ANATOMY II

4 CREDITS

Sectional Anatomy 2 emphasizes learning and understanding the gross three- dimensional anatomies of the regions of the head, neck, vertebral column, thorax and upper extremity of the human body, in transverse, sagittal and coronal sections. Through an active teaching/learning environment students were guided to, in the regions mentioned above: a) identify if a section is transverse, sagittal or coronal; b) correlate structures, particularly those of soft tissue, and skeletal constants, c) identify structures, in different sectional planes; d) observe a transverse, sagittal or coronal section and mentally reconstruct the three dimensional relationships of the area recognizing normal and abnormal relationships among corporal structures, and the level at which the section was taken, and e) given a gross dissection of a region visualize the appearance and the relationships in the planar sections. Active teaching/learning in this course will be achieved through socialized discussions, power points presentations, cooperative work with models and planar sections, drawings, oral presentations and writing. Writing and oral presentation were used to analyze what the planar sections, and sonograms, CT and MRI images, showed in order for students to: build a functional/technical vocabulary, to relate information through comparisons and contrasting, and to present arguments that sustain their opinions regarding a problem or a new situation presented to them in an image of the head, neck, vertebral column, thorax and upper extremity of the human body. The course requires students to be responsible for their own learning and for completing adequately and on time the assigned duties.

HESC 335 CARDIOVASCULAR ANATOMY

3 CREDITS

The course is an in-depth study of cardiovascular anatomy and physiology, with emphasis in venous and arterial hemodynamics. This course also includes discussion of the pathophysiological basis of cardiovascular disease.

HESC 360 STATISTIC APPLIED TO HEALTH SCIENCES

3 CREDITS

This is the third required core course for all students completing BS studies at the School of Health Sciences, with the exception of students of Speech Language Therapy and Dietetics and Nutrition, who are encouraged to take the course as an elective. The course provides a discussion of statistical methods applied to the health professions. In this course students expand on the knowledge introduced in HESC 340, Health Sciences Research. Emphasis is placed on qualitative and quantitative statistical analyses applied to clinical research, according to different research designs.

HESC 365 HEALTH SCIENCES RESEARCH

3 CREDITS

This core course is required for undergraduate students at the School of Health Sciences. Specific attention is given to the relationship between research outcomes and clinical practice. This course prepares students to analyze research literature in the health sciences critically. Students also have the opportunity to apply the scientific method to clinical research. Funding opportunities available to develop research studies in health sciences are presented and discussed.

HESC 500 STATISTICS APPLIED TO CLINICAL RESEARCH

3 CREDITS

The student will have the opportunity to study and apply statistical methods useful in quantitative and qualitative analysis of clinical research. Review of descriptive and inferential statistics with simple univariable procedures. Statistical analyses of multivariable and complex hypotheses testing procedures are also discussed. The material is presented to facilitate students' application of the concepts learned in research courses and focused on research utilization.

MSLP 500 PHONOLOGY

3 CREDITS

The course will focus on the study and analysis of phonology. Topics include phonological analysis, distinctive features assessment, and manner, place, and voice analysis among other key elements for speech sample analysis. Linguistic treatment approaches as well as traditional approaches will be discussed. Issues related to students reading and writing performance will be presented and analyzed including phonological awareness theories and principles. Multidimensional analysis and interpretation of speech samples will be stressed as well as therapy stimulus selection.

MSLP 510 LANGUAGE DISORDERS IN CHILDREN

3 CREDITS

This course discusses the nature of language disorders in children from a developmental perspective to achieve a functional definition of what constitutes language disorders. Related conditions such as Autism, mental retardation, attention deficit disorder and sensory impairments are discussed as they relate to language disorders in children. Assessment procedures are studied including formal and norm reference tests.

MSLP 520 AUDIOLOGY FOR SPEECH LANG PATHOLOGY

3 CREDITS

Study of the standard and special audiometric procedures including the interpretation of audiograms, use of hearing aids, and diagnostic clinical audiometry. This course is directed toward audiology issues as they relate to the practice of Speech-Language Pathology.

MSLP 525 SEMIN: MULTI ISSUES IN SLP

2 CREDITS

Study of bilingualism, second language acquisition, and its relation to normal language development. Study of minority groups difficulties in the access to appropriate clinical and health services in Puerto Rico and abroad, including the legal aspects involved.

MSLP 530 FLUENCY DISORDERS

3 CREDITS

This course presents the theory, diagnosis and treatment of fluency disorders in children, adolescents, and adults. We will study the symptomatology of stuttering, survey theories of stuttering, and examine normal versus abnormal fluency development. It will focus on diagnosis of fluency disorders and differential diagnosis of stuttering and related disorders of fluency. A central focus will be placed on the design and application of appropriate treatment programs for young children, school-aged children and adults.

MSLP 535 NEUROSCIENCE APPLIED TO SLP

3 CREDITS

Study of the nervous system across the lifespan in terms of the organization of the brain, descending motor and ascending sensory pathways, cranial nerves and muscles. The neural mechanisms of language, learning and memory are described. Diagnostic techniques in the field of neurology are presented. The effects of specific localized disease processes and brain injury on human speech and communication such as aphasia, alexia, agnosia, apraxia, dysarthria and dysphonia are discussed. Strategies for patient and family education are presented.

MSLP 540 VOICE DISORDERS

3 CREDITS

Study of the speech mechanism as it relates to voice production. Analysis of voice and voice problems in children and adults, such as phonotrauma, psychogenic voice problems, neurogenic disorders, laryngeal cancer, and problems of professional voice are addressed. Diagnostic procedures and clinical intervention, prevention and remediation of voice disorders are studied.

MSLP 545 CONTEMPORARY PROFESSIONAL ISSUES IN SLP

2 CREDITS

Study of the issues related to the profession of speech language pathology, service delivery, ethics, and legal considerations, funding issues, program administration, credentialing and professional issues. Content is in accordance with the American Speech-Language-Hearing Association Scope of Practice, Code of Ethics, Preferred Practice Patterns and guidelines for credentialing. The course also includes topics like certification standards, professional legislation, licensure, and liability. We will present information and resources that can be used for a professional lifetime. Professional activity, including advocacy for the profession and the clients/patients one serves, will be encouraged.

MSLP 550 CLINICAL ASSESSMENT SKILLS

3 CREDITS

Language Assessment clinical skills. Principles of observation, interviewing, effective interpersonal communication, self-evaluations, and theories in Language Assessment will be study and analyzed. The students will be able to select and administer Speech and Language Test and criterion tasks in Speech and Language. The students will describe the assessment report format and the writing process. Clinically related academic activities and practical experiences with children and adults will be provided. Assessment principles in each area will be

studied according to the guiding principles and the fundamental components of preferred practice patterns of the American Speech- Language and Hearing Association.

MSLP 555 INTERVENTION SKILLS

3 CREDITS

Study and analysis of the contemporary issues and techniques of treatment, observation, counseling, team-work in speech-language pathology. Current legal issues and aspects in the practice of intervention in speech-language pathology are discussed. Introduction to interdisciplinary treatment techniques are studied and exercised. Basic principles of speech language intervention and information reporting systems are analyzed and discussed. Therapy strategies are described. Methods for effective parent and family counseling are modeled.

MSLP 559 RESEARCH SPEECH-LANGUAGE PATHOLOGY I

2 CREDITS

This is the first course offered as part of the research track of the MSLP Program. Students will be introduced to all aspects and steps necessary to conduct responsible research. The course will take students from identifying a research problem and formulating research questions all the way through sampling methods, reviewing literature, and selecting the research design. Students will work with their research mentors in the development of their research proposal chapters I and II.

MSLP 569 RESEARCH IN SPEECH-LANGUAGE PATHOLOGY II

2 CREDITS

This is the second course offered as part of the research track of the MSLP Program. In this course students will work with their mentors finishing the literature review and in the development of the methodology of their proposal. Human subjects in research, compliance, and UAGM Institutional Review Board (IRB) requirements will be discussed.

MSLP 570 AUGMENTATIVE AND ALTERNATIVE COMMUNICATION

3 CREDITS

This course aims to develop an understanding of the strategies available to compensate the functional communication needs of children and adults with moderate and severe speech language impairments. Basic principles of assistive technology (AT) and augmentative alternative communication (AAC) will be introduced, in particular the components of an AAC system and symbolization skills and levels. The principles of evidence-based practice are the focus of both the assessment process as well as the intervention phase.

MSLP 580 AURAL REHABILITATION

3 CREDITS

Discussion of the effects of a hearing impairment on speech and language development. The theoretical and methodological aspects of remediation are studied. Visual and manual communication, auditory training, and assistive listening devices are discussed and studied.

MSLP 590 NEUROGENIC SL DISORDERS

3 CREDITS

Study of neurologically-based disorders of oral motor and language in children. Differential diagnosis and treatment of speech-language disorders in children with cerebral palsy, dysarthria, apraxia of speech and all other acquired neurogenic disorders are studied and analyzed. Dysarthria of the peripheral nervous system such as those caused by Guillain-Barre syndrome, myasthenia gravis and muscular dystrophy are discussed.

MSLP 595 SLP CLINICAL PRACTICUM WORKSHOP

3 CREDITS

An initial graduate clinical practicum experience supervised by Universidad Ana G. Méndez faculty members at Clínica de Servicios de Patología del Habla-Lenguaje. The experience emphasizes planning and conducting an emergent literacy program, preparing and selecting therapy materials, taking case histories, conferring with parents, writing therapy notes and plans, and making recommendations. A daily one-hour class meeting will be held to orient the student to managerial and organizational procedures and professional issues.

MSLP 600 CLINICAL INTERNSHIP I

3 CREDITS

Hands-on clinical experience including observation, interviewing, basic assessment, clinical diagnosis, and intervention experiences.

MSLP 610 CLINICAL INTERNSHIP II

3 CREDITS

This course is the continuation of MSLP 600. Students will complete the required 400 supervised clinical practicum hours during this course. Diagnostic and identification techniques along with intervention strategies, therapy techniques, record keeping, and report writing will be stressed.

MSLP 620 ORAL MOTOR SWALLOWING DISORDERS

3 CREDITS

Analysis of the assessment and management of oral motor swallowing disorders in children and adults with an emphasis on a neurodevelopmental approach. Oral-motor development and swallowing physiological anatomy is described. Etiology and classification of dysphagia is studied. Medical and nonmedical management issues in dysphagia are addressed in children and adults.

MSLP 630 LANGUAGE DISORDERS IN ADULTS

3 CREDITS

Study of the theoretical bases of acquired language disorders in the adult population. Diagnostic tools and treatment approaches based on theories of the nature of aphasia, dysarthria and dementia are discussed. Current trends in aphasia, dysarthria and dementia treatment in response to changes in the health care environment are analyzed. Areas to be covered are acquired communication problems, mental retardation, autism, hearing impairments, traumatic brain injury and right hemisphere damage in adults. Adaptation of the environment, particularly home is studied

MSLP 640 COUNSELING STRATEGIES FOR SLP

3 CREDITS

Psychosocial and humanistic existential adapted theories such as psychoanalytic theories, cognitive-behavior, and experiential approaches are studied to facilitate the development of intervention skills for the speech pathology student. Emphasis is placed on the models of Alfred Adler, Albert Ellis, and Carl Rogers. Self-evaluation and understanding of the student's feelings and attitudes which develop during the therapeutic process is analyzed. The role of counseling in treating children and adults with communication disorders is discussed and relevant strategies are described. Multicultural considerations in counseling communicative disordered persons and their families are also included. This course is an experiential one as complements to the technical and professional knowledge of the speech pathology student.

MSLP 660 CLINICAL SUPERVISION

3 CREDITS

This course is focused in presenting aspects for effective supervision in the area of speech-language. Supervision models, applications, ethical and legal considerations, among others, are presented. The course provides students with supervisory knowledge and skills for both clinical practice students and licensed specialists. Cases, intervention techniques used with supervised in different clinical settings are discussed.

MSLP 669 RESEARCH IN SPEECH-LANGUAGE PATHOLOGY III

2 CREDITS

This is the third course offered as part of the research track of the MSLP Program. The course includes the development phase of a research project. Students will conduct their research along with their research mentors. At the end of the course students will prepare a publishable paper about the research and will conduct a research poster presentation.

MSLP 671 MULTICULTURAL AND PROFESSIONAL ISSUES IN THE SUPERVISION OF SPEECH-LANGUAGE PROFESSIONALS

3 CREDITS

This course presents the main concepts of bilingualism, acquisition of a second language, multicultural issues, the difficulties of minority groups, cultural responsiveness, and linguistic diversity. The impact of bilingualism and cultural diversity in the provision of services. Basic concepts of legal and professional aspects of clinical practice in relation to supervision are discussed. The course aims to describe the responsibilities of the supervising clinician in the ethical aspect, including his relationship with collaborative teamwork. The scope of the practice and state and professional legislation is described according to the Organización Puertorriqueña de Profesionales del Habla-Lenguaje y Audiólogos and Audiologists in conjunction with the clinical practice documents related to the supervision as established by the American Speech-Language-Hearing Association.

MSLP 680 KNOWLEDGE INTEGRATION IN SLP

3 CREDITS

Integration, analysis, and application of all Master level Speech-Language Pathology courses (MSLP code courses). The course provides a means to guide students in their preparation for the Speech-Language Pathology local and national board exams.

MSLP 685 MANAGEMENT AND LEADERSHIP IN THE SPEECH-LANGUAGE PROFESSION

3 CREDITS

This course presents a general description of the roles of leadership and innovation in health care in order to achieve goals and promote teamwork. It includes developing basic leadership skills that support decision making, interpersonal relationship management, communication and collaboration within the work team. The course analyzes the administrative forms and functions necessary in the field of health to demonstrate avant-garde supervisory skills along with compliance with current regulations and laws of the health professions. The course emphasizes the need to develop organizational skills, effective resource management and measurement of progress.

MSLP 690 CLINICAL TEACHING STRATEGIES FOR SPEECH-LANGUAGE PROFESSIONALS

3 CREDITS

Study of aspects related to teaching: basic teaching models and learning styles, compensatory strategies and teaching techniques, based on the different theories and models used for the transmission of information. It will be studied how the clinical specialist can effectively supervise in any environment, being the facilitator of the teaching of the required strategies in the field of speech-language pathology. The teaching techniques and their applicability in the improvement of the skills of the supervised in the health services offered are analyzed, discussed and demonstrated. The principles of effective supervision and modeling by area will be studied, and the fundamental components related to the practice according to the American Speech Language and Hearing Association (ASHA).

MSLP 695 SUPERVISION PRACTICUM

3 CREDITS

Practical experience in supervision. Students will supervise evaluation and / or treatment to licensed specialists and / or students in clinical practice in order to present a project on the supervisory experience applying the previous knowledge acquired. Students will practice in a clinical setting approved by the Speech-Language Pathology program of the Ana G Méndez University.

MSNT 500 SPORTS AND EXERCISE NUTRITION

3 CREDITS

The course integrates nutrition principles, standards and guidelines, focusing on understanding how dietary needs have implications in sports and exercises. The content gives students comprehensive knowledge of nutrition and how it supports training, recovery and performance in sports and exercises, considering diet plans, supplements, eating disorders and exercise patterns, among others.

MSNT 510 LIFE CYCLE NUTRITION

3 CREDITS

The course will enable students to explore the role of nutrition from preconception until the older adult stage. Each life cycle is discussed considering physiological changes, as well as lifestyle factors and nutritional requirements. The content includes the study of special nutritional needs, aspects about physiology, and health concerns. Physical growth, eating problems and other nutrition-related conditions are examined for each stage of life. Recommendations for improving the nutritional well – being of individuals.

MSNT 520 HEALTH COMMUNICATION

3 CREDITS

Comprehensive overview of health communication that addresses different forms of delivering high quality health promotion messages at the individual, family, professional, organizational and societal level. Discussion includes various communication methods, mass media, the art of public speaking and social marketing, in order to persuade, influence, empower and support. Health communications includes how messages from interpersonal, organizational, cultural and media sources affect health behaviors, attitudes, actions of individuals and beliefs, in a variety of settings.

MSNT 530 NUTRITION FOR HEALTH

3 CREDITS

This course emphasizes the role of nutrition and lifestyle choices in promoting optimal health. Discussion of how dietary intake influences health and wellbeing. The content integrates aspects of food choices and health, and nutrition principles in the life cycle.

MSNT 550 EPIDEMIOLOGY OF PUBLIC HEALTH PROFESSIONALS

3 CREDITS

This course presents the basic tenets of epidemiology of public health for health professionals. Emphasis will be on definition, identification and prevention of nutrition related disease, as well as improving health of a population by improving nutrition. Malnutrition will be discussed on an environmental, economic and societal level to equip students with the necessary knowledge to explain, communicate and apply the basic principles of epidemiology in their professions and how their disciplines contributes to public health goals.

MSNT 560 NUTRITION DISEASE PREVENTION

3 CREDITS

Discussion of the etiology of major nutrition problems in different populations, the role of the diet in disease prevention and treatment, and the promotion of health through nutrition. The course focuses on improving food choices, dietary intake, and nutritional status. Students will examine nutrition issues facing at-risk populations, including pregnant and lactating women, infants, children, adolescents, adults and the elderly.

MSNT 570 NUTRITION IN ALTERNATIVE AND COMPLEMENTARY MEDICINE

3 CREDITS

This course discusses the role of nutrition in alternative and complementary medicine. Evidence based recommendations will be presented for the use of alternative and complementary medicine the wide range of approaches to health and well – being will be emphasized. The most commonly used therapies will be discussed as an adjunct to conventional medical care.

MSNT 590 NUTRITION PRACTICUM

6 CREDITS

This course is designed to provide students with practical experiences in the field of nutrition. Students eligible to enroll in this course must have completed a B.S. in Nutrition and Dietetics. Students will be supervised by licensed nutritionists and dietitians and registered dietitians in diverse settings. Settings may include but are not limited to nutrition programs, private practice, community programs, hospitals, academia, and wellness programs. Additionally, the interdisciplinary approach will allow the opportunity for students to collaborate with health professionals other than the licensed nutritionist and dietitian. A total of 150 hours is required to complete this course.

MSPH 500 PUBLIC HEALTH FUNDAMENTALS

3 CREDITS

Introduction to public health concepts and fundamentals from a scientific, public policy and prevention perspective at the global level. The history and mission of discipline, as well as trends in current practice, based on scientific evidence, are discussed. These include aspects of the health system, infectious and non-infectious diseases, environmental health, health reform, management and importance of statistical data, surveillance systems and public health controversies.

MSPH 510 CULTURAL COMPETENCES IN HEALTH

3 CREDITS

The course presents theories, models and practices on cultural dimensions to work with people from diverse backgrounds, backgrounds, behaviors and social practices in different intercultural contexts. This includes several aspects such as intergroup differences, social problems, health disparity, racism, inequity and oppression. In addition, aspects of cultural sensitivity and idiosyncrasies are presented.

MSPH 520 PLANNING AND EVALUATION OF HEALTH PROGRAMS

3 CREDITS

This course presents theoretical and practical frameworks in the planning and evaluation of health programs. The general basis for data collection techniques, budget and evaluation models for developing a work plan will be discussed.

MSPH 530 BIOSTATISTICS AND INFORMATICS IN PUBLIC HEALTH

3 CREDITS

This course presents descriptive and inferential statistics for application in the design, analysis and interpretation of research in the field of public health. Emphasis will be made on the design, development and interpretation of tables, preparation of graphs, central trend measurements, dispersion measures, concepts of probability and correlation in descriptive statistics, as well as parametric and non-parametric tests in inferential statistics.

MSPH 540 RESEARCH METHODS IN PUBLIC HEALTH

3 CREDITS

This course studies qualitative and quantitative research methods as troubleshooting tools. Includes research designs, statistics used in experimental and descriptive research. Finally, the principles of interpretation of research and effective communication in the field of public health are discussed.

MSPH 550 SOCIAL DETERMINANTS IN HEALTH

3 CREDITS

This course discusses the conditions in which people are born, grow, live, work and age. The social, economic and environmental framework and its impact on public health are discussed. In addition, the different perspectives of human development and the impact of the environment on the individual are evaluated.

MSPH 560 RESPONSE PLANNING IN HEALTH SYSTEMS

3 CREDITS

Analysis of the critical factors to be contemplated in the context, evolution and principles of an emergency or disaster event. Key concepts from leadership, decision-making and operations center to strategies to be used according to the type of event presented are studied.

MSPH 570 HEALTH CARE SYSTEMS: MANAGEMENT AND PUBLIC POLICY

3 CREDITS

The course will present an analysis of health care systems, from a management and public policy perspective. The history of public policy affecting the management of health services provided to the community will be discussed. In addition, the reforms of the health system from the twentieth century to the present and the transformation of the different programs at national and international level will be analyzed.

MSPH 590 HEALTH PROMOTION IN THE COMMUNITY

3 CREDITS

This course studies the importance of education, and health promotion, according to concepts, methods and strategies to promote healthy lifestyles and encourage an optimal health. Current efforts of health promotion to influence in the lifestyle change, both at the individual and population levels will be critically evaluated.

MSPH 600 HUMAN ECOLOGY

3 CREDITS

In this course the critical thinking skills about how and why human and social relationships with the natural environment have changed dramatically over the years are developed. How the human-environment relationship affects the sustainability of the ecosystems and civilization is analyzed. Also, local and global environmental changes that have been invested to propose timely and accurate solution and mitigation to the times are discussed.

MSPH 610 FRAMEWORK OF THE EPIDEMIOLOGY IN HEALTH

3 CREDITS

Course aimed at the study of the distribution and frequency of diseases. Also, determinants associated with the health-disease relationship in human populations are analyzed.

MSPH 620 BEHAVIORAL HEALTH: INDIVIDUAL, SOCIETY AND WELLNESS

3 CREDITS

This course will discuss the essential aspects of the field of behavioral health and their importance in public health. Through critical thinking, the relationship between mental health disorders and primary health field diseases will be explored. How both disorders and diseases contribute to disability and mortality, and wellness and resilience of the population will be emphasized.

MSPH 630 KNOWLEDGE INTEGRATION IN PUBLIC HEALTH

3 CREDITS

This course provides students with the opportunity to demonstrate in a practical and theoretical way the knowledge acquired in the courses of the Master in Public Health. The purpose is that they can integrate the different aspects of public health through the application of reflective thinking based on the elements of the scientific method.

NADM 657 THEORIES AND STRATEGIES IN NURSING ADMINISTRATION

3 CREDITS

This course exposes the Master of Nursing (MSN) student to a wide variety of managerial and theoretical models that are used as a framework for management. Develops competencies as professional leadership, collaborator, consultant and ethical decision-making in the management nursing role. Provides to establish the difference between a leader and a manager. It emphasizes cultural diversity, inequality, and social determinants. In addition, aspects of communication, stress control and time management in administration are discussed among other topics as they apply to nursing administration based on evidence. For the development of competencies, communication skills, the ANA Standards of Practice, professional expectations of a leader, emotional intelligence, and various health policies, among other topics are use. The student must comply with 45 contact hours.

NADM 658 ESSENTIALS CONCEPTS OF NURSING SERVICE ADMINISTRATION

3 CREDITS

This course provides the student with a master's degree in nursing (MSN) the opportunity to acquire the knowledge and skills to occupy leadership positions in Health Agencies, Nursing Services and Educational Institutions. Communication skills, professional leadership, collaborator, consultant, and ethical decision-making are developed in the management role. In addition, critical thinking competence is developed in the discussion of aspects of strategic planning, human capital, and budget. Models of problem solving, teamwork, organizational design, based on recent evidence are included. The management of technology and information in aspects related to health among other topics is studied. The student must comply with 45 contact hours per term.

NADM 659 ADVANCED NURSING PRACTICE IN NURSING ADMINISTRATION

4 CREDITS

This course provides the master's degree in nursing (MSN) student with a second role in administration the opportunity to apply the theoretical concepts and strategies previously acquired in the program to develop the competencies of professional leadership, collaborator, consultant, and ethical decision-making. in the role of administration in health settings and under the guidance of a manager / leader in nursing administration. In addition, critical thinking and communication skills are developed in a problem-solving project. Aspects of the future of leadership in nursing administration and effective work with the interprofessional team are discussed. During practice the student will have the opportunity to experience the various roles of a nursing administrator. The student must complete 15 hours of theory and 135 hours of practice.

NUAG 664 ADVANCED NURSING ASSESSMENT OF THE ADULT- GERO PATIENT

3 CREDITS

The purpose of this course is to provide the nursing master's student the necessary skills to perform the advanced physical assessment of critically ill adult-gerontological client with cultural diversity for the direct clinical practice. Leadership, communication, and ethical decision-making competencies are developed by performing the physical examination of the critically ill client. The student must complete 30 hours of theory and 45 hours of laboratory per term.

NUED 670 FUNDAMENTALS, PRINCIPALS, & SYSTEMATIC CURRICULAR DESIGN

3 CREDITS

In this course critical thinking and communication are developed to analyze the foundations, principles, practices, and factors that affect the curriculum development in nursing. In addition, education and learning theories, curricular evaluation models are discussed and the competencies of professional leadership, collaborator, consultant, and ethical decision-making in the role of education are developed considering the ethical and legal aspects of education in Nursing. In addition, technological competence in nursing education is developed. The student must complete 45 hours of theory per term.

NUED 671 ASSESSMENT, MEASUREMENT AND EVALUATION OF LEARNING IN NURSING

3 CREDITS

In this course students analyzes the role of the nursing educator as a leader, consultant and collaborator in the processes related to the evaluation and design of instruments and rubrics. The importance of measuring the learning of nursing students based on evidence and following ethical principles is emphasized. The student must complete 45 hours of theory per term.

NUED 672 PRACTICUM IN NURSING EDUCATION

4 CREDITS

In this course the master's student (MSN) will have the opportunity to practice the role of a nursing educator. Professional leadership, collaborator, consultant and ethical decision-making competencies are developed in the role of education, considering ethical aspects and cultural diversity in the teaching-learning process. The student must complete 15 hours of theory and 135 hours of practice.

NURS 102 FUNDAMENTALS OF NURSING

5 CREDITS

This course introduces students to basic nursing principles and skills. The fundamentals of nursing care, communication skills and intervention to meet the needs of the client are discussed: hygiene, physical and psychological physiotherapy, safety, prevention, and control of infections considering legal ethical principles and the cultural diversity of the client. The student is introduced to the nursing process considering cultural diversity, ethnicity, and the stages of growth and development. Requires three (3) hours of theory and six (6) hours of clinical experience per week. The clinical component course requires students to complete 45 hours of clinical skills (22.5 of skills and 22.5 of clinical simulation) and 45 of clinical practice in the assigned area for a total of 90 hours.

NURS 103 BASIC PRINCIPLES OF PHARMACOLOGY

4 CREDITS

This course discusses the basic knowledge and skills on drug handling. The concepts of pharmacology, pharmacokinetics and pharmacodynamics are explained. It also emphasizes the different measurement systems such as metric, apothecary and domestic where the student must use critical thinking and quantitative reasoning when calculating different doses according to the stage of growth and development. It requires 60 hours per semester, 30 hours of the theoretical component (2 hours of theory per week) and 30 hours of the laboratory component (2 hours of laboratory per week).

NURS 209 NUTRITION IN NURSING PRACTICE

3 CREDITS

This course discusses the fundamentals of nutritional care in nursing practice. Included is nutritional assessment using effective client communication and the use of established CDC assessment templates for the purpose of designing and providing appropriate care, identification of risk factors, determination of nutrition requirements, and selection of appropriate intervention. Emphasis on the development of provider and care manager competencies through discussion of feeding issues across the life cycle, functional elements of nutritional support, trends in nutritional care, and nutritional considerations in specific disease states. The Dietary Guidelines for Americans and its companion MyPlate are discussed using the information skills competency considering ethics and diversity. New guidelines for the provision of enteral and parenteral nutritional support, and concepts related to malnutrition are presented. Requires 45 hours of theory.

NURS 210 NURSING INFORMATICS

3 CREDITS

This course provides an introduction to nursing informatics with the integration of information systems and technologies. Social networking, professional networks and their importance to the nursing profession are explored. Emphasis on the development of technological competencies, information and innovation skills and care manager through the protection, privacy, and confidentiality of information in simulated health care environments. Students have the opportunity to interact with information technologies for patient management. Exercises are presented using virtual patient scenarios as well as electronic file documentation. The course includes three (3) hours of theory per week with integrated laboratory.

NURS 215 PATHOPHYSIOLOGY FOR NURSING

4 CREDITS

This course introduces the basic concepts of human pathophysiology and discusses the disease process. Emphasis is placed on alterations in the integrity of the systems: physiological, cellular, genetic, neurological, immunological, hormonal, hematological, cardiovascular, lymphatic, respiratory, reproductive, urological, digestive, and skeletal muscle. Requires 60 hours of theory per semester (4 hours per week).

NURS 300 HEALTH AND PHYSICAL ASSESSMENT

4 CREDITS

This course focuses on the discussion and application of the nursing diagnostic process, health assessment and physical examination techniques in clients at different stages of the life cycle. It focuses on the performance of the physical examination and comprehensive health assessment to establish a nursing diagnosis for health promotion and disease prevention. Communication skills, interviewing, health history assessment, physical examination techniques, and use of instruments are applied. The role of nursing professionals during physical and health examination is discussed, as well as the essential pathophysiological mechanisms of various health problems, with emphasis on the identification of abnormal findings. The course requires two (2) hours of lecture and two (2) hours of laboratory.

NURS 308 MENTAL AND PSYCHIATRIC NURSING CARE

5 CREDITS

This course discusses the history of psychiatric nursing and integrates the nursing process through theory and practice. Emphasis is placed on effective communication skills, patient safety, application of the nursing process in the care of patients with psychiatric disorders, critical thinking, and cultural diversity. Analysis of laws governing the rights of clients with mental disorders and therapeutic intervention modalities. Discussion of nursing diagnoses using the Diagnostic and Statistical Manual of Mental Disorders: DSM-5 and NANDA as reference. Practice includes inpatient and outpatient psychiatric units and community mental health centers. In clinical practice, comprehensive nursing care focuses on evidence-based practice and principles of safety and quality improvement, taking into account the cultural diversity of clients. It requires three (3) hours of theory and six (6) hours of clinical practice per week. The clinical practice component requires students to complete 45 hours of clinical skills and 45 hours of clinical practice in the assigned area for a total of 90 hours.

NURS 309 MATERNAL AND CHILD NURSING CARE

5 CREDITS

This course introduces the student to the fundamental concepts related to the reproductive cycle such as: sexuality, family planning, fertility, infertility, a holistic approach focused on pregnant women, intrapartum, newborn, and postpartum. In addition, the basic concepts of nutrition, cultural diversity, social determinants of health, which affect the pregnant woman, her family and the newborn are integrated. The nursing process, therapeutic communication skills, evidence-based practice are applied, and collaboration with the multidisciplinary team is applied by applying critical thinking in the care of the mother and newborn. Also, emphasis is placed on complications during pregnancy, childbirth, postpartum and high-risk newborns. Requires three (3) hours of theory and six (6) hours of clinical practice per week. The clinical practice component requires students to complete 45 hours of clinical skills (22.5 of skills and 22.5 of clinical simulation) and 45 of clinical practice in the assigned area for a total of 90 hours.

NURS 313 MEDICAL-SURGICAL NURSING CARE I

5 CREDITS

The course addresses the principles of nursing care of adult and elderly in different states of growth and development. The health alterations discussed in this first part of the course include fluid and electrolyte balance, perioperative disorders, oxygenation, cardiovascular, hematological, immune, nutritional and gastrointestinal elimination. It presented the concepts of cultural diversity and health disparity, organ donation, as well as social determinants of health. Emphasis is placed on professional and ethical behavior. Students use the nursing process to assess, plan, implement and evaluate the nursing care provided to clients in primary, secondary and tertiary health scenarios, using the technological skills. In clinical practice, holistic nursing care focuses on evidence-based practice, and safety and quality improvement principles, considering clients' cultural diversity. Requires 3 hours of theoretical classes and 6 hours of clinical practice per week. The clinical practice component requires students to complete 45 hours of clinical skills (22.5 of skills and 22.5 of clinical simulation) and 45 of clinical practice in the assigned area for a total of 90 hours.

NURS 314 MEDICAL-SURGICAL NURSING CARE II

5 CREDITS

The course addresses the principles of nursing care of adult and elderly in different states of growth and development. The health alterations discussed in this second part of the course include: genitourinary elimination, reproductive and gynecological systems, including sexually transmitted diseases (STDs), integumentary, skeletal muscle, sensory and endocrine, metabolic and management during emergencies and disaster situations. It discussed the concepts of cultural diversity and health disparity, organ donation, as well as social determinants of health. Emphasis is placed on professional and ethical behavior. Students use the nursing process to assess, plan, implement and evaluate the nursing care provided to clients in primary, secondary, and tertiary health scenarios, using the technological skills. In clinical practice, holistic nursing care focuses on evidence-based practice, and safety and quality improvement principles, considering clients' cultural diversity. Requires 3 hours of theoretical

classes and 6 hours of clinical practice per week. The clinical practice component requires students to complete 45 hours of clinical skills (22.5 of skills and 22.5 of clinical simulation) and 45 of clinical practice in the assigned area for a total of 90 hours.

NURS 380 NURSING RESEARCH

3 CREDITS

This course is designed provides student the opportunity to analyze the scientific research process and its relevance in evidence-based practice. Emphasis is placed on the use of the scientific method, problem-solving skills, and scientific and quantitative reasoning. Provides for the development of computer literacy skills and technological competence. The ethical, moral, and legal considerations of the patient and the researcher are also discussed. The course requires three (3) hours of class per week.

NURS 402 CRITICAL CARE IN NURSING

3 CREDITS

This course is designed for students to acquire knowledge, skills, and competencies to provide nursing care to clients in critical care in the emergency room or intensive care units. It discusses the procedures to be followed to provide care to patients in critical health conditions that put their lives at risk, in all stages of growth and development. Emphasis on triage, assessment and immediate care, wound management, trauma, pain management, end-of-life patient care, emergency management, and patient management during cardiorespiratory arrest. Related ethical-legal aspects, patient and family education are discussed as well as the role of the intensivist nurse in light of the technological advances of the XXI century and the role of nurses in situations of child abuse, sexual abuse, domestic violence, substance abuse and mental emergencies. 45 hours of theory are required.

NURS 403 COMMUNITY NURSING

5 CREDITS

This course focuses on the study of principles and practice involve in community health nursing. Public health concepts aimed at improving the health of different communities are discussed and applied. Skills and nursing attitudes necessary for health promotion and disease prevention of individuals, family and community according to Healthy People 2030, are addressed. The educational, counseling and patient advocate roles are emphasized. The different social, ethical, and moral factors that cause health disparities in the community are discussed. In clinical practice, holistic nursing care focuses on evidence-based practice, and safety and quality improvement principles, considering clients' cultural diversity. The course includes three 3 hours of conference and six 6 hours of clinical practice a week in the community scenarios.

NURS 407 KNOWLEDGE INTEGRATION IN NURSING ADN

3 CREDITS

This course integrates nursing knowledge and skills. Students are advised on the steps to follow when preparing to take the nursing revalidation exam and the scientific rationale for identifying possible correct answers and distractors. This course is intended to be a guide to help students develop and refine analysis, assessment, and reflection techniques, as needed in different nurse / patient interactions. It enables students to identify areas of strengths and weaknesses, which help them pay special attention to their individual needs when preparing to take the board exam. During the third week after the start of the course, a comprehensive exam will be administered in order to evaluate the knowledge acquired in the areas of Medicine and Surgery, Psychiatry, Maternity, Pediatrics, At the end of the semester, the Nursing "Mock" exam will be administered. This constitutes 20% of the final grade for the course, therefore, its approval must be satisfactory for the final pass of the course. The course requires three (3) hours of class per week.

NURS 408 PEDIATRIC NURSING CARE

5 CREDITS

This course offers the student the base of knowledge on the theories of growth, development, and the ethical/legal aspects of pediatric nursing care. It emphasizes health promotion, disease prevention, nutrition, cultural diversity, and social determinants of health. Emphasis is placed on developing the skills necessary for disease prevention, health promotion, and maintenance. Uses the nursing process for evidence-based pathophysiological and therapeutic management, communication skills, collaboration, and development of professional roles such as: care provider, manager, coordinator and legal ethical values, professional and practice standards, and member of the profession. Requires 3 hours of theoretical classes and 6 hours of clinical practice per week. The clinical practice component requires students to complete 45 hours of clinical skills (22.5 of skills and 22.5 of clinical simulation) and 45 of clinical practice in the assigned area for a total of 90 hours.

NURS 410 NURSING LEADERSHIP AND MANAGEMENT

3 CREDITS

This course discusses concepts related to leadership and management in nursing. Leadership theories and styles and contemporary management theories and their application in care settings are analyzed. Emphasis on the roles/functions of nursing professionals as leaders in patient care. Discussion of concepts related to staff selection, development and evaluation, management of staff problems and needs, problem solving and decision making, staffing patterns, care delivery strategies, and cost and budget management. Institutional risk management and quality assurance programs are analyzed, and personnel laws, labor-management relations, and occupational safety and health laws are discussed. Communication and case management skills are promoted as essential elements for the professional nurse. The course requires three (3) hours of class time per week.

NURS 414 NURSING CARE OF THE OLDER ADULT

3 CREDITS

This course discusses important aspects of elder care. It analyzes the particularities of the older adult and society's view of old age. The most common problems or syndromes and their impact on the performance of daily living activities are discussed. Emphasis on the development of communication skills, ethics and diversity, professionalism and ethics and care manager through the functional assessment of the older adult, effective communication, and appropriate interventions to maintain maximum functionality of this patient population. In addition, changes that occur as part of the aging process and risk factors to which older adults are exposed are discussed. Forty-five hours of theory are required.

NURS 417 ETHICAL-LEGAL ASPECTS IN NURSING

3 CREDITS

This elective course has been designed to provide nursing students the opportunity to develop competencies concerning ethical legal aspects in health care and the impact on nursing practice. Theories, ethical legal principles, social justice, ethical dilemmas, Nursing Code of Ethics, Professional and Practice Standards of Nursing, regulations, contractual agreements, negligence, and malpractice are analyzed. 3 credits, 3 hours theory weekly.

NURS 421 NURSING BOARD REVIEW FOR BSN

4 CREDITS

This course integrates the essential knowledge, skills, and attitudes acquired through years of study in preparation for the nursing licensing exam. It discusses the processes and requirements related to the application for the test, as well as, the guidelines to facilitate the preparation for the revalidation exam. Comprehensive reviews and exams are included for various subjects such as medicine and surgery, maternity, pediatrics, leadership, community, and mental health and psychiatry. Students have the opportunity to practice the basic components included in the tests and integrate the basic principles and categories of the nursing board. At the end of the semester, the Nursing "Mock test" exam will be administered, which constitutes 20% of the final grade of the course. Requires 60 hours of theory per academic term (4 hours per week).

NURS 480 PRACTICUM

6 CREDITS

This course integrates the knowledge, skills and attitudes that are essential to the practice of nursing. Nursing interventions applied to patients with healthcare problems of the highest prevalence are discussed with a focus on different cultures, integrating evidence-based practice. Concepts of patient safety, quality care, maintenance and health promotion are discussed in the different categories of care. Relevant aspects regarding the roles of provider of care, professionalism, coordinator and manager of care, and user of the nursing process are integrated into practice. The course includes two (2) class hours and twelve (12) hours of clinical practice per week.

NURS 500 THEORETICAL FOUNDATIONS OF ADVANCED PRACTICE NURSING

3 CREDITS

In this course an analysis of philosophies, conceptual frameworks and theories of nursing and other sciences is carried out. It includes the study of the impact of theories on the development of the nursing profession. It also emphasizes the development of theories, classification, components and evaluation. Finally, the advances in nursing research and their contributions to professional practice are discussed.

NURS 501 PUBLIC HEALTH POLICIES, ETHICS AND SYSTEMS

3 CREDITS

In this course, the health service delivery system of the United States and Puerto Rico is analyzed. The social, economic, cultural and political forces that impact the provision of primary health services with emphasis on nursing care are discussed. The professional aspects of advanced practice nursing are analyzed, including the implementation of the role in the reform of the health system. The impact of public policy and the process of legislation at the local, national and global levels on the health care of individuals and communities is discussed. In addition, the student is provided the opportunity to design innovative strategies that can influence the direction of public policies that improve health services and contribute to the improvement of the nursing profession. This includes an analysis of different ethical dilemmas and the factors that influence the moral state and ethics in health service delivery systems.

NURS 502 NURSING SCIENCE AND THE RESEARCH PROCESS

3 CREDITS

Analysis of the research process and evidence-based practice and its application in the nursing profession. Emphasis on the research process and its contributions for the improvement of nursing practice. Discussion of the steps of the research process, designs and related ethical and legal aspects. It requires the writing of a research proposal that promotes the improvement of nursing services.

NURS 503 NURSING RESEARCH PROJECT: PROPOSAL TO PUBLICATION

3 CREDITS

This professional seminar studies the implementation phase of a clinical research project in nursing, considering the ethical aspects of the research. It requires the presentation and approval of the Human Rights Committee of the Institution (IRB). Emphasis on the application of the research proposal, analysis of the results and recommendations. Discussion of the steps of the process of dissemination of the results. The student presents the proposal to the assigned committee.

NURS 504 ADVANCED HISTORY TAKING AND PHYSICAL ASSESSMENT

3 CREDITS

In this course the theoretical knowledge and advanced skills are studied for the development of the necessary competences to carry out a health assessment and comprehensive physical examination, to clients, throughout life. Description of the concepts of anatomy, physiology, physiopathology and skills for the identification of physical and psychological signs and symptoms, stages of development, physio pathological changes, and the psychosocial and cultural characteristics of the individual, family and community. The components of the health estimate and physical examination are discussed. In addition, the practice of health history skills, and exploration techniques for physical examination in different body systems, is required. Emphasis is placed on developing the competencies to diagnose, plan, implement, and evaluate individuals and their families in a variety of practice settings within the scope and responsibility of their profession. Students are required to complete 30 hours in the simulation and skills lab.

NURS 505 HEALTH PROMOTION AND DISEASE PREVENTION: TRANSCULTURAL CONSIDERATION

2 CREDITS

In this course, health priorities are discussed according to Healthy People 2030. The concepts of care, crisis intervention, health maintenance problems, changes in health practices and implications for advanced nursing practice are analyzed. Changes in lifestyles, disease patterns, new and complex technologies, demographic changes, global economy, dramatic changes in health systems, and sociobiological and environmental threats to our safety and health are discussed. Plans are developed for holistic health improvement, considering cultural competencies, to meet the needs in health promotion and disease prevention.

NURS 506 ADVANCED PATHOPHYSIOLOGY

3 CREDITS

In this course the pathophysiological concepts that produce alterations in the human functioning across the life span is analyzed. Interpretation of the natural history and clinical manifestations for specific illness in terms of their etiology and pathogenesis. Description of the relationship between pathologic changes in body defense and the illness experience. Discussion of the features of pathophysiologic processes involved in the body's reactions to injury and infection, the immune response, circulatory disturbances and abnormalities of cellular growth. The relationship between pathophysiological processes and alterations in body fluids are described. Emphasis on the pathophysiological processes involved in altered functions in the various systems of the human body.

NURS 507 ADVANCED PHARMACOLOGY

3 CREDITS

In this course the essential pharmacotherapeutics for advance nursing practice is analyzed. Study of the actions and effects of drugs on human systems across the life-span. Analysis of the scope of legal professional nursing responsibilities related to pharmacology in an expanded role. Description and identification of the actions, effects, uses and potential interaction of the major categories of drugs. Discussion of the pharmacologic process of absorption, distribution, metabolism, excretion and the factors that influence the pharmacokinetics of drugs. Analysis of the physiologic effects of the drugs in the individual across the life-span and the factors, which influence the patient response to therapeutic agents, adverse drug reactions and appropriate interventions. Description of the controversies related to the biodisponibility and bioequivalence of the drugs.

NURS 508 DIAGNOSTICS AND DIFFERENTIAL DIAGNOSIS

3 CREDITS

In this course the critical thinking process necessary to form differential diagnoses is presented. These differential diagnoses are established after analyzing the findings from the history and physical assessment and results of laboratory findings (diagnostic findings). This course emphasizes the importance of ordering the correct diagnosis. Discussion and practice of proper specimen collection, handling of specimens, analysis of microscope slides and radiologic examinations.

NURS 509 PHARMACOLOGY FOR FNP's

3 CREDITS

This course analyzes the general principles of pharmacotherapy. It discusses the use of medications, treatments, special considerations and adjustments in therapy in various health disorders. First, second and third instance drug therapy is described. Emphasis on the roles and responsibilities of the advanced practice nurse in Family Nurse Practitioner (FNP) in prescribing pharmacologic agents, monitoring and evaluating patient responses. Finally, the collaborative role of the FNP in consulting with the physician to provide, monitor, and evaluate pharmacologic agents is analyzed and education to individuals and their families to promote adherence to medication therapy is discussed.

NURS 510 PRIMARY CARE I

4 CREDITS

This course is the first of a three part series focusing on established primary care evidence based guidelines. Provides advanced practice knowledge of standard protocols through discussion in conference sessions and clinical experience. Emphasizes wellness, illness prevention, treatment of chronic and acute diseases throughout the life span. Builds upon the advanced practice core courses of advanced pathophysiology, advanced pharmacology, advanced history taking, and physical assessment. Integrates theories of collaborative practice, cultural competencies, ethical and legal issues. Covers: Health Maintenance Issues, Skin Disorders, and Infection diseases, general symptoms, behavioral problems, mental health and HEENT. A total of 60 hours of theory and 150 hours of clinical practice are required.

NURS 511 PRIMARY CARE II

4 CREDITS

This course is the second of a three part series focusing on established primary care evidence based guidelines. Provides advanced practice knowledge of standard protocols through discussion in conference sessions and clinical experience. Emphasizes wellness, illness prevention, treatment of chronic and acute diseases throughout the life span. Builds upon the advanced practice core courses of advanced pathophysiology, advanced pharmacology, advanced history taking, and physical assessment. Pulmonary and cardiovascular disorders, gastrointestinal diseases, metabolic and endocrine disorders are discussed. A total of 60 hours of theory and 150 hours of clinical practice are required.

NURS 512 PRIMARY CARE III

4 CREDITS

This is the third course of a three part series focusing on established primary care patient care evidence based guidelines. Provides advanced practice knowledge of standard protocols through discussion in conference sessions and clinical experience. Emphasizes wellness, illness prevention, treatment of chronic and acute diseases throughout the life span. Builds upon the advanced practice core courses of advanced pathophysiology, advanced pharmacology, advanced history taking, and physical assessment. Covers: Genitourinary Disorders, Prenatal Care, Post partum and Family Planning, Women's Health Issues, Sexually Transmitted Diseases, Hematologic Disorders, Musculoskeletal Disorders and Ambulatory Emergencies. A total of 60 hours of theory and 150 hours of clinical practice are required.

**NURS 513 RESIDENCY
4 CREDITS**

This course consists of a culmination of clinical experience in outpatient settings providing primary care services to minority communities. Students are paired with qualified and credentialed nurse practitioners or physicians who are oriented, trained and certified to serve as preceptors. Provides for students to develop and refine FNP competencies through hours of clinical experience. Weekly lectures/seminars provide a forum for clinical case discussion, case presentation and preparation for the Certification Mock Test, which is required to pass the course. A total of 60 hours of theory and 240 hours of clinical practice are required.

**NURS 529 PEDIATRIC PRIMARY CARE
3 CREDITS**

In this course the primary health care provided to infants, children and adolescents in various health care settings including schools, community clinics, and ambulatory care is discussed. Students learn to implement relevant health promotion interventions; assess, diagnose and manage minor acute and chronic health conditions; and educate children and families about positive health practices. Knowledge of health care, including examinations; developmental screenings; diagnosis, and treatment of common childhood illnesses; child health concerns; immunizations; and school physicals is discussed.

**NURS 649 ADVANCED PHARMACOLOGY
3 CREDITS**

This course has been designed to provide the opportunity to discuss the advanced principles of pharmacology. Provides master's students the opportunity to develop critical thinking and ethical competencies by analyzing the categories of drugs used to treat diseases in culturally diverse adult clients and determining whether they are achieving their goals based on the scientific evidence for each of these. The Scientific Foundations and Literacy competencies are developed to analyze the physiology, biochemistry and pathophysiology of systems and the drugs that activate or inhibit the systems. The student must complete 45 hours of theory per term.

**NURS 650 INTERDISCIPLINARY MANAGEMENT IN HEALTH SCIENCE
3 CREDITS**

Core concepts of health maintenance, disease prevention and care for young, middle and old-adult clients are discussed, considering the priorities of Healthy People 2030. Scientific foundations, communication and critical thinking competencies are developed to analyze new trends in health management, and essential aspects of the nursing role for a master's nurse. Concepts such as lifestyles, disease patterns, basic aspects of epidemiology, the history of the disease, vital statistics, public health concepts, impacts of social determinants on health, nutrition, genetics and safety are discussed. Provides for the development of care plans for the promotion and prevention of diseases according to the needs of the ethnically and culturally diverse adult-gender population. It also includes competencies of literacy (technological aspects) in health systems. The student must complete 45 contact hours per term.

**NURS 651 CLINICAL SPECIALIST ROLE
2 CREDITS**

This course explores the essential concepts of professional nursing practice development, with special emphasis on the roles of the master's nurse. Discusses history, trends, politics, and issues related to role development in the United States and Puerto Rico as well as standards of care. The scope of nursing practice is discussed from an ethical perspective and from Law 254. The roles of leader, collaborator, administrator, educator, researcher and clinical expert are analyzed. Emphasizes responsibilities, ethical and legal aspects, and the importance of collaboration in achieving the goals of nursing practice. Scientific foundations and critical thinking are used to analyze new trends in essential aspects of the nursing role for a master's nurse serving an ethnically and socially diverse population. It also includes general aspects of literacy (technological aspects) in health systems. The student must complete 30 hours of theory per term.

NURS 652 NURSING THEORIES IN ADVANCED NURSING PRACTICE

2 CREDITS

In this course, the scientific foundations of the theories and models that guide nursing practice and their relationship with the role of the master's nursing professional are discussed. Students will be able to develop critical thinking and skills in the use of scientific foundations, and literacy (technological skills). The student must complete 30 hours of theory per term.

NURS 653 STATISTICS FOR HEALTH PROFESSIONALS

3 CREDITS

This course has been designed to provide the graduate student with the opportunity to acquire knowledge and develop critical thinking in the use and application of statistics. It is intended to increase knowledge in statistical concepts, developing scientific and quantitative reasoning skills through intensive exposure to the most important concepts in descriptive and inferred areas. Includes conceptualization, data processing, and analysis. It also includes general aspects of literature (technological aspects) and the use of the SPSS application. The student must complete 45 hours of theory per term.

NURS 654 ADVANCED PATHOPHYSIOLOGY

3 CREDITS

This course is designed for the student to analyze disease as altered physiology. Its intention is to train nursing master's students to understand how and why the signs and symptoms of different diseases and conditions appear. Using scientific foundations, they will analyze the mechanisms that produce the different signs and symptoms of different diseases or groups of diseases from a system approach. This will allow the student to establish the management of a condition by developing critical thinking competencies through the analysis of clinical cases. Screening strategies and other diagnostic and laboratory methodologies will be included as the basis for nursing interventions. Clinical decision making using the findings of physical, psychosocial and environmental data is emphasized. Clinical cases are used throughout the course to refine diagnostic and treatment skills in the population throughout the life cycle (children, adults, adult / gerontological population). In addition, the development of skills related to new literacy competencies is facilitated. The student must complete 45 hours of theory per term.

NURS 655 RESEARCH IN ADVANCED NURSING PRACTICE

3 CREDITS

This course is designed so that the student of the master's degree in nursing (MSN) can develop Research competencies (Scientific and Quantitative Reasoning). Emphasis is placed on ethical-legal aspects and on the rights of the research participants. Literacy competence (technological competencies) is developed during the analysis of evidence-based literature to identify an area of special interest in Nursing to investigate. In addition, the Scientific Foundations and Critical Thinking are used for the development of a research proposal. The student must complete 45 hours of theory per term.

NURS 656 RESEARCH PROJECT

2 CREDITS

This course provides the student of Master of Science in Nursing (MSN) the opportunity to carry out the research project, based on evidence, developed in the course NURS 655. It uses the competences of the scientific foundations, research (scientific and quantitative reasoning) and literacy (technological skills) for the development of a research project in culturally diverse communities. Emphasis is placed on the competence of ethical-legal aspects and the rights of the participants throughout the course. This is an independent project under the supervision of a faculty member as a mentor.

NURS 674 DIFFERENTIAL DIAGNOSIS

3 CREDITS

This course is designed to develop the skills of MSN students in the application of theoretical knowledge of advanced pathophysiology, history, advanced physical estimation, and advanced pharmacology. The student's ability to use critical thinking and scientific foundations is considered, to compare and contrast between the signs, symptoms and laboratory findings presented by an ethnically and culturally diverse patient to arrive at the formulation of a differential diagnosis. In addition, literacy competence (technological skills) is developed in the development of clinical case studies that will be used as a strategy to predict the clinical evolution, its manifestations and the development of a diagnosis for management / treatment according to the pertinent findings. The student must complete 45 hours of theory per term.

NURS 700 NURSING THEORIES, CONCEPTUAL MODELS AND PHILOSOPHIES

3 CREDITS

This course focuses on the analysis of the philosophies, conceptual models and nursing theories that have influenced the development of nursing science. The structure, functions and levels of abstraction of theories are discussed. In addition, several interdisciplinary philosophies are analyzed, as well as the process of integration and dissemination of nursing knowledge. It facilitates the development of competencies related to knowledge of nursing practice, scholarship in the discipline of nursing, and professionalism. Requires 45 hours of theory per academic term.

**NURS 701 ADVANCED EPIDEMIOLOGY FOR NURSING PRACTICE
3 CREDITS**

This course introduces students to epidemiology concepts and methods for disease prevention, surveillance, detection, and intervention to promote the health of populations. Emphasis is placed on critical thinking, analytic skills and application to clinical nursing settings. Discuss specific epidemiologic skills including accessing existing datasets, analysis of published epidemiologic studies, data interpretation, and application of criteria for screening for disease in community. Opportunities for active participation in simulated disease investigations are included. It facilitates the development of competencies related to nursing scientific knowledge for nursing practice, population health, scholarship for the nursing discipline, system based-practice and information and healthcare technology. Requires 45 hours of theory.

**NURS 702 PUBLIC POLICY AND ETHICS IN HEALTHCARE
3 CREDITS**

This course focuses on the basic principles of health policy and the influence of the political process as a systematic approach to health care in Puerto Rico, United States and globally. The role of advanced nursing practice in the development of health policies, influencing clinical change and innovation and considering ethical aspects is examined. The course prepares students to assume complex leadership roles in order to advance specialty practice and health. Emphasis in the develop skills, techniques, and approaches to the critical analysis of health policy proposals, health policies, and related issues from the perspective of consumers, nursing, health related professions, and other stakeholders in policy and public forums. It facilitates the development of competencies related to population health, quality and safety, systems-based practice, and personal and professional leadership development. Requires 45 hours of theory.

**NURS 703 EVIDENCE-BASED PRACTICE PERSPECTIVES
3 CREDITS**

This course introduces students to the fundamentals and principles of Evidence-Based Practice (EBP) and its relation to nursing practice. The resources available to facilitate EBP in nursing practice, the models for implementation, the steps, the components of the establishment of the clinical question in the PICO format (Patient, Intervention, Comparison, Outcome) and the statistical analysis are discussed. General strategies to undertake an evidence-based project are discussed. The challenges and strengths of existing clinical evidence, the role of nursing professionals and their application in patient care, are analyzed. It facilitates the development of competencies related to knowledge of nursing practice, population health, scholarship for the nursing discipline, quality and safety, information and healthcare technologies. 45 hours of theory are required.

**NURS 704 TRANSCULTURAL AND GLOBAL HEALTH PERSPECTIVES
3 CREDITS**

This course emphasizes interprofessional collaboration in clinical prevention to improve the health outcomes of patients and the general population. The concepts of cross-cultural nursing, theories, philosophies, ethics, research, pluralism and practical relationships for nursing care are discussed. The impact of globalization on health planning and care, and the need to design health care systems that respond to diverse cultural needs, are analyzed. The focus is on selected global health problems assessed in a multidisciplinary manner to ensure attention to the underserved and their complex needs determined cultural diversity. It facilitates the development of competencies related to person-centered Care, population health, quality and safety, interprofessional partnership, and personal, scholarship in the discipline of nursing, and professionalism. Requires 45 hours of theory.

**NURS 705 DEVELOPING PRACTICE SCHOLARSHIP (CAPSTONE I)
5 CREDITS**

This course prepares students to practice at the most advanced level of nursing and evaluate current approaches to practice, evaluate evidence, and use this knowledge to create clinical strategies that improve practice and health outcomes. The role of DNPs in improving knowledge of the profession, the evidence-based practice process, problem identification, and interpretation of evidence are discussed. In addition, the student identifies the problem for the research project and conducts the literature review. It facilitates the development of competencies related to person-centered care, population health, nursing discipline expertise, interprofessional collaboration, systems-based practice, and health care information and technologies. This course is the foundation for beginning the Capstone project that focuses on improving nursing practice or education. It requires 45 hours of theory and 100 hours of supervised practice.

**NURS 706 HEALTH INFORMATION SYSTEMS
3 CREDITS**

This course discusses a variety of applications of informatics in advanced nursing practice, current trends in health care transformation, as well as ethical and social issues in health care informatics and consumer informatics. The rationale for the integration of information science and computer science in support of both evidence-based practice and administrative decision making is provided. Current issues, health literacy, the life cycle of information systems, telenursing, telemedicine, the use of technology to improve nursing care and patient safety, and challenges in the use of clinical information systems are explored. Discussion of the process of designing, using and manipulating small and large databases for analysis of patient outcomes. Development of competencies related to quality and safety, interprofessional collaboration, systems-based practice, and health care information and technologies are facilitated. Requires 45 hours of theory.

**NURS 707 QUALITY IMPROVEMENT AND RISK MANAGEMENT FOR HEALTH CARE (CAPSTONE II)
5 CREDITS**

This course focuses on the role of the nurse executive leader in quality improvement initiatives. Emphasis on the skills and competencies necessary to provide a scientific knowledge base for leadership in quality health care and outcomes-focused systems change. Development of competencies related to nursing practice knowledge, person-centered care, population health, nursing discipline expertise, quality and safety, interprofessional collaboration, systems-based practice, Information and Healthcare Technology professionalism, and personal and professional leadership development is facilitated. Capstone project submitted to IRB for approval. It requires 45 hours of theory. The clinical component consists of 100 supervised practice hours and is part of the foundation of the Capstone project focused on improving practice.

**NURS 708 LEADERSHIP AND COLLABORATION IN HEALTH CARE
5 CREDITS**

This course analyzes the role of advanced practice nurses as leaders in complex systems and organizations, as well as critical skills for intra- and interprofessional practice. The course guides the student to synthesize organizational models and leadership theories in the context of the complexity of the health care industry. Models of human resource management, change and strategic planning, and program development and implementation are explored. The concepts of communication, conflict resolution, leadership, teamwork, patient-centered care, collaboration and negotiation are discussed. The student implements strategies for the creation of organizational change for the provision of high quality services at reasonable costs. It facilitates the development of competencies related to population health, quality and safety, interprofessional collaboration, systems-based practice and personal and professional leadership development. It requires 45 hours of theory and 50 hours of supervised clinical practice.

**NURS 709 DNP PROJECT
6 CREDITS**

This course provides an opportunity for the student to implement and evaluate a planned evidence-based practice change project. This project lays the groundwork for future scholarship. This course culminates in a tangible and deliverable academic product derived from the practice immersion experience. It facilitates the development of competencies related to person-centered care, population health, scholarship for the nursing discipline, quality and safety, interprofessional partnership, information and healthcare technologies and personal, professional and leadership development. This course is the culmination of the Capstone project that focuses on improving nursing practice or education. It requires 45 hours of theory and 250 hours of practice for the implementation of the project.

**NUTR 201 INTRODUCTION TO NUTRITION
4 CREDITS**

Introductory course about fundamentals of nutrition, such as the study of foods, nutrients, digestion, absorption, metabolism, and excretion. Problems associated with deficiency and excess are discussed. Students will have the opportunity to evaluate their food intake in terms of caloric content, nutrients and compare it with the established recommendations for individual's needs.

NUTR 202 FOOD SCIENCE

3 CREDITS

Evaluation of foods chemical, physical, functional and nutritional changes. Evaluation of changes which take place during selection, preparation, process and storage of food with attention given to the quality and retention of nutrients. The course includes an experimental laboratory with techniques to examine the chemical and physical properties in food. The necessary characteristics of food preparation and conservation of nutrients are determined, including adequate food appearance.

NUTR 202L FOOD SCIENCE LABORATORY

1 CREDIT

Evaluation of foods chemical, physical, functional and nutritional changes. Evaluation of changes which take place during selection, preparation, process and storage of food with attention given to the quality and retention of nutrients. The course includes an experimental laboratory with techniques to examine the chemical and physical properties in food. The necessary characteristics of food preparation and conservation of nutrients are determined, including adequate food appearance.

NUTR 204 VEGETARIAN NUTRITION

3 CREDITS

Theory and basic concepts of Vegetarian Nutrition. The need for essential nutrients and the health consequences in humans of a vegetarian diets. Emphasis is given to trends in the use of vegetarian diets, fallacies, and risk factors. Composition, planning and selection of a vegetarian nutrition and how to satisfy the body needs at different stages of life.

NUTR 205 NUTRITION IN SPORTS AND EXERCISE

2 CREDITS

Basic concepts on the interaction of nutrition, sports and exercise. Emphasis is given to the athlete, his/her physical condition, nutritional needs and other specific needs.

NUTR 305 SOCIO-CULTURAL ASPECTS IN NUTRITION

2 CREDITS

The course explores and analyzes factors associated with the decision-making process related to food intake and its effects on individual nutrition and health. The students will have the opportunity to evaluate controversies related to food and its effects in nutrition. The purpose is the formation of professionals who can participate in public policy related to foods and nutrition in Puerto Rico.

NUTR 310 FOODSERVICE SYSTEM MANAGEMENT

4 CREDITS

Principles of marketing, financial management, and human resources applied to foodservice facilities. Discussion of hypothetical situations for analysis and recommendations. Foodservices laws and regulations at national and international levels are discussed. Emphasis is given to leadership skills and the necessary skills to influence change and quality improvement.

NUTR 320 FOOD SERVICE FACILITY DESIGN

3 CREDITS

This course studies the importance of an appropriate planning in foodservices facilities settings. Discussion of the elements in the design, maintenance and operations of institutional equipment and safety and sanitation to ensure quality of services. The students will have the opportunity to visit foodservice facilities and view the institutional equipment used.

NUTR 321 INSTITUTIONAL MENU PLANNING

3 CREDITS

Theory, techniques and practice in the design, preparation, analysis and servicing of an institutional menu. Experiences are provided on the basic administration of food servicing, which can provide nutritional meals adequate to the population served. These experiences are focused on the following: Knowledge and skills of time and money management, cost per recipe, recipe standardization, portions control, food preparation and meal management. Recent studies, trends in the food industry, consumers patterns and populations general patterns are discussed. Computer programs are included as part of the experiences on design and analysis of menu.

NUTR 321L INSTITUTIONAL MENU PLANNING LAB

1 CREDIT

Theory, techniques and practice in the design, preparation, analysis and servicing of an institutional menu. Experiences are provided on the basic administration of food servicing, which can provide nutritional meals adequate to the population served. These experiences are focused on the following: Knowledge and skills of time and money management, cost per recipe, recipe standardization, portions control, food preparation and meal management. Recent studies, trends in the food industry, consumers patterns and populations general patterns are discussed. Computer programs are included as part of the experiences on design and analysis of menu.

NUTR 330 NUTRITIONAL PROBLEMS: A GLOBAL PERSPECTIVE

3 CREDITS

The course will focus on nutrition issues and problems related to global health inequality. Students will explore the nature and extent of global inequalities, according to health and nutrition, as well as the implications of the health crisis that afflicts countries, with special attention to problems such as food habits, malnutrition, and food security. The content includes the discussion about how to improve health and well-being to reduce observed disparities.

NUTR 403 ADVANCED NUTRITION AND METABOLISM

3 CREDITS

Evaluation of the biochemical and physiological aspects that interact on the utilization of nutriment by the human body. Health problems associated with nutritional excesses or deficiencies such as obesity, anemia, osteoporosis and others nutritional disorders are examined.

NUTR 405 NUTRITION THROUGHOUT THE LIFE CYCLE

3 CREDITS

This course studies the physiologic and developmental changes throughout the stages of the life cycle of humans and the nutritional needs related to those stages of change. Also examines psychosocial and environmental conditions that impact on nutrition status in each stage of life.

NUTR 420 NUTRITIONAL ASSESSMENT

3 CREDITS

This course includes in depth study of nutritional analysis methods, including dietary intake, anthropometric, biochemical and clinical measures. Students can practice nutritional analysis methods at individual and family levels. Students are also exposed to nutritional evaluation studies.

NUTR 425 COMMUNITY NUTRITION

3 CREDITS

The course analyzes the predominant health problems in the Puerto Rico community and other cultures such as USA. The students will become familiarized with main epidemiologic studies and government initiatives in response to the current nutritional situation and related services at public and private levels. Special attention will be given to the development and impact of government public policy in the field of nutrition. Students have at least one community field experience includes a special project.

NUTR 435 EDUCATIONAL STRATEGIES IN NUTRITION

3 CREDITS

This course studies the social aspects that interact with the acquisition of alimentary patterns, analyze the human behavior theories most utilized in nutrition field and its application for nutritional counseling. Also, explore different educational strategies in nutrition, including communication techniques through mass media, group teaching and individual teaching. The student will plan, practice and apply this knowledge during nutrition educational activities.

NUTR 436 FOODSERVICE SUPERVISED PRACTICE EXPERIENCE

3 CREDITS

The application of theory, functions and principles of management through supervised practice in healthcare facilities and other institutions related to foodservice. Emphasis on financial management, administration of human resources, problem analysis, and standards of quality.

NUTR 440 MEDICAL NUTRITION THERAPY I

4 CREDITS

This course covers the use of nutrition as a component of treating disease. Relevant biochemistry and physiology are integrated into a medical nutrition therapy plan. The course is organized by body organ system and disease. Topics covered from a medical nutritional perspective include acid base, fluid and electrolyte balance; renal, cardiovascular, gastrointestinal, hepatic, and pancreatic diseases. Special nutrition therapies are discussed. The course also introduces students to nutritional genomics, food-drug interactions, enteral and parenteral support, and medical terminology. Material is illustrated by case studies.

NUTR 441 MEDICAL NUTRITION THERAPY II

4 CREDITS

This course continues covering the use of nutrition as a component of treating disease. Relevant biochemistry and physiology are integrated into a medical nutrition therapy plan. The course is organized by body organ system and disease. Topics covered from a medical nutritional perspective include acid base, fluid and electrolyte balance; renal, cardiovascular, gastrointestinal hepatic, pancreatic diseases. Special nutrition therapies are discussed. Material is illustrated by case studies.

NUTR 442 MEDICAL NUTRITION THERAPY SUPERVISED PRACTICE EXPERIENCE

3 CREDITS

The course covers the application of principles of clinical nutrition in specific disease conditions during supervised practice in healthcare facilities.

NUTR 450 COMMUNITY PRACTICE EXPERIENCE

3 CREDITS

This course provides experiences that include nutrition assessment, counseling and delivery of nutrition services to the community.

NUTR 451 NUTRITIONAL RESEARCH METHODS

2 CREDITS

This course presents the principal methods of human nutrition research, and focuses on the role of the nutritionist as part of a research team. Qualitative and quantitative research, research ethics, quality control, selection of dietary assessment methodology, and sources of funding are discussed. A research study is conducted as part of this course and results are shared with other students and faculty members. The students will have the opportunity to analyze research articles from well recognized journals in the area of nutrition.

NUTR 455 INTEGRATION SEMINAR AND FUNDAMENTALS ASPECTS IN THE NUTRITION

3 CREDITS

The course covers the requirements to practice the profession of dietetics in Puerto Rico. It includes review and practice of the basic components included in the examination test required by the Department of Health and Commission on Dietetic Registration to practice the profession of Nutritionist and Dietitian. The course also includes an introduction to careers in nutrition, dietetics, and food service administration, job responsibilities; interests, abilities, skills, education and experience required for the job; and job market for similar positions.

NUTR 460 PURCHASING AND PREPARATION OF QUANTITY FOODSERVICE

3 CREDITS

The course centers on manager/supervisor responsibilities for food purchasing and preparation in large quantity food service systems. The course includes planning, purchasing, preparation, and service of nutritionally balanced, safe meals, in accordance with established budgets. Time to practice the concepts learned in class will be provided.

PHAT 200 PHARMACY INTRODUCTION

3 CREDITS

Study of the origin and evolution of pharmacy. It includes discussion of basic concepts and terminology of the occupation of pharmacy technician. Emphasis on prescription and important abbreviations used in the prescription and its meaning, as well as procedures for handling and shipping thereof. Includes presentation forms of medicine, common synonyms and other preparations.

PHAT 203 PHARMACEUTICAL CALCULATION I

3 CREDITS

This course prepares students to recognize the basic concepts of a prescription or medical order. Emphasizes pharmaceutical medical systems calculations, conversions, ratio and proportion.

PHAT 204 PHARMACEUTICAL CALCULATION II

3 CREDITS

This course prepares students to solve mathematical problems for filling a prescription. Emphasizes analysis, decision making and implementation of the ratio and proportion methods, dilution, concentration and flow rate calculated.

PHAT 207 PHARMACOTHERAPY

4 CREDITS

Fundamental concepts of sciences focused on the characteristics of matter, the cell, the introduction to Human Anatomy and Physiology. Study of different systems and organs of human body from the standpoint of structural and functional. Presents fundamental concepts of structure and function of human body, conditions and treatments integumentary system, musculoskeletal and nervous. Emphasis on the treatment of conditions affecting various body systems and the most commonly used drugs belonging to different categories based on their clinical application. Including contraindications, precautions, warnings, interactions, pharmacokinetics, pharmacodynamics, dosage and side.

PHAT 209 PHARMACOTHERAPY II

4 CREDITS

Study of the various systems and organs of the human body from structurally and functionally. It presents fundamental concepts of structure and functioning of the human body, the conditions and treatment of the endocrine, circulatory, respiratory, digestive, urinary and reproductive systems. Emphasis in the treatment of conditions that affect the various body systems and increased use of drugs belonging to different categories based on their clinical application. Including contraindications, precautions, warnings, interactions, dosage and side effects of drugs.

PHAT 211 PHARMACOTHERAPY III

4 CREDITS

This is the third of a three parts course that integrates the basic knowledge in anatomy, physiology, pathophysiology and pharmacology necessary to carry out effectively the functions of a pharmacy technician described in the Puerto Rico Law # 247 as of September 2004. Emphasis is given not only to the pharmacologic part where the student is familiarized with the generic and trade names of the drug, but also safe and effective use of medicines of more demand today.

PHAT 212 PHARMACEUTICAL LEGISLATION

3 CREDITS

Study of state and federal laws governing research, development, manufacturing, packaging, marketing, sale and distribution of drugs and devices medical. Emphasis on the laws governing the exercise of the profession of pharmacy as well as of Pharmacy Technicians. It includes procedures for the organization a pharmacy and physics; requirements, equipment, licenses and permits.

PHAT 214 POSOLOGY

3 CREDITS

Study of the activities related to the filling of facultative prescriptions. The student will apply concepts studied on dose, administration routes, drug concentration and interactions. Emphasis is given in the prescription interpretation, correct labeling and instructions to the patient.

PHAT 217 PHARMACEUTICAL TECHNOLOGY

3 CREDITS

This course presents the different types of dosage forms and drug delivery systems. The aspects related to the drug bioavailability, and route of administration for different dosage forms are discussed. Emphasis is given to the physicochemical properties, formulations, preparation methods, preservation packaging and storage of the different types of dosage forms and drug delivery systems discussed.

PHAT 221 PHARMACY LABORATORY

4 CREDITS

This course provides the student with the practice of functions associated with dispatching medications and develops those required skills in the use and handling of pharmacy equipment. It also provides experiences in analyzing prescriptions to be served, from its interpretation, product selection, extemporaneous preparations, labeling and packaging under the close supervision of a pharmacist. Covers Pharmacy Technician's responsibilities in a real working environment with emphasis on the most common drugs used in the hospital, sterile techniques and preparations, and those preventive measures to avoid errors in the preparation of a medications.

PHAT 225 PHARMACEUTICAL CHEMISTRY

3 CREDITS

Study of the basic concepts of composition, structure, properties and behavior of matter. Emphasis on pharmaceutical chemicals serving in the daily life of human beings.

PHAT 227 HOSPITAL PHARMACY

3 CREDITS

The course is a comprehensive study of the pharmaceutical services provided by the pharmacy to the hospital departments in concern. The content includes analysis and evaluation of the drug distribution systems. It also emphasizes in-patients and outpatients dispensing procedures that govern the safe administration of drugs and biological. Computers in hospital pharmacy, intravenous additives system, hyper alimentation and other special topics are also evaluated.

**PHAT 229 CLINICAL PRACTICE I
3 CREDITS**

Integration of knowledge and skills acquired in a real scenario to facilitate the development and application of internal core competencies needed to serve as a Pharmacy Technician. The internship takes place in a community pharmacy, chain or institutional or a combination of these and it will be supervised by a licensed pharmacist duly authorized by the Pharmacy Examining Board, as stipulated by Law #247 of the Pharmacy Law of Puerto Rico. The total hours required for this term is three hundred (300) hours

**PHAT 236 CLINICAL PRACTICE II
3 CREDITS**

Integration of knowledge and skills acquired in a real scenario to facilitate the development and strengthening of the internal core competencies needed to serve as a future Pharmacy Technician. The internship takes place in a community pharmacy, chain or institutional or a combination of these and it will be supervised by a licensed pharmacist duly authorized by the Pharmacy Examining Board, as stipulated by Law #247 of the Pharmacy Law of Puerto Rico. The total hours required for this term is 300 hours to complete the one thousand (1,000) hours required by the Pharmacy Examining Board as Established by Law and thus complete the requirements to be eligible for the Pharmacy Technician Board Examination.

**PHAT 245 CLINICAL PRACTICE III
3 CREDITS**

Integration of knowledge and skills acquired in a real scenario to facilitate the development and strengthening of the internal core competencies needed to serve as a future Pharmacy Technician. The internship takes place in a community pharmacy, chain or institutional or a combination of these and it will be supervised by a licensed pharmacist duly authorized by the Pharmacy Examining Board, as stipulated by Law #247 of the Pharmacy Law of Puerto Rico. The total hours required for this term is four hundred (400) hours to complete the one thousand (1,000) hours required by the Pharmacy Examining Board as Established by Law and thus complete the requirements to be eligible for the Pharmacy Technician Board Examination. The student must complete a total of three (3) contact hours each week.

**RADI 101 INTRODUCTIONS TO RADIOLOGICAL SCIENCES
2 CREDITS**

During Introduction to the Radiological Sciences the aspects related to the profession are discussed, providing an overview of the fundamentals of the radiography and the role of the physician in the health system. In addition, the professional responsibilities of the radiologic technologist, their principles, practice, policies of health organizations, the code of ethics and the laws that regulate the profession will be examined. The course will last one semester, 2 hours per week.

**RADI 102 RADIOLOGICAL PHYSICS I
3 CREDITS**

This course provides students with the basic knowledge of physics applied to radiology. These include the study of matter, energy, the electromagnetic spectrum, and ionizing radiation. The concepts of electricity, magnetism and electromagnetism are discussed, including radiation protection and the units of radiation. The course will last one (1) semester, three (3) hours per week. This course provides students with the basic knowledge of physics applied to radiology. These include the study of matter, energy, the electromagnetic spectrum, and ionizing radiation. The concepts of electricity, magnetism and electromagnetism are discussed, including radiation protection and the units of radiation. The course will last one (1) semester, three (3) hours per week.

**RADI 103 MEDICAL TERMINOLOGY
3 CREDITS**

In this course the medical terminology and abbreviations pathology related to vocabularies and related body systems are discussed. Anatomy and physiology of the human body and the use of suffixes and prefixes in medical terminology will also be discussed. The course will include discussion of pathology coding book ICD coding according to editing. The course will last one (1) semester, three (3) hours per week.

**RADI 104 RADIOLOGICAL PHYSICS II
3 CREDITS**

This course continues discussing the basic concepts of physics applied to radiology. In this second part, the function of the X-Ray imaging system, its components and how to control the voltage applied to X-Ray tube will be discussed. In addition, the X-Ray tube, its internal and external structure, the causes and prevention of failure will be discussed. With this knowledge the student will understand the interactions that occur inside the X-Ray tube and how the X-rays are produced. The course will last one (1) semester, three (3) hours per week.

**RADI 107 RADIOGRAPHIC POSITIONING I
3 CREDITS**

The content of this course provides students with the knowledge necessary to perform radiographic procedures related to the chest, abdomen, upper limb, and lower limb. Evaluation of the diagnostic images is also considered. Patient positioning, related anatomy, terminology associated with positioning and radiographic projections are discussed. The development of the necessary skills and competencies is incorporated through laboratory practice and the use of digital applications. Didactic and laboratory practices are required to gain the required proficiency and skills for these competencies. Responsible use of technology is fomented. The course will last one (1) semester, three (3) hours per week.

**RADI 108 RADIOGRAPHIC POSITIONING II
3 CREDITS**

This course comprises the study of the shoulder girdle, thorax, pelvis and hips. It also includes special radiographic studies, the use of fluoroscopy and contrast media. The discussion of related anatomy, pathology, exposure factors and positioning skills will be included. The development of the necessary skills and competencies is incorporated through laboratory practice and the use of digital applications. Didactic and laboratory practices are required to gain the required proficiency and skills for these competencies. Responsible use of technology is fomented. The course will last one (1) semester, three (3) hours per week.

**RADI 109 RADIOGRAPHIC POSITIONING III
3 CREDITS**

This course is a study of the vertebral column and skull. The discussion of related anatomy, pathology, exposure factors and positioning skills will be included. The development of the necessary skills and competencies is incorporated through laboratory practice and the use of digital applications. Didactic and laboratory practices are required to gain the required proficiency and skills for these competencies. Responsible use of technology is fomented. The course will last one (1) semester, three (3) hours per week.

**RADI 121 PATIENT CARE
2 CREDITS**

This course introduces the radiological technology student to the development of responsibilities and competencies necessary to work with neonatal, pediatric, adult and elderly patients. Topics include ethical-legal aspects of the profession, patient management, interpersonal communication skills, infection control, body mechanics in transferring and picking up patients, taking medical records, and patient education. Pharmacological aspects in the use and management of contrast media, venipuncture techniques and patient management in emergencies or acute conditions will also be discussed. The student will develop skills in taking and observing vital signs. One semester, two (2) hours per week. 2 credits

**RADI 200 RADIOBIOLOGY AND RADIOLOGY PROTECTION
3 CREDITS**

This course content provides an overview of the principles of the interaction of radiation with living systems. Radiation effects on molecules, cells, tissues, and the body as a whole are presented. Factors affecting biological response are presented, including acute and chronic effects of radiation. Also, content presents an overview of the principles of radiation protection, including the responsibilities of the radiographer for patients, personnel, and the public. Radiation health and safety requirements of federal and state regulatory agencies, accreditation agencies and health care organizations are incorporated. This course will last one semester, 2 hours per week

**RADI 210 QUALITY ASSURANCE
2 CREDITS**

This course offers students the basic knowledge, importance and implementation of the quality control program in the radiology department. Emphasis will be placed on the performance of quality control tests on radiographic exposure and development equipment

**RADI 212 PATHOLOGY, EVALUATION AND RADIOGRAPHIC CRITIQUE
3 CREDITS**

Comparison and contrast of images and pathologies obtained through computed tomography (CT) and magnetic resonance imaging (MRI). Deep study of the quality of images, tones, contrast, anatomical pathological delineation, medical terms, human body systems, effects of tissues and masses on images, as well as learning protocols to follow in case of findings diseases. The anatomical areas to be discussed are: Skull, Brain, and Neck and Torax. This course

will last one semester, 2 hours per week.

RADI 213 PRINCIPLES OF RADIOGRAPHIC EXPOSURE AND PROCESSING

3 CREDITS

This course focuses on the principles of x-ray production, radiographic exposures including prime factors of radiographic quality and their effects on each other and the radiograph, as well as the equipment and to produce these effects. The relationship between the prime factors of exposure and the accessories that affect radiographic density/brightness will be emphasized. The curriculum includes detailed instruction in the control of exposure and image quality using mAs, kVp, SID, geometric factors, auto timing devices, grids, screens, beam restrictors, and filters. The course will last one (1) semester, three (3) hours per week.

RADI 214 CR & DR IMAGE ACQUISITION AND DISPLAY

3 CREDITS

The content of this course is to offer the student a knowledge and understanding of the components, principles and operation of the acquisition systems found in diagnostic radiology. Identify the causes that influence the management of exposure factors and imaging equipment. Compare digital images versus film images from screens. DICOM standards and the operation of PACS systems will be discussed. In addition establish a basic knowledge about the quality assurance program; giving emphasis to quality control tests performed on radiological exposure and radiographic equipment.

RADI 215 PHARMACOLOGY

3 CREDITS

Content provides basic concepts of pharmacology like anatomy, physiology, pathophysiology, pharmacokinetics and pharmacodynamics and administration of diagnostic contrast agents and intravenous medications. The appropriate delivery of patient care during these procedures is emphasized. The course will last one (1) semester, three (3) hours per week.

RADI 230 CLINICAL PRACTICUM I

1 CREDIT

A competency-based clinical experience that integrates the student's cognitive and psychomotor skills of students in the realization of radiographic procedures. In this clinical experience the student will observe and assist the radiographer on their daily shores. The student will acquire the skills in the realization of all radiographic procedures done in the imaging department. Formalize knowingly tasks associated with procedures of chest, abdomen and upper and lower extremities.

RADI 231 CLINICAL PRACTICUM II

1 CREDIT

A competency-based clinical experience that integrates the students cognitive and psychomotor skills of students in the realization of radiographic procedures. In this clinical experience the student will observe and assist the radiographer on their daily shores. The student will acquire the skills in the realization of all radiographic procedures done in the imaging department. Formalize knowingly tasks associated with procedures of chest, abdomen and upper, lower extremities, bony thorax, shoulder girdle & specialized studies.

RADI 255 INTRODUCTION TO IMAGING MODALITIES

2 CREDITS

This course is an introductory course where students will learn basic concepts of new modalities in radiology and their use in the field of Diagnostic Medicine. Among the modalities to be discussed are: Computed Tomography or CT, MRI, Sonography or Ultrasound, Digital or Vascular Angiography, Digital Radiology, Mammography, Nuclear Medicine, Radiotherapy, among others. The course includes lectures by external and internal resources of the university experts in the area, group discussion, cooperative work, supplementary readings, and reports of the different modalities. This course will last one semester, 2 hours per week.

RADI 280 RADIOLOGIC TECHNOLOGY SEMINAR

6 CREDITS

This course is designed to summarize and integrate the didactic and clinical experience components in radiologic technology program. In this, will be discuss and review the concepts learned by the student in all Radiologic Technology classes. The students will be preparing for the Puerto Rico and National Examination the American Registry of Radiologic Technologists (ARRT). Cases studies will be used to enhance critical thinking and computed mock tests will be integrated as part of the registry review. This course will last one semester, 6 hours per week.

RADI 311 COMPUTED TOMOGRAPHY PHYSICS

2 CREDITS

Introduction to physical processes and instrumentation for imaging by Computed Tomography (CT). It will emphasize the physical processes of linear attenuation, types of crawlers, collimation, filtration, detectors, image quality, depending on the computer in the creation of the image and other physical and clinical factors involved in creating the images. This course will last one semester, 2 hours per week.

RADI 312 MAGNETIC RESONANCE PHYSICS

2 CREDITS

This course is designed to provide students with basic knowledge of physics and instrumentation process for creating Magnetic Resonance imaging. Emphasis will be given to the interaction of electromagnetic waves and magnetic fields used to create the digital image. The concepts of Magnetic Resonance, Pulse Sequence, relaxation times and contrast media are highlighted. Also, will be included a basic overview for the ARRT certification examination. This course will last one semester, 2 hours per week. One semester, 2 hours per week.

RADI 313 COMPARATIVE PATHOLOGY I

2 CREDITS

Comparison and contrast of images and pathologies obtained through computed tomography (CT) and magnetic resonance imaging (MRI). Deep study of the quality of images, tones, contrast, anatomical pathological delineation, medical terms, human body systems, effects of tissues and masses on images, as well as learning protocols to follow in case of findings diseases. The anatomical areas to be discussed are Skull, Brain, and Neck and Torax. This course will last one semester, 2 hours per week.

RADI 314 COMPARATIVE PATHOLOGY II

2 CREDITS

Comparison and contrast of images and pathologies obtained through computed tomography (CT) and magnetic resonance imaging (MRI). Deep study of the quality of images, tones, contrast, anatomical pathological delineation, medical terms, human body systems, effects of tissues and masses on images, as well as learning protocols to follow in case of findings diseases. The anatomical areas to be discussed are: Abdomen, Pelvis, Spine and musculoskeletal system. This course will last one semester, 2 hours per week.

RADI 315 CT PROTOCOLS

2 CREDITS

This course is based on the discussion of clinical procedures in Computed Tomography (CT Scan) studies. In it, the tracking techniques used to demonstrate anatomical and pathological areas are analyzed. The functioning of the basic equipment, parameters, positions, and procedures used to develop a quality study and techniques to minimize artifacts are discussed. It includes education and interaction with the patient, precautions in the administration of contrast medium, safety and radiation dose are also part of the course. One semester, 2 hours per week

RADI 316 MRI PROTOCOLS

2 CREDITS

This course is based on the discussion of the clinical procedures used in studies of Magnetic Resonance (MRI). In it, the techniques of image acquisition related to the nervous system, neck, thorax, musculoskeletal systems, spine and abdominopelvic regions are analyzed. The content of the course includes clinical application, use of coils, special considerations at the time of the study, selection of protocols including thickness of the cut, phase, flow compensation and positioning criteria in both adult and pediatric patients and techniques. To minimize artifacts, it includes the visualization of anatomical structures and their planes, characteristics of normal and pathological structures. As well as education and interaction with the patient, the use of contrast medium, and concepts of patient safety.

RADI 330 CLINICAL PRACTICUM III

1 CREDIT

A competency-based clinical experience that integrates the students cognitive and psychomotor skills of students in the realization of radiographic procedures. In this clinical experience the student will observe and assist the radiographer on their daily shores. The student will acquire the skills in the realization of all radiographic procedures done in the imaging department. Formalize knowingly tasks associated with procedures of chest, abdomen and upper, lower extremities, bony thorax & specialized studies, vertebral column & skull. One semester, One Hundred Minimum (180) hours per semester.

RADI 331 CLINICAL PRACTICUM IV

1 CREDIT

A competency-based clinical experience that integrates the students cognitive and psychomotor skills of students in the realization of radiographic procedures. In this clinical experience the student will observe and assist the radiographer on their daily shores. The student will acquire the skills in the realization of all radiographic procedures done in the imaging department. Formalize knowingly tasks associated with procedures done in the conventional radiology field. One semester, One hundred minimum (180) hours per semester.

**RADI 380 RADIOLOGIC TECHNOLOGY SEMINAR REGISTRY REVIEW
6 CREDITS**

This course is designed to summarize and integrate the didactic and clinical experience components in radiologic technology program. In this, will be discuss and review the concepts learned by the student in all Radiologic Technology classes. The students will be preparing for the Puerto Rico and National Examination the American Registry of Radiologic Technologists (ARRT). Cases studies will be used to enhance critical thinking and computed mock tests will be integrated as part of the registry review. This course will last one semester, 6 hours per week.

**RADI 440 CLINICAL PRACTICUM WITH SEMINAR V
1 CREDIT**

This course is a competency – based clinical experience that intensifies the cognitive, affective and psychomotor skill level of students performs CT imaging procedures. Students can access the educational materials, examination facilities and personnel necessary to competently achieve content objectives. Objectives include demonstration and observation of an activity, after which the student assists in performing the activity. The student can perform the activity under direct and indirect supervision to gain experience and expertise. Students must complete 200 clinical hours minimum and pass successfully the pre- requisite course to continue into the next level. One semester. 1 credit One semester, Two hundred minimum (200) hours per semester.

**RADI 490 CT PROFESSIONAL REVIEW
2 CREDITS**

This course is designed to summarize and integrate the didactic and clinical experience components in the Computed Tomography and Magnetic Resonance bachelor's degree. The students will be preparing for the Commonwealth of Puerto Rico and The American Registry of Radiologic Technologists (ARRT) board exams for Computed Tomography. This course will last one semester, 2 hours per week.

**RADI 495 MRI PROFESSIONAL REVIEW
2 CREDITS**

This course is designed to summarize and integrate the didactic and clinical experience components in the Computed Tomography and Magnetic Resonance bachelor's degree. The students will be preparing for the Commonwealth of Puerto Rico and The American Registry of Radiologic Technologists (ARRT) board exams for Magnetic Resonance. This course will last one semester, 2 hours per week.

**REST 100 ETHICAL AND PROFESSIONAL ISSUES IN RESPIRATORY CARE
3 CREDITS**

This course introduces the student to the respiratory care profession, including accreditation agencies and professional associations, its history, general/professional ethics, euthanasia and medical-legal aspects. In this course, the following are discussed: HIPAA law, medical terminology, the importance of charting and maintaining medical records with precise confidence.

**REST 104 CARDIOPULMONARY PHARMACOLOGY
3 CREDITS**

In this course a general description and orientation of the field of pharmacology will be given and information related to the drugs utilized in the respiratory care. Involve the principles the action, physiology, indications, contraindications, adverse reactions, routes of administration and dosages administrated to adult, geriatric, pediatric and neonatology patient.

**REST 106 FUNDAMENTALS OF RESPIRATORY CARE
4 CREDITS**

This course consists of various units, which include the study of chest physical examination, the administration of medical gases, therapeutic aerosols and use of oxygen analyzer with adult, pediatric and newborn. In addition, the use, function, operation and maintenance of the devices used to administer medical gases and inhalation medication. In addition, concepts of infection control and recordkeeping are included.

REST 210 AIRWAY MANAGEMENT

5 CREDITS

This course consists of the study of the airways, the principles of emergency airway care and life support techniques with adult and pediatric patients. The indications, contraindications, hazards and use various artificial airway devices used in the management of airway emergencies are studied. This course includes theory and clinical practice.

REST 211 PULMONARY FUNCTION TESTING AND ACID-BASE BALANCE

5 CREDITS

This course consists of the study of pulmonary function testing and the acid-base balance. This includes: calibration, techniques the operation, maintenance and quality control of equipment, medical indication, calculation of data and interpretation of test results will be discussed. Clinical analysis of the patient according to the results of these tests.

REST 212 PULMONARY REHABILITATION AND HOME CARE

3 CREDITS

This course introduces the student to understand the benefits of pulmonary rehabilitation and home care programs. It includes: oxygen therapy, nutrition support, smoking cessation, pharmacology therapy, sleep disorders, breathing exercise and guidelines for management a pulmonary rehabilitation program and diagnostic techniques for patient selection.

REST 217 CARDIOPULMONARY PHYSIOLOGY AND ANATOMY

3 CREDITS

This course is designed to analyze the anatomy and physiology of the respiratory and cardiac system and the relation between them. Studies to determine the respiratory mechanisms, blood, gas transport, regulatory or natural control of the ventilation, and clinical application are discussed.

REST 218 CARDIOPULMONARY PATHOPHYSIOLOGY

3 CREDITS

In this course a general description and orientation of the field of pharmacology will be given and information related to the drugs utilized in the respiratory care. Involve the principles the action, physiology, indications, contraindications, adverse reactions, routes of administration and dosages administrated to adult, geriatric, pediatric and neonatology patient.

REST 222 MECHANICAL VENTILATION IN RESPIRATORY CARE

5 CREDITS

This course consists of the study of modern technique related to the clinical application of continuous mechanical ventilation with adult, pediatric and neonatal patients. Discussions on the use, calibration, maintenance, troubleshooting of mechanical ventilation, case studies are conducted analysis and clinical practice.

REST 225 PATIENT ASSESSMENT AND SPECIAL PROCEDURES IN RESPIRATORY CARE

3 CREDITS

This course will provide the student with an introduction to special procedures such as chest XRay, electrocardiography, hemodynamic and clinical lab tests as part of the patient assessment.

REST 227 REVIEW IN RESPIRATORY CARE

3 CREDITS

The student will participate in a comprehensive review of respiratory care concepts. The purpose of this review is to prepare the student for the board examination of respiratory care technicians.

REST 300 POLYSOMNOGRAPHY

3 CREDITS

This course introduces the student with the basic concepts of a Polisomnography, used to help diagnose and evaluate sleep disorders that generally includes monitoring of the patient's airflow through the nose and mouth, blood pressure, electrocardiography activity, blood oxygen level, brain wave pattern, eye movement, and the movement of respiratory muscle and limbs. This course is designed to provide both didactic and laboratory training, during night shift (7:00 pm – 7:00 am).

REST 413 PEDIATRIC IN RESPIRATORY CARE

3 CREDITS

This course introduces the student to fetal development, perinatal assessment and common pathologies of neonate and pediatric patient. It also provides basic knowledge on management, treatment and hazards in the application of different modalities in pediatrics respiratory care.

**REST 417 SUPERVISION AND MANAGEMET OF RESPIRATORY CARE DEPARTMENT
3 CREDITS**

This course introduces the student to the modern concepts of supervision, budget and productivity methods for a Respiratory Therapy Department. It will also include concepts of laws that affects the profession and about Commission for Hospital Accreditations among others.

**REST 421 PRACTICUM
4 CREDITS**

This course applies cardiorespiratory assessment techniques, information gathering skills and communication skills in the clinical setting. Students will expand their competencies in adult as well as neonatal & pediatric critical respiratory care. The student will practice at a hospital under medical and technical supervision.

**SLPD 700 ADVANCED NEUROSCIENCE
3 CREDITS**

Students review normal human physiology and apply physiological information to exercise and the activity at both the cellular and organ levels. Students incorporate critical analysis and decision-making for exercise prescription applying biomechanical and kinesiological principles.

**SLPD 710 GERONTOLOGY
3 CREDITS**

This course will provide students with an overview of gerontology. A holistic approach to patient care will be considered, encompassing biological, social, psychological, and cultural aspects related to aging. Analysis of day-to-day functioning of the aging patient will be covered. An emphasis will be placed on differentiation between normal aging processes and pathological changes related to speech pathology and communication disorders. Learning will take place via class lectures and discussions experimental exercises, written case studies, student presentations and panel discussions. Discussion of ethical issues related to aging will augment the learning process.

**SLPD 720 COUNSELING AND SUPERVISION IN SPEECH-LANGUAGE PATHOLOGY
2 CREDITS**

The identification and analysis of the processes of supervision along the continuum of supervision from support personnel to peer. Topics will include planning and executing the supervisory conference, data collection procedures, and evaluation. The research in the field of supervision will be examined with an emphasis on practical application. The impact of cultural diversity on supervision will be addressed. Emphasis on counseling approaches for use with clients will communication disorders and their families. Theories of counseling with an emphasis on management of individuals with communication disorders and their families are explored. The course presents the different approaches to interacting with clients and their families individually and in groups.

**SLPD 730 EDUCATIONAL LEADERSHIP IN THE HEALTH PROFESSIONS
2 CREDITS**

This course focuses on the tools, methodologies and strategies needed to be an effective member of the faculty in Allied Health's learning environments. In addition, it will focus on contemporary theories of leadership which will serve as a theoretical framework for students to understand the complexity of Higher Education.

**SLPD 740 BIOSTATISTICS I
3 CREDITS**

This course is the first of two courses designed to provide students with knowledge of quantitative techniques. The course will cover descriptive statistics; parametric, group-comparison statistics and basic nonparametric statistics. It will also provide an introduction to linear modeling.

**SLPD 750 NEUROLINGUISTICS
3 CREDITS**

This course studies the acquisition of human linguistic properties and how these properties are developed, organized and processed in our mind. In addition, it aims to learn about the neural mechanisms that allow us to produce and understand language as a tool for human communication.

SLPD 760 ENTREPRENEURSHIP FOR SPEECH-LANGUAGE PATHOLOGY

2 CREDITS

Students will learn basic management principles related to the conduct of speech and language practice or audiology in a variety of settings. The legal and ethical issues in the management of the practice will be covered. In addition, they will learn about innovation and entrepreneurship in the field of health. Students will prepare for personal and professional development by evaluating the abilities and behaviors of the change agent leader in terms of their own growth potential and leadership positions in the future.

SLPD 770 PEDIATRIC SPEECH-LANGUAGE PATHOLOGY

3 CREDITS

This course examines the central concepts of formal and applied linguistics, providing historical and current perspectives on the social, psychological and neurobiological aspects of language. In addition, theories and application of cognitive, social, psychological and cultural development of children and adolescents will be examined. Current thinking will argue classical theory. Emphasis will be placed on the application of current thinking, as well as the therapeutic, teaching, and care practices that arise from these ideas.

SLPD 780 RESEARCH DESIGN

3 CREDITS

It focuses on conceptual frameworks, research design, data collection, data analysis, and dissemination. The emphasis is on quantitative methods, with an overview of qualitative methods. Students design a research project during the course.

SLPD 800 ADVANCED SEMINAR ON DYSPHAGIA

3 CREDITS

This course will deepen into topics of importance for clinical practice in dysphagia. Topics include evaluation procedures, analysis of FEES and MBS studies, efficacy of new and established treatments, difficult decision making, dysphagia in head and neck cancer, neurological disorders and dementia. Case studies to highlight each topic.

SLPD 810 BIOSTATISTICS II

3 CREDITS

This course will allow students to appreciate the richness of statistical science and invite them to the concept of probabilistic thinking. The basic concepts of probability and methods to calculate the probability of an event will be discussed. It will help students develop an understanding of probability theory and sampling distributions and become familiar with inferences that involve one or two populations of ANOVA, regression analysis, and chi-square tests.

SLPD 820 QUALITATIVE RESEARCH DESIGN

3 CREDITS

This course studies the design and application of qualitative research. The topics include purposes and traditions; designs; data collection, analysis and interpretation process; integrity and reliability; and ethics issues. Students present a qualitative research project of limited scope and present and present a qualitative research proposal of interest.

SLPD 830 DISSERTATION I PROPOSAL

3 CREDITS

This course is designed to support students in the preparation of their dissertation research proposal. Students will submit a dissertation proposal, Chapters I, II and III at the end of the course.

SLPD 840 GENETICS

3 CREDITS

This course will provide a foundation of genetics and dysmorphology with a focus on communication disorders. Syndromes and disorders not related to the syndrome that are associated with hearing loss will be described with the effect on diagnosis and the implication of rehabilitation recommendations throughout life.

SLPD 850 QUANTITATIVE RESEARCH DESIGN

3 CREDITS

This course will cover research methods and quantitative research design. Emphasize the mastery of specific methodological and statistical knowledge and skills.

SLPD 860 ADVANCED SEMINAR ON AUGMENTATIVE AND ALTERNATIVE COMMUNICATION (CAA)

2 CREDITS

This course discusses critical problems in augmentative and alternative communication (AAC) with a focus on the planning, implementation and evaluation of intervention strategies. By critically evaluating current literature, students will gain an understanding of AAC strategies with empirical support for specific clinical populations. Students will also participate in academic debates on new technologies, recent trends and legal implications of the provision of AAC services.

SLPD 870 PHARMACOLOGY

2 CREDITS

This course presents the advanced science and clinical pharmacology that affects the practice of speech and language pathology. Emphasis will be placed on the clinical use and understanding of pharmacodynamics, pharmacokinetics and the possible positive and negative results of medications. During the course, conferences, videos and practical learning activities will be explored. The general principles of action against drugs, particularly in relation to the communicative function will be discussed. The classes of drugs used in clinical practice will be examined with emphasis on activity, mode of action, side effects, toxicity and drug interactions. Case studies will be presented in the fields of speech pathology and audiology.

SLPD 880 MEDICAL SPEECH-LANGUAGE PATHOLOGY

3 CREDITS

This course includes specialized roles of the speech-language pathologist in the medical environment, systems for maintaining medical records and terminology, evaluation and treatment of dysphagia, rehabilitation of laryngectomees with emphasis on surgical restoration of the voice and other topics of interest to the patient. Clinic in the hospital.

SLPD 880-S MEDICAL SPEECH-LANGUAGE PATHOLOGY-CLINICAL SEMINAR

2 CREDITS

This laboratory will provide students with information on current diagnostic and treatment approaches for a variety of speech-language, communication, cognition and swallowing disorders throughout the medical environment. Students work directly with patients, families and caregivers under the supervision of a certified and licensed speech-language pathologist to develop and refine their clinical knowledge and skills in the medical environment.

SLPD 910 DISSERTATION II DATA COLLECTION

3 CREDITS

This course emphasizes the process for the approval of the Institutional Review Board (IRB) and the data collection and implementation of the applied dissertation.

SLPD 920 DISSERTATION III FINAL REPORT

3 CREDITS

This course involves the analysis and discussion of data and the final approval process. Dissemination of the dissertation orally or in writing. This course will culminate with the completion of the corresponding third reference point: the final report. The credits for this course will be assigned after the approval of the dissertation approval.

SLPD 930 CONTINUOUS DISSERTATION SERVICES II

1 CREDITS

This course will continue the work of the SLPD 910 course in case the student does not complete the requirements of the course and an IP is granted.

SLPD 940 CONTINUOUS DISSERTATION SERVICES III

1 CREDITS

This course will continue the work of the SLPD 920 course, in case the student does not complete the requirements of the course and an IP is granted.

SONO 100 INTRODUCTION TO MEDICAL SONOGRAPHY

2 CREDITS

The course introduces the Medical Sonography student with the roles and tasks of a Sonographer. It covers concepts such as: Origins of the Diagnostic Medical Sonography, Abilities and Skills desirable in sonographer candidates, and career advantages. The course also introduces to the different sonographic specialties, the staff sonographer administrative duties, and responsibilities with patient care. Concepts such as patient movement, and transfer, aseptic techniques, vital signs, first aid cardiopulmonary resuscitation, legal aspects, cardiac arrest, are emphasized.

SONO 102 ULTRASOUND SCAN PROTOCOLS

2 CREDITS

This course presents the basic concepts and terminology, as well as guidelines protocols for the ultrasound examination. Topics include scanning techniques, patient position, images and diagnostic criteria used to make a preliminary report.

SONO 110 GENERAL PHYSICS COMPENDIUM

3 CREDITS

This course begins by reviewing basic applied mathematics to explain ultrasonic physics, the metric system, and formula analysis. The basic principles of both continuous and pulsed sound waves and their parameters are discussed. The interaction of sound with soft tissue is demonstrated, such as: attenuation, impedance, reflection, transmission and refraction.

SONO 234 ULTRASOUND PHYSICS AND INSTRUMENTATION I

3 CREDITS

This course studies the fundamentals of ultrasound physics and instrumentation. The main content areas of the course include the basic physics of ultrasound, continuous wave, pulsed wave, tissue attenuation, properties of the transducer element, and image artifacts. In addition, the main components within a Diagnostic Ultrasound equipment are discussed. The interaction of sound with soft tissue and the factors that affect it are demonstrated. This course meets 45 hours per semester.

SONO 235 ULTRASOUND PHYSICS AND INSTRUMENTATION II

3 CREDITS

The course presents different ways to operate the Diagnostic Ultrasound equipment. It includes Amplitude, Brightness, and real-time modes. Along the course many concepts are discussed related to Doppler Physics and the Biological Effects of the Diagnostic Ultrasound.

SONO 238 ABDOMEN SONOGRAPHY

3 CREDITS

This course studies the clinical applications of the abdomen. The topics included are a review of the abdominal anatomy, physiology, and pathology of each organ evaluated in the abdomen. They will study pertinent laboratory tests, as well as the signs and symptoms related to the disease process of each organ. This course meets 45 hours of theory and 45 hours in the skills laboratory for the practice of basic tracking techniques and protocols.

SONO 238L LAB ABDOMEN SONOGRAPHY

0 CREDITS

This course studies the clinical applications of the abdomen. The topics included are a review of the abdominal anatomy, physiology, and pathology of each organ evaluated in the abdomen. They will study pertinent laboratory tests, as well as the signs and symptoms related to the disease process of each organ. This course meets 45 hours of theory and 45 hours in the skills laboratory for the practice of basic tracking techniques and protocols.

SONO 240 SMALL PARTS SONOGRAPHY

3 CREDITS

This course studies the clinical applications of surface structures. The topics discussed are a review of the anatomy, physiology and pathology of the thyroid, parathyroid, parotid glands, breasts, testicles, scrotum, popliteal area, neurosonography and musculoskeletal system, among others. The signs and symptoms related to the disease process of these organs will be discussed. This course meets 45 hours of theory in one semester and 45 hours in the skills laboratory for the practice of basic tracking techniques and protocols.

SONO 240L LAB SMALL PARTS SONOGRAPHY

0 CREDITS

This course studies the clinical applications of surface structures. The topics discussed are a review of the anatomy, physiology and pathology of the thyroid, parathyroid, parotid glands, breasts, testicles, scrotum, popliteal area, neurosonography and musculoskeletal system, among others. The signs and symptoms related to the disease process of these organs will be discussed. This course meets 45 hours of theory in one semester and 45 hours in the skills laboratory for the practice of basic tracking techniques and protocols.

SONO 242 GENITOURINARY SYSTEM

3 CREDITS

This course covers all the clinical examinations involved in diagnostic ultrasound gynecologic procedures. The student will be able to recognize normal pelvic anatomy and gynecologic pathology seen in a pelvic sonogram. As well as the normal renal anatomy and its pathologies. Relevant laboratory tests will be studied, as well as the signs and symptoms related to the disease process of each organ. Emphasis is given to different imaging techniques. One semester, 2 hours of laboratory per week and 3 hours of lecture per week.

SONO 242L LAB GENITOURINARY SYSTEM

0 CREDITS

This course studies the clinical applications of the genitourinary system. The topics included are a review of the anatomy, physiology and pathology of the organs evaluated in the genitourinary system such as the kidneys, bladder, prostate and female pelvis. Relevant laboratory tests will be studied, as well as the signs and symptoms related to the disease process of each organ. This course meets 45 hours of theory in one semester and 45 hours in the skills laboratory for the practice of basic tracking techniques and protocols.

SONO 247 CLINICAL EDUCATION I

1 CREDIT

This is the first of three clinical education's courses. In this course the student learns by observing the different sonographic procedures made along the clinical practice. The student will have the opportunity of see different sonographic procedures, scanning techniques and instrumentation used for patient's evaluation. The course's purpose is exposing the student with all tasks performed by a professional sonographer in a clinical field.

SONO 248 CLINICAL EDUCATION 2

1 CREDIT

This second clinical experience demands an active role of the student. This phase of clinical education emphasizes in the performance of sonographic studies with direct supervision of a medical sonography professional. The student will have to participate in the performance of different sonographic procedures to evaluate patients by using the appropriate scanning techniques.

SONO 249 CLINICAL EDUCATION 3

3 CREDITS

This clinical education course is designed to give the student time and opportunity to practice doing different sonograms with minimal supervision. The students must possess the skills needed to make abdominal and gynecological sonograms. The course will prepare them to develop the skills needed to practice these studies and learn how to do obstetrical and small parts examinations.

SONO 250 OBSTETRICAL SONOGRAPHY I

3 CREDITS

The course emphasizes the clinical procedures used in obstetric ultrasound examinations. Topics included are a review of embryology, anatomy, abnormalities, and fetal measurements in the first, second, and third trimesters. In addition, transabdominal, transvaginal, and transperineal screening techniques related to pregnancy will be discussed, as well as pertinent laboratory tests and signs and symptoms related to maternal changes and pregnancy. This course meets 45 hours of theory per semester and 45 hours in the skills laboratory for the practice of basic tracking techniques and protocols.

SONO 250L LAB OBSTETRICAL SONOGRAPHY I

0 CREDITS

The course emphasizes the clinical procedures used in obstetric ultrasound examinations. Topics included are a review of embryology, anatomy, abnormalities, and fetal measurements in the first, second, and third trimesters. In addition, transabdominal, transvaginal, and transperineal screening techniques related to pregnancy will be discussed, as well as pertinent laboratory tests and signs and symptoms related to maternal changes and pregnancy. This course meets 45 hours of theory per semester and 45 hours in the skills laboratory for the practice of basic tracking techniques and protocols.

SONO 251 OBSTETRICAL SONOGRAPHY II

3 CREDITS

This course emphasizes advanced terms of obstetric sonography including fetal echocardiography, genetic sonography and a variety of pathologies associated with genetics. Innovating modalities like tridimensional echocardiography and use of Doppler in cardiovascular anomalies are discussed as well.

SONO 252 PATHOLOGY AND MEDICAL TERMINOLOGY

3 CREDITS

This course is designed for the discussion of the physiology and pathology of some body systems and their sonographic visualization. Discussion of medical terminology, its pathological aspects and its association with the clinical history and sonographic findings is included.

SONO 256 INTEGRATION SEMINAR

3 CREDITS

The course is designed to promote interest in clinical and bibliographic research among the program students. During the course are discussed journal articles and clinical cases performed by the students. Each student will be assigned with a research work which intends to extend its knowledge in all ultrasound areas in which he or she is involved during the clinical education. One semester, 3 hours per week.

SONO 260 GENERAL SONOGRAPHY REVIEW

2 CREDITS

This course provides the student with a review in preparation for the American Registry of Diagnostic Medical Sonographers (ARDMS) exam and revalidates for licensure in PR. Students will be provided with review exercises in the areas of: Physics and instrumentation, tracking techniques and pathologies of the abdomen, small parts, obstetrics and gynecology.

SONO 334 VASCULAR PHYSICS AND INSTRUMENTATION

3 CREDITS

The course is designed to promote interest in clinical and bibliographic research among the program students. During the course are discussed journal articles and clinical cases performed by the students. Each student will be assigned with a research work which intends to extend its knowledge in all ultrasound areas in which he or she is involved during the clinical education. One semester, 3 hours per week.

SONO 336 VASCULAR TECHNOLOGY I

3 CREDITS

This course provides the student with the clinical applications of the extra and intra-cranial circulation and of the upper extremities. Topics included are a review of the anatomy, physiology, and pathology of each image of the vascular system. Relevant laboratories will be discussed as well as signs and symptoms related to circulatory disease processes. In addition, we will discuss the basic tracking techniques of the Duplex sonogram protocols. We will discuss the interpretation of B-mode images, color flow images, and the analysis of the spectral Doppler waveform. This course meets 45 hours of theory and 45 hours in the skills laboratory for the practice of basic tracking techniques and protocols.

SONO 336L LAB VASCULAR TECHNOLOGY 1

0 CREDITS

This course provides the student with the clinical applications of the extra and intra-cranial circulation and of the upper extremities. Topics included are a review of the anatomy, physiology, and pathology of each image of the vascular system. Relevant laboratories will be discussed as well as signs and symptoms related to circulatory disease processes. In addition, we will discuss the basic tracking techniques of the Duplex sonogram protocols. We will discuss the interpretation of B-mode images, color flow images, and the analysis of the spectral Doppler waveform. This course meets 45 hours of theory and 45 hours in the skills laboratory for the practice of basic tracking techniques and protocols.

SONO 337 VASCULAR TECHNOLOGY II

3 CREDITS

This course includes the clinical applications of arterial and venous circulation of the lower limb and abdominal circulation, which will be the focus of this course. It includes topics such as vascular anatomy, physiology, and vascular pathology of the lower limb and abdominal cavity. Laboratory tests as well as signs and symptoms related to the vascular disease process of these areas will be discussed. In the same way, the basic techniques of tracking, plethysmography, arterial and venous duplex protocols, B-mode imaging, interpretation of color flow images and the analysis of the spectral Doppler waveform will be worked on. Vascular diseases of the lower limb and abdominal cavity will be covered; and how they affect blood flow. This course meets 45 hours of theory and 45 hours in the skills laboratory for the practice of basic tracking techniques and protocols.

SONO 337L LAB VASCULAR TECHNOLOGY 2

0 CREDITS

Course directed to the uses of non-invasive vascular exams for the diagnosis of peripheral and abdominal venous diseases. Emphasis on the different modalities used to evaluate the leg and abdominal vessels. Examination protocols, patient history and physical findings and the validation test are discussed. Clinical experience and laboratory sessions are required. One Semester, 3 hours of lecture and 2 hours of Laboratory.

SONO 338 TECHNIQUES AND PROTOCOLS FOR ADULT ECHOCARDIOGRAPHY

3 CREDITS

This course includes the study of adult echocardiography as a sonographic method for the evaluation of pathologies of the heart. The course integrates the basic knowledge of electrocardiography as a clinical evaluation method. The course will evaluate theory and laboratory skills for the practice of basic tracking techniques and protocols. The course meets 45 hours of theory and 45 hours of laboratory for one semester.

SONO 338L TECHNIQUES AND PROTOCOLS FOR ADULT ECHOCARDIOGRAPHY LAB

0 CREDITS

This course includes the study of adult echocardiography as a sonographic method for the evaluation of pathologies of the heart. The course integrates the basic knowledge of electrocardiography as a clinical evaluation method. The course will evaluate theory and laboratory skills for the practice of basic tracking techniques and protocols. The course meets 45 hours of theory and 45 hours of laboratory for one semester.

SONO 340 ADULT ECHOCARDIOGRAPHY

3 CREDITS

This course includes laboratory experiences in cardiac tracking techniques based on the concepts discussed in class. The fundamentals of cardiac ultrasound to assess anatomy, function, and hemodynamics are described. Emphasis will be placed on obtaining quality echocardiograms. Through the laboratory experience, the application of theoretical principles and concepts will be demonstrated. Topics related to: ventricular function, stress echocardiography, principles of transesophageal echocardiography (TEE), 3D and 4D echocardiography, contrast media in echocardiography, advanced techniques and procedures of TDI and strain rate, EKG, Holter, pacemaker and others are included. medical devices. This course meets 45 hours of theory and 45 hours of laboratory for one semester.

SONO 340L LB ADULT ECHOCARDIOGRAPHY

0 CREDITS

This course includes laboratory experiences in cardiac tracking techniques based on the concepts discussed in class. The fundamentals of cardiac ultrasound to assess anatomy, function, and hemodynamics are described. Emphasis will be placed on obtaining quality echocardiograms. Through the laboratory experience, the application of theoretical principles and concepts will be demonstrated. Topics related to: ventricular function, stress echocardiography, principles of transesophageal echocardiography (TEE), 3D and 4D echocardiography, contrast media in echocardiography, advanced techniques and procedures of TDI and strain rate, EKG, Holter, pacemaker and others are included. medical devices. This course meets 45 hours of theory and 45 hours of laboratory for one semester.

SONO 341 ADULT ECHOCARDIO PRACTICE IN LAB

3 CREDITS

The course is designed to provide practice for the performance of ultrasounds of the adult heart. Emphasis is given to scanning techniques of adult echocardiography, image optimization and the instrumentation used. Through the cardiac images, different calculations and measurements can be obtained to identify a normal study or the presence of pathologies. One semester, 3 hours of lecture and Laboratory.

SONO 342 CARDIAC PATHOPHYSIOLOGY

3 CREDITS

Study of cardiac pathologies, their physiological symptoms, outcomes, and their echo sonographic appearance. Special attention will be given to the valve's diseases, cardiomyopathies, coronary artery disease, neoplastic and inflammatory processes, and other cardiac conditions. During the course other subjects are covered such as: cardiac trauma, prosthetic heart valves and congenital heart diseases. One semester, three hours lecture.

SONO 347 CLINICAL EDUCATION IN VASCULAR TECHNOLOGY I

2 CREDITS

Supervised off-campus clinical education to provide the student with the skills for vascular scanning and sonographic evaluation. Requires 120 hours of practice during the semester.

SONO 348 CLINIC ED IN VASCULAR TECH II

2 CREDITS

Supervised off-campus clinical education to provide the student with the skills for vascular scanning and sonographic evaluation of cerebral circulation, abdominopelvic region, grafts, stents and arteriovenous fistulas. Requires 120 hours of practice during the semester.

SONO 349 CLINICAL EDUCATION IN ADULT ECHOCARDIOGRAPHY

2 CREDITS

Supervised off-campus clinical education to provide the student with the skills for adult heart scanning and sonographic evaluation. Requires 120 hours of practice during the semester.

SONO 400 ADVANCED SEMINAR OF GENERAL SONOGRAPHY IN LAB

2 CREDITS

This course is designed to integrate clinical and theoretical experiences. A summary of ultrasound modalities is presented. A review of scanning techniques, skills and protocols for each area are emphasized. This course provides an opportunity so students can put into practice what they have learned in their previous sonography courses. One semester, 2 hours of lecture and Laboratory.

**SOVA 338 CLINICAL EDUCATION IN VASCULAR TECHNOLOGY I
1 CREDIT**

This clinical course provides students the opportunity to practice in real clinical scenarios the protocols and scanning of the vascular sonography. Emphasis is on mastering of the scanning techniques, analysis of duplex sonography image and the use of terminology in the writing of the preliminary report. It includes 120 clinical practicum hours.

**SOVA 339 CLINICAL EDUCATION IN VASCULAR TECHNOLOGY II
1 CREDIT**

This course will provide the students with a supervised clinical experience that emphasizes the vascular sonography procedures of the extracranial circulation (carotid), transcranial duplex, venous and arterial duplex of the upper and lower extremity. Ethical and moral aspects of clinical practicum and writing of clinical reporting are emphasized. It includes 120 clinical practicum hours.

**SOVA 340 CLINICAL EDUCATION IN VASCULAR TECHNOLOGY III
1 CREDIT**

The focus of this practice is the advanced vascular sonographic procedures of the intracranial circulation, abdominal and pelvic vasculature, pletismography, graft, stens and arteriovenous fistulas evaluation. In addition, scanning techniques and protocols used to diagnose vascular pathology are included. It includes 360 clinical practicum hours.

**SPLA 300 PROFESSIONAL WRITING FOR THE THERAPIST SPEECHLANGUAGE
3 CREDITS**

This course enables the student to write intervention notes, professional articles, informative material and guidance. Practical experiences are provided in the drafting of training objectives for the daily intervention plan. Technology will be used as a tool for effective documentation.

**SPLA 308 DEVELOPMENT OF READING AND WRITING K-3
3 CREDITS**

The foundations, principles, theories and perspectives related with development process of the reading and writing at levels from kindergartens to third are discussed. Different investigators, authors and specialist's perspectives on the area are studied. It discussed the basic process used in the preparation of the child for reading and writing.

**SPTH 202 INTRODUCTION TO PROFESSIONS IN COMMUNICATION SCIENCES AND DISORDERS
3 CREDITS**

This course provides basic information to students considering a career in the professions of Speech-Language Therapy, Speech-Language Pathology or Audiology. This course will describe the scope of practice of the professions of Speech-Language Therapy, Speech-Language Pathology or Audiology according to the applicable laws and codes of ethics. A general vision is presented of communication disorder areas as they occur across the lifespan and in relation to different etiologies. Fundamental elements are discussed regarding service delivery, including ethical, clinical, and administrative aspects. Characteristics of communication disorders are discussed, with particular emphasis on the impact to individuals and their families.

**SPTH 205 ANATOMY AND PHYSIOLOGY OF SPEECH AND LANGUAGE
3 CREDITS**

The course centers on the study of primary and secondary functions of human body structures involved in the reception and production of language and speech. Normal and abnormal anatomy and physiology will be studied. The impact on speech, language, and communication of abnormal body structures and their functioning will be analyzed.

**SPTH 255 LANGUAGE DEVELOPMENT: NORMAL AND PATHOLOGICAL PROCESSES
3 CREDITS**

Through the course the student will participate in interactive experiences with infants, children and adolescents with and without language disorders. Language development from the first words through adolescence will be covered and simultaneously contrasted with pathological indicators. Controlled laboratory experiences will be offered including the management of didactic materials.

**SPTH 257 INTRODUCTION TO AUDIOLOGY AND AURAL REHABILITATION
3 CREDITS**

Study of the key clinical aspects for the delivery of aural habilitative and rehabilitative services to infants and children with hearing loss. The different types of hearing loss diagnosed to infants and regular and special education students will be discussed. Discussion of a variety of assistive devices available and the speech and language therapist's responsibility in the care, orientation and management. Training and execution of hearing screenings in the school age population. Strategies and methods for aural habilitation and auditory training will be discussed.

SPTH 300 SPEECH AND HEARING SCIENCE

3 CREDITS

The course is an introduction to the acoustical nature of speech and an orientation to basic instrumentation used in measurement and analysis. Information and theories regarding normal processes of speech and hearing and how to relate those processes to various communication disorders are discussed. Students will be introduced to the science of speech-language pathology and audiology as precursors to evidence-based practice.

SPTH 310 TECHNOLOGY IN COMMUNICATION SCIENCE & DISORDERS

3 CREDITS

The most common technologies for the Speech-Language Therapist for the execution of clinical and administrative tasks will be discussed and integrated. Practical experiences with computer applications and commercial and free software will be provided. Students will assess computer programs and applications to adapt them to their patients' needs. Provision of distance services through the use of technology and its possible impact in confidentiality will be evaluated. Social network use in professional practice will be studied along with the behavior codes developed to this end. Ways that technological equipment helps people with disabilities to have independence within the society will also be discussed.

SPTH 353 PHONETICS

3 CREDITS

The course focuses on the manner, place, sound, and features of the production of Spanish sounds in normal and disordered speech. It will emphasize the Caribbean Spanish dialect. The course will present the International Phonetic Alphabet (IPA) and apply the IPA symbols for the transcription of normal and disordered speech. The changes in meaning that occur as a result of the incorrect positioning of the articulators or the use of a redundant feature will be analyzed. The geometry of distinctive features will be discussed as it applies to possible changes in the selection of the phoneme. There will be intensive transcription of speech samples using the IPA symbols.

SPTH 355 SPEECH DEVELOPMENT: NORMAL AND PATHOLOGICAL PROCESSES

3 CREDITS

The course centers on the study of normal, delayed, and deviant phonological and articulatory systems in Spanish speaking children. The course will discuss the most relevant theories of phonological development. Intervention methods for treatment of articulation and phonological disorders will be studied and analyzed. Articulation and phonology screening processes will be presented and applied.

SPTH 357 EARLY INTERVENTION

3 CREDITS

The course is an in-depth study of early communication development that occurs during the first years of life, starting with normal and pathological sensory development and continuing all the way through pre-intentional behaviors. Clinical observations at day care centers, Pediatric Centers of the Puerto Rico Department of Health, laboratory exercises, and small group discussions will be provided. Exposure to the service delivery system of Puerto Rico Early Intervention Program, Avanzando Juntos, will be provided.

SPTH 375 FLUENCY

3 CREDITS

This course centers on the study of fluency disorders and their characteristics in children and adolescents. Normal versus abnormal fluency development will be examined. Different theories of the etiology of fluency disorders will be compared. A central focus will be placed on the design and application of appropriate treatment programs for young children, school-aged children and adolescent who stutter. This will include knowledge in related areas necessary to treat this multidimensional disorder holistically, i.e. motor skills retraining, family involvement, and counseling.

SPTH 395 VOICE

3 CREDITS

The course centers on the normal aspects of voice in children and adolescents. Voice disorders, including diagnostic implications and remediation approaches, will also be studied. The course includes a detailed analysis of phonation problems and their characteristics, causes, and maintenance factors including organic, functional, and emotional aspects. Intervention strategies for voice disorders will be studied and applied in controlled clinical experiences.

SPTH 402 TREATMENT IN CSD: BASICS CONCEPTS, LEGAL AND ETHICAL ASPECTS

3 CREDITS

Exposure to current issues in the professions of speech pathology, audiology, speech therapy, and other related fields. Public Law 77, which is the Law that regulates the profession of speech therapy in Puerto Rico, and other related laws will be discussed. The vision of the professional organizations in Puerto Rico and the United States will be presented. We will also study of the peripheral aspects that frame the therapy situation. Examination of the most basic and important aspects that should be considered when planning therapies including interviews, report writing, record keeping and staffing's.

SPTH 404 TREATMENT IN CSD: RELATED AND SEVERE CONDITIONS

3 CREDITS

The course centers on the study of the theories and practical knowledge needed to provide therapeutic services to children with conditions associated with problems of communication, diagnosed in infancy, childhood or adolescence (DSM IV). These conditions include attention deficit disorder with or without hyperactivity, Specific Language Learning Disabilities, Autism and Pervasive Developmental Disorders. Students will analyze of the skills required to manage clients with severe disabilities. Also included is the study of clinical strategies that will enable students to develop functional communication skills. Participants will also develop skills and attitudes needed to work with a team of professionals serving students with conditions that cause problems of communication.

SPTH 406 LANGUAGE DISORDERS

3 CREDITS

This course is directed to further investigate the characteristics of language disorders in children and adolescents. Students will gain an understanding of the impact of interactive primary conditions, such as psychological disorders, syndromes and health conditions throughout the development of children and adolescents. Special attention will be placed on intervention approaches applicable, materials selection and drafting of goals and treatment plans aimed towards language areas.

SPTH 440 KNOWLEDGE INTEGRATION IN SPEECH AND LANGUAGE THERAPY

3 CREDITS

The course presents a compendium of all relevant material presented in the specialty courses in order to better qualify students for the successful completion of the speech language therapists board exam.

SPTH 450 CLINICAL PRACTICE I

3 CREDITS

Students will practice clinical skills previously learned in the pathology courses. During the course students will practice in at least two clinical settings and will deliver speech and language therapy services to clients from 0 through 21 years of age.

SPTH 451 CLINICAL PRACTICE II

3 CREDITS

Students will refine the clinical skills acquired in Clinical Practice I, Treatment II, III and IV. During the course students will practice in at least two different clinical settings that serve populations with attention deficit, learning disabilities, severe language delays, and pervasive disorders. Screening techniques and procedures will be applied in clinical settings.

LIBERAL ARTS ACADEMIC DIVISION

ADPE 800 FOUNDATIONS OF ADAPTED PHYSICAL EDUCATION

3 CREDITS

Evaluation of the adapted physical education as an instrument to improve the quality of life of students with special needs. Nature, Theories, laws, services, inclusion practices and adaptations, programmatic challenges and empirical foundations also will be studied. Emphasis on the empirical analysis of the adapted physical education with the aim of identifying opportunities for empirical and programmatic developments that contributes to the improvement of this discipline of studies.

ADPE 801 CURRICULUM CONSIDERATIONS OF INCLUSIVE PHYSICAL EDUCATION

3 CREDITS

Study of the design and implementation of the curriculum of physical education for students with special needs to be included in the regular classroom. Implementation of inclusive physical education literature and curricular options for students with special needs. Understanding, through research, the flexibility of curricular models existing in the area of inclusive physical education. Review of curricular options for students with special needs and the procedures to modify it according to the needs of each one.

ADPE 802 METHODOLOGICAL APPROACHES AND STRATEGIES FOR SPECIAL POPULATIONS IN ADAPTED PHYSICAL EDUCATION

3 CREDITS

Comprehensive study of methodological considerations in a learning context to support the adapted physical education for students with special needs. Analysis of the factors that influence the development in learning contexts of physical education and its implications for the effective experiences and instructional design for the physical activity of students with different needs. Discussion on correspondence that exists between the learning styles, multiple intelligences, the needs of students and teaching styles and adapted instructional design. Understanding of the contribution of different research designs to the understanding of human diversity.

ADPE 803 EVALUATION SEMINAR IN ADAPTED PHYSICAL EDUCATION

3 CREDITS

Comprehensive study of methodological considerations in a learning context to support the adapted physical education for students with special needs. Analysis of the factors that influence the development in learning contexts of physical education and its implications for the effective experiences and instructional design for the physical activity of students with different needs. Discussion on correspondence that exists between the learning styles, multiple intelligences, the needs of students and teaching styles and adapted instructional design. Understanding of the contribution of different research designs to the understanding of human diversity.

ART 101 ART APPRECIATION

3 CREDITS

This course is designed to develop a broad understanding of the basic principles of art. The elements of art, with special emphasis on plastic arts are studied. The student will also gain aesthetic appreciation of great masterpieces.

CDEV 500 STRATEGIC LEADERSHIP: THEORIES AND APPROACHES TO COMMUNITY DEVELOPMENT

3 CREDITS

Course aimed at the analysis and application of theories and approaches of strategic leadership for community development. Its emphasis lies on the exploration, understanding and critical analysis of approaches, leadership roles, theories, strategies, and principles, as well as their application in community development.

CDEV 510 CITIZEN PARTICIPATION, VOUNTEER RECRUITMENT, AND ADMINISTRATION: VALUES, MODELS, AND TECHNIQUES

3 CREDITS

Course aimed at the analysis and application of theories and approaches of strategic leadership for community development. Its emphasis lies on the exploration, understanding and critical analysis of approaches, leadership roles, theories, strategies, and principles, as well as their application in community development.

CDEV 515 PLANIFICATION AND EVALUATION: THEORIES, METHODS AND TECHNIQUES

3 CREDITS

Course aimed at the exploration, understanding, analysis and application of planning and evaluation theories, methods and techniques in community development. Its emphasis lies in the design of strategic and operational plans for the implementation and evaluation of programs and projects for the community development.

CDEV 520 ENTREPRENEURSHIP, PROPOSAL WRITING AND FUNDRAISING

3 CREDITS

Course aimed at the analysis and application of economic entrepreneurship techniques, proposal writing and fundraising for the creation of programs and projects from a community development-based view.

CDEV 525 DESIGN, BUDGET MANAGEMENT AND EVALUATION OF SERVICE PROGRAMS FOR COMMUNITY DEVELOPMENT

3 CREDITS

Course aimed at the analysis and application of techniques in program design, in budget management and in the evaluation of community service projects. Its emphasis lies in the design of a service program in all its parts, including the preparation of a program budget and a Program evaluation design.

CDEV 620 MEDIATION: LEGAL AND PSYCHOLOGICAL ASPECTS RELATED TO VIOLENCE IN FAMILIES

3 CREDITS

An analysis of principles, procedures and negotiation in mediation in family cases. Analysis of causes and manifestations in violence. Analysis of gender violence and other aspects related to violence in the family.

CDEV 656 GRANTS MANAGEMENT

3 CREDITS

Discussion and analysis of principles, concepts and models involved in the proposal's management of federal, local and state funds in human services organizations. Study of strategies and techniques for designing, planning, coordination, development and implementation and evaluation of mission, goals and objectives, and activities for the effective and efficient grants administration for programs development.

**CJGR 502 FOUNDATIONS, ORGANIZATION AND CRIMINAL JUSTICE SYSTEM ADMINISTRATION
3 CREDITS**

Exploration of the theoretical, historical and socio-political foundations of Criminal Justice with special attention to the knowledge of criminal behavior and policies related to crime control. Examination of the main components of the Criminal Justice System (police, courts, correction system, juvenile justice systems), including their corresponding historical perspectives, the roles and functions of related agencies and any process that is part of the administration of the Justice. Detailed study of the theoretical and practical foundations of the organization of the justice system in Puerto Rico and all its administrative structures. Emphasis on the history and development of administrative theory and its impact on management techniques, which include organizational behavior, the bureaucratic structure of the justice system, the analysis of legal aspects that impact the administration of justice and the provision of justice services. Likewise, the constitutional implications of the statutes, ordinances and decisions related to the administration of justice, criminal behavior and policies related to crime control will be studied. The student will develop skills and abilities that can be applied in the analysis, synthesis and investigation of the problems of the organizations responsible for the administration of the criminal justice system. They will also help you make decisions to solve the difficulties that arise. This is not a technical course aimed at developing the skills necessary to serve as a manager.

**CJGR 515 LEGAL, ETHICAL, AND MORAL ISSUES OF CRIMINAL JUSTICE
3 CREDITS**

Review of various legal, ethical and moral approaches in relation to crime and justice; Examination of the principles applicable to justice, laws, police, courts, correction, and discussion of how officials involved in criminal justice related processes face situations and make decisions in which assessment judgments must be addressed ethical and moral of their profession. Deep discussion of legal and ethical issues related to criminal justice such as: confidentiality, conflicts of interest, professional conduct, use of physical force, discretion, corruption and codes of ethics, among others. Analysis of classical ethical theories and their relationship with the administration of justice, the performance of the administrative dimension of the criminal justice system, compliance with the law and punishment, life in prison and the death penalty, among others.

**CJGR 602 CRIMINOLOGY AND DEVIANT BEHAVIOR
3 CREDITS**

This course offers an analysis of deviant behavior as a social process through the study of schools and theories related to crime. The interdisciplinary perspective of criminology, based on social control, the impact of crime on victims and the regulations presented by the Criminal Justice system is used. It also analyzes the role of the Government in the formulation of public policies related to crime control and the maintenance and strengthening of the criminal justice system.

**CJGR 607 INFORMATION TECHNOLOGIES APPLIED TO CRIMINAL JUSTICE
3 CREDITS**

Study of the key and critical elements related to the technical and administrative aspects of the new information and communication technologies applied to Criminal Justice systems. Topics that include strategies, infrastructure, security, management and control, data privacy, Web services, applicable laws and future challenges in the adoption of technology to increase productivity, efficiency and services applied to Criminal Justice systems are included.

**CJGR 611 PRINCIPLES OF FORENSIC INVESTIGATION APPLIED TO CRIMINAL JUSTICE
3 CREDITS**

Integration of investigative techniques, through the use of the scientific method and the application of forensic field sciences for the exhaustive analysis of the crime scene. Specialized knowledge related to natural sciences and its relationship with legal sciences is acquired for the effective resolution of criminal and civil cases before magistrates. It enters the operational and logistic mode in which the processes of investigation, collection and packaging of the evidence obtained in a criminal scene are carried out. The processes of identification and preservation of biological evidence processed in the laboratory are thoroughly evaluated. The importance of ethics and confidentiality in the investigative process is highlighted.

**CJGR 615 PENOLOGY
3 CREDITS**

In-depth analysis of the use of prisons as the primary means of inflicting punishment on the criminal and the offender. As a central aspect of the course, special emphasis is placed on the study of the phenomenon of punishment and its historical, philosophical, cultural, social and economic development, among others. In turn, we examine the assumptions that seek to validate the decision of what human behavior constitutes a crime, as well as the type of punishment to be applied. Similarly, the goals, history, practices and clients of the Correction System are studied. The course also discusses the role of the police, investigators, courts, correctional institution administrators in relation to the life of the confined; as well as the public policy, the purposes, effectiveness and efficiency of the offender's rehabilitation programs and their involvement in the binomial relationship: crime/punishment. Finally, the similarities and differences between various correction systems will be established, and the role played in relation to them by the Criminal Justice System.

CJGR 620 VICTIMOLOGY

3 CREDITS

Profound analysis of Victimology, a specialized field of Criminology, which focuses in the study of crime victims and related topics. A historical and theoretical perspective of the study of Victimology is provided; including the way in which the rights of the victims have evolved, as well as the services that the State is obliged to provide to these people. Special consideration will be given to the time, space, sex, age and occupational factors involved in the criminal/victim relationship and the typologies of the victims of the crime. Some additional topics to be discussed are assessment of the level of risk to which victims are exposed, the causes of victimization, the reactions to this experience as well as the fear of crime. The interaction between victims of crime, the Criminal Justice System (their responsibilities, professional interventions, restitution or compensation); between offenders and victims; victims and justice and the emerging role of victims in the Criminal Justice System and their rights to receive services from the State through the administrative units that comprise it is also discussed.

CJGR 627 STATISTICS APPLIED TO CRIMINAL JUSTICE

3 CREDITS

This course is an introduction to statistical techniques applied in the field of criminal justice and Forensic Investigation. It requires a basic knowledge in mathematics and statistics. Study the calculation, interpretation and basic understanding of descriptive and inferential statistics measures, correlation and analysis. Students will make practical applications.

CJGR 633 CYBER CRIMINOLOGY

3 CREDITS

Exploration and critical analysis of the etiology and ethics of the cyber climber (commonly known as a hacker) from a criminological perspective; particularly, on the causes and motivations and the resulting control mechanisms. The different modalities, technologies and techniques of changing and emerging cybercrimes are studied from an interdisciplinary perspective, the. The repercussions and regulatory reactions of the State and of the corporate private sector will be studied.

CJGR 636 CORRECTIONAL PHILOSOPHY AND OFFENDER REHABILITATION

3 CREDITS

In-depth study of the main therapeutic theories and methodologies used in the treatment, crisis intervention and rehabilitation of criminals and offenders. Analysis of the ideal model of rehabilitation and the controversies that have occurred historically about the criminal phenomenon. Special consideration will be given to issues related to the methodology to be used in rehabilitation processes, such as: process planning and the techniques to be used; implementation and subsequent evaluation of interventions; team work; techniques related to the development of social and cognitive skills; models of social interaction and study of criminal and delinquent behavior in terms of their own decision-making processes. In addition, the current legislation that provides mechanisms for the rehabilitation of offenders (youth and adults) will be studied.

CJGR 637 FORENSIC BEHAVIORAL CRIMINOLOGY

3 CREDITS

This course studies the influence of crime on human behavior; taking into consideration the collection of information for analysis and presentation of evidence in legal proceedings before the court. It is based on the substantive and procedural logical understanding of the Law to carry out psychological-legal evaluations and analyzes, for the effective interaction with judges, prosecutors, defenders and other professionals of the judicial process.

CJGR 646 FORENSIC CRIMINALISTIC

3 CREDITS

Intermediate study of the criminal scene and the evidence left at the scene of the crime. It is based on the systematized scientific verification and crime as an assistant to Criminal Justice. Formal sciences are used for the deduction and analysis of the applicable theorems for the clarification of criminal cases. It includes the analysis of the facts from the point of view of the study and recreation of the scene applying the factual sciences to the field work to illustrate the Judge and the Public Ministry in the search for the causes of the crime and its perpetrator.

**CJGR 648 CRIMINAL JUSTICE AND CRIMINOLOGY RESEARCH PROJECT
3 CREDITS**

This course is aimed at the integration of the knowledge acquired and the individual choice of a defined topic of study among the areas studied in the master's in criminal justice, Criminology and Research. It constitutes an applied research experience, which logically harmonizes and articulates theories, methodologies, concepts and strategies of documentary and field research. The fundamentals of quantitative and qualitative research are analyzed in a technical way, to identify, analyze problems and identify solutions. Taking as a scenario the historical evolution and the current function of Criminal Justice, students will use their hypotheses, questions, instruments for data collection and the strategies learned to analyze them, to complete their investigation.

**CJGR 651 INTEGRATED SEMINAR OF COMPREHENSIVE EXAMINATION IN CRIMINAL JUSTICE AND CRIMINOLOGY
3 CREDITS**

Preparatory course to take the comprehensive exam in Criminal Justice, Criminology and Investigation. The degree exam is a graduation requirement for all candidates who aspire to obtain the master's degree in Criminal Justice and Criminology. The exam will be designed according to the curriculum that the student has studied.

**CMED 600 ALTERNATIVE METHODS IN CONFLICT RESOLUTION: FOUNDATIONS, THEORIES, AND PRINCIPLES IN PUBLIC AFFAIRS
3 CREDITS**

The course focuses on an analysis and discussion of the fundamentals, theories and principles that guide Mediation as an alternate method for conflict resolution. It includes an analysis of the mediator authority in conflicts resolution and the ethical dilemmas that guide professional behavior without prejudice.

**CMED 610 JUDICIAL SYSTEM OF PUERTO RICO AND ALTERNATIVE METHODS FOR CONFLICT RESOLUTION
3 CREDITS**

The course consists of an analysis of the organizational structure of the Judicial System of Puerto Rico, functions and procedures pursued in referral cases by the courts, as well as alternate methods of conflict resolutions. The study of legal terminology is also included.

**CMED 620 MEDIATION: LEGAL AND PSYCHOSOCIAL ASPECTS RELATED TO VIOLENCE IN THE FAMILY
3 CREDITS**

The course centers on an analysis of principles, procedures and negotiation of Mediation in family cases. It includes analysis of causes and manifestations in violence. An analysis of gender violence and other aspects related to violence in the family is also included.

**CMED 640 APPLIED MEDIATION TO LABOR CASES
3 CREDITS**

The course provides an analysis of theoretical and practical aspects related to the mediation process in labor relations. Emphasis is on collective bargaining, illegal practices, and procedures for claims and grievances.

**CMED 660 PRACTICUM: STRATEGIES AND TECHNIQUES APPLIED TO PUBLIC AFFAIRS
3 CREDITS**

The course deals with the practical application of knowledge, skills and abilities of Mediation as an alternate method of conflict resolution.

**COCH 104 SPORTS AND PERSONAL NUTRITION
3 CREDITS**

The course is based in the importance of healthy nutrition according with the different necessities and conditions of the athletes and sports population. Students will study about nutrients, available type of food, and the components of a well balance diet according with the food pyramid, among others. It emphasizes good nutrition to prevent diseases and enhance sporting performances. Encourage good nutrition habits for optimal physical and mental performances and overall good health. During the course there will be discussion on how to keep a caloric intake diary to balance homeostasis and use nutrition as an ergogenic source to enhance athletic performance. It is one semester.

COCH 209 BIOMECHANICS IN SPORTS PERSONAL TRAINING

3 CREDITS

The course is based in studying actual and historical scientific aspects regarding sports performance and components the affects the execution of physical activities. During the course the students shall comprehend the movement's elements that enhance the performance of the human body realizing sporting and daily physical activities.

COCH 210 BIOENERGETICS OF EXERCISE IN SPORTS AND PERSONAL TRAINING

3 CREDITS

The course is based on understanding the basic terminology of human bioenergetics and metabolism related to exercise and training. The basic energy systems available to supply adenosine triphosphate (ATP) in muscle activity during exercise and the capacity of each of them to provide (ATP) in different activities will be understood. Processes such as lactate accumulation, metabolic acidosis, and cellular manifestations of fatigue will be understood. The effects of physical training on skeletal muscle bioenergetics, and the patterns of depletion and repletion of substrates with various exercise intensities that could limit performance, will be explained. Training programs will be designed that demonstrate the metabolic specificity of training and evaluate the metabolic demands and recovery from interval training, high-intensity interval training, and combination training to improve the work-rest ratio.

COCH 211 DESIGN OF PLYOMETRIC TRAINING PROGRAMS IN SPORTS AND PERSONAL TRAINING

3 CREDITS

The course is based on understanding the basic terminology of plyometrics and explaining the physiology of plyometric exercise. Identify the phases of the stretch-shortening cycle. The components of a plyometric training program will be understood. A safe, effective, and efficient plyometric training program will be designed using the correct equipment during plyometric exercises. The correct execution of the plyometric exercises of the lower and upper body will be taught. The appropriate material will be recommended for performing the plyometrics exercises.

COCH 409 SPORTS COACHING PRACTICUM

3 CREDITS

The course allows the Coach students to use the acquired competencies during their academic preparation. This course is the mean in which the students apply the theory discussed through the last five years into practice. It should be the ideal environment to promote innovation and creativity in the development of educational experiences fomenting the future professional Coach according with the necessities they encounter. The required hours are 250 in an adequate training center.

COIS 202 COMPUTER IN EDUCATION

3 CREDITS

An introductory course aimed at acquiring knowledge about the importance of the computer as an essential tool in the process of integrating technology in education. It prepares students for education for the selection, evaluation and use of information technology and communications technology (ICT) in teaching their subject, access and communication through various information resources and the development of personal responsibility and social care, protection and violation of intellectual property and, in general, the social value of education of information technology. Through laboratory practical experiences, students will approach their computers and associated information technologies from several perspectives: the personal, to know and use in their current academic and future professional performance. From the communicative perspective, provides the opportunity to develop learning communities is a source of access to various information resources and tools to enrich their learning and student learning.

COIS 600 COMPUTER AS AN INSTRUCTIONAL RESOURCE

3 CREDITS

This course will prepare the teacher to integrate technology in the classroom. Will study typical computer models, its basic internal structure and the peripheral equipment necessary. Will present elements that teachers should consider to integrate computers as an instructional tool in their classes. The fundamentals of how the students learn through the computer and the development of an adequate instructional design in the production of computerized materials will be studied. Part of the laboratory experience will be revising computerized instructional programs on different curriculum levels, use of the information web on the Internet as an instructional tool, and the alternative of Distance Learning using the computer.

COIS 625 COMPUTERIZED SYSTEMS IN EDUCATIONAL ADMINISTRATION

3 CREDITS

Study and use of computer systems accessible to administrators with applications for the management of funds and processes. Basic concepts in computer sciences. Design, development and operation of systems of information in the field of education.

COMM 101 COMMUNICATION THEORY

3 CREDITS

Study and analysis of the processes, concepts and importance of communication from the point of view of the main humanistic and scientific theories as well as its historic and philosophical foundations. Includes definitions and models of communication, the use of language, motivation, persuasion, response and the factors that are part of communication processes. The course is developed through discussion of theories, critical analysis of situations, simulations, readings, research, and the responsible use of technology. It is offered in one semester.

COMM 102 INTRODUCTION TO MASS MEDIA

3 CREDITS

Panoramic study of the mass media. Includes historical development, organization, structure, characteristics, and analysis of social responsibility, as well as, the impact that media has over the public. The course is developed through discussions, critical analysis, readings, case analysis, presentations and the responsible use of technology. It is offered on semester.

COMM 106 GRAPHIC DESIGN FOR COMMUNICATIONS

3 CREDITS

Introduction to the design, visualization and production of graphic materials using the computer as the main tool. This course explains the basic concepts of typography and graphic design and presentations. The fundamentals and principal skills in the use of programmed digital design, as well as other uses in the production of logos, corporate images, digital design and other electronic and printed communications, are also discussed. Students will produce a portfolio of creative projects assigned throughout the course.

COMM 199 INTRODUCTION TO PRODUCTION IN DIFFERENT MEDIA

3 CREDITS

This introductory course is a requirement to the production courses of the Digital Production Program. Students will be exposed to the basic production instruments used in the preparation, construction and presentation of audiovisual materials, including production personnel, the three stages of production, audio and video recording and the equipment employed for reproduction.

COMM 201 VIDEO PRODUCTION I

3 CREDITS

Application of the production steps for the development of digital video projects. This course teaches concepts like visual composition, focal length and image exposure, among many others. It also exposes the students to the use of cameras, microphones, audio consoles and production switchers.

COMM 202 AUDIO PRODUCTION I

3 CREDITS

An introduction to sound production and editing, this course also describes the characteristics of sound and how the human brain understands it. It emphasizes in the difference between analog and digital sound, as well as in the use of the basic equipment needed for audio recordings and productions such as microphones, cables, connectors, mixing consoles, speaker systems, audio processors and the production studio, among others. Students will develop a basic proposal for a radio program and learn about different kinds of signals used in radio transmissions.

COMM 206 SCREENWRITING

3 CREDITS

This course presents a study of the different writing formats used in the communications field. Its content includes the basic elements and structures used to develop scripts for movies, television and radio programs, among others, as well as the limits of each format.

COMM 211 LEGAL AND ETHICAL ASPECTS IN COMMUNICATIONS

3 CREDITS

This course places emphasis on the analysis of the legislation, regulation and jurisprudence applicable to the communications medium of the country. This course also focuses on the professional responsibility of the communications.

COMM 212 DEVELOPMENT AND MANAGEMENT OF MEDIA ENTERPRISES

3 CREDITS

This course provides students basic skills in the development and management of a company in the field of communications. Historical and theoretical aspects are studied, and the development of strategies for the audiovisual industries.

COMM 215 DIGITAL PHOTOGRAPHY

3 CREDITS

This is a laboratory-intensive course that emphasizes communication technology, digital photography and its tools, techniques and modalities. Through class discussions and work in the laboratory the student will understand concepts and technologies such as black-and-white photography, color photography, computers, satellite, telephone and Internet transmissions, and will work on photography projects from the initial development of a concept to the final product. The course will entail one 3-hour weekly meeting at the digital media laboratory. It is offered as a full semester course.

COMM 230 FUNDAMENTAL PRINCIPLES OF JOURNALISM

3 CREDITS

The course study the main theories about the origins of journalism, its current concepts and purposes. The essential elements of codes of ethics, law and media, digital journalism, as well as different journalistic genres are also addressed.

COMM 260 INTRODUCTION TO PUBLIC RELATIONS

3 CREDITS

The study of concepts, features, functions and other components of the public relations as well as their interrelations with the media and other communication disciplines and / or marketing. Ethics and social responsibility and the main concepts of public relations in organizations are discussed, including crisis management and resolution and public relations planning.

COMM 270 INTRODUCTION TO ADVERTISING

3 CREDITS

The study of advertising concepts, functions and other components, ethics and social responsibility, and the relationship between advertising and other communication and/or marketing disciplines. Critical analysis, planning and creation for advertising is addressed including Internet advertising as well.

COMM 280 USE OF VOICE AND PROJECTION

3 CREDITS

Course directed to the knowledge of the voice and organs involved in speech, function and practical ways to achieve a proper vocal technique. The course emphasizes proper projection to achieve a compelling communication that instills credibility, clarity and accuracy for the message to be broadcast. The course combines anatomical knowledge, theoretical and practical work, exercises with diction and projection, to use what they have learned.

COMM 285 DESIGN AND PUBLICATION OF WEB PAGES

3 CREDITS

This course introduces students to tools used today to develop Web pages. The course is taught in a laboratory and includes technologies such as HTML and Content Management Systems (CMS), and other complementary technologies.

COMM 301 VIDEO PRODUCTION II

3 CREDITS

This course discusses the theory and practice of audio production and direction. Its content includes the study of the different stages of audio production and the computer programs available for sound editing. The students will complete practical exercises in the studio.

COMM 302 AUDIO PRODUCTION II

3 CREDITS

This course discusses the theory and practice of audio production and direction. Its content includes the study of the different stages of audio production and the computer programs available for sound editing. The students will complete practical exercises in the studio.

COMM 303 SOCIAL MEDIA MANAGEMENT AND VIRTUAL COMMUNITIES

3 CREDITS

This course studies the fundamental concepts of Web 2.0 and social media platforms. It includes the historical development, characteristics, applications, ethical and legal aspects, and the importance of these social platforms within the context of the community manager and social media manager. It emphasizes in the use and opportunities that social media platforms bring for planning and management of the online presence of companies and its relations with publics. It also focuses in the design and development of goals, objectives, strategies, and tactics for designing a social media plan (including social media policies or guidelines) that promotes the management of a positive online corporate reputation. The class is developed through lectures, discussions, case studies, and practical exercises (individual and groups), using social media and other online resources in a responsible way.

COMM 304 RESEARCH, MONITORING, AND EVALUATION OF SOCIAL MEDIA

3 CREDITS

Knowledge, learning, and application of the most important tools for monitor, analysis, and evaluation of virtual communities and social media platforms. The course examines the advantages and disadvantages of using quantitative and qualitative approaches for monitoring and evaluating online conversations. Students will implement the strategic social media plan, developed in COMM 303, that includes marketing, advertising and/or public relations efforts. In this class, students will demonstrate abilities to work in teams for producing content for multiple social media platforms, for managing, engaging, and monitoring communities, and finally with the presentation of an evaluation report of the social media efforts. The course provides students with skills in social media data analysis and presentation of results. The class is developed through lectures, discussions, case studies, management, monitoring, and evaluation of practical situations in virtual communities, and other group projects, using social media and other online resources in a responsible way.

COMM 306 WRITING, STYLE, AND JOURNALISM

3 CREDITS

This course presents a study of the different writing formats used in the communications filed. Its content includes the basic elements and structures used to develop scripts for movies, television and radio programs, among others, as well as the limits of each format.

COMM 307 WRITING FOR THE COMMUNICATION MEDIA

3 CREDITS

Study of the theoretical principles and the technique of scriptwriting for radio, television and cinema. Emphasis on television programs, television spots and dramatic scriptwriting by considering the structure and format of the script. Writing of scripts for short films, spots, documentaries and other communication devices. CELTX will be used for the correct script format for applications pertaining to the cinema and WORD for other media (as television, documentaries and spots).

COMM 311 INTRODUCTION TO PHOTOJOURNALISM

3 CREDITS

Study of the digital still photography camera and introduction to the digital moving image camera. Presentations of the technical aspects of photography. Technical consideration of depth of field, composition and perspective in the construction of the photograph. Introduction of the principles still photography and those of the moving image camera. Study of the main areas of photojournalism. Introduction of the technical aspects of data transference from the digital camera (of the still and moving image camera) to the computer. Presentation of basic skills of photographic retouching and study of the principles of a photographer's ethic in relation to photojournalism.

COMM 315 MEDIA WRITING

3 CREDITS

This course provides the student with the basic writing skills for the media: print, radio, television and for the social media and Internet. It will also familiarize the student with the distinctive language of advertising and public relations.

COMM 331 DIGITAL GRAPHIC DESIGN

3 CREDITS

The course is designed to provide majors in Social Communications on the Web with knowledge of great movements in graphic design. The student knows the fundamentals of graphic design, its rationale and application in the preparation of sketches, brochures, business cards and posters. In addition, it focuses on the need to find the creativity to achieve a greater responsiveness of the public they will spread the message to. The course meets twice a week and will be offered in a semester.

COMM 340 PRODUCTION, POST-PRODUCTION, AND MASTERING OF DIGITAL SOUND

3 CREDITS

The study of the principles and techniques of digital audio production. Theoretical aspects of this course present a general vision of Radio as an industry. Sound production's legal, esthetical and managerial aspects are also studied in combination with the audience, programming, script writing, equipment and production facilities. This course emphasizes on content production. Students will create programming by handling industry standard software. The nature of sound and its theoretical principles will be used in the recording, editing and broadcasting processes for the radio, video and web.

COMM 341 DIGITAL SOUND MASTERING

3 CREDITS

In this advanced course, students will use their knowledge of the sound industry to mix various channels in a studio setting, postproduction, and live sound editing. The students will use their knowledge acquired from previous courses to master the use of processors, consoles, and equipment used in final mixing. This course will allow students the opportunity to create entire audio projects that are up to the standards of the industry, while using the equipment provided to the fullest. These projects will encompass a variety of uses in media, including but not limited to: music, film, and overall audio design. The students will use the standard software within the audio industry such as: Audacity, Pro Tools, GarageBand, Logic, Audition, and Fruity Loops.

COMM 355 WRITING FOR PUBLIC RELATIONS

3 CREDITS

The course studies the definition and structure of the most used texts in the field of public relations, including press releases, blogs, speeches, social networking, press kits and handbook for crisis management. The basic techniques for writing and editing are also addressed.

COMM 380 PRINCIPLES OF RADIO

3 CREDITS

This course will study the radio as a social communication medium: its social and historical context, and the theoretical and practical aspects. Radio programming, strategies for programming and the basic equipment for radio broadcasting are also addressed.

COMM 381 TELEVISION PRINCIPLES

3 CREDITS

Theoretic and practical study of television as a communication means. Study of the basic concepts of Television Studies as are the television text, the nature of televisual language, the televisual sign, television audiences and the history of television as a communication means. Introduction of television production basic concepts in and/or outside the studio. Basic study of the computer in the process of television production. Basic Study of television locution and speech. Study of the skills for the creation of televisual scripts and proposals.

COMM 385 RADIO PRODUCTION AND DIRECTION

3 CREDITS

This course is a practical workshop intended so students can develop aptitudes and experience in the use of audio equipment. Concepts such as: recording and mixing music, multi-level recordings, the creation of scripts for educational, news, and variety programs; and the preparation of commercial and public service announcements and advertising- will be presented and analyzed in class.

COMM 390 STRATEGIC MEDIA PLANNING

3 CREDITS

Theoretical and methodological foundations of strategic media planning in advertising are studied as well as the market and its components. Students will elaborate, with the guidance of the professor, a strategic media plan for advertising presenting at least one of the methodologies used for design, implementation and evaluation.

COMM 404 FINAL PROJECT

3 CREDITS

The student develops a final project in their area of expertise or expected professional practice, in which demonstrates the knowledge acquired in their education. This process will be completed under the supervision of the professor and through the service to a real client. The course promotes the practical experience of producing a project for distribution or publication in written, electronic or digital media.

COMM 420 PRODUCTION AND POST-PRODUCTION OF DIGITAL VIDEO

3 CREDITS

The course studies the definition and structure of the most used texts in the field of public relations, including press releases, blogs, speeches, social networking, press kits and handbook for crisis management. The basic techniques for writing and editing are also addressed.

COMM 425 MULTIMEDIA PRODUCTION

3 CREDITS

This course focuses on the study and practice of different digital media that relate graphic design, web pages, photography and video. It presents the development of the creative arts directed towards the new media that converge today and its application in the computer graphic arts. In addition, it addresses the complexity of multimedia production, in its design aspects and its technical resolution in hardware and software.

COMM 431 JOURNALISM WORKSHOP

3 CREDITS

This course comprises an advanced journalism workshop. At the end of the course students will be able to understand the meaning and be able to write news articles, investigative reports, chronicles, and conduct interviews.

COMM 435 CRISIS COMMUNICATION IN PUBLIC RELATION

3 CREDITS

Study of fundamental theories of crisis communication as well as the essential elements and the relationship between organizational crisis and media and leadership in crisis management. They will also study historically relevant cases, the communication management of organizational crisis and crisis management of these different types of responses. A plan of prevention and crisis communication in organizations is developed.

COMM 445 ADVERTISING CAMPAIGNS

3 CREDITS

Analysis of cases of Advertising in organizations. Diagnosis of Advertising in organizations, and using this as a basis, students will undertake the design, implementation and evaluation of advertising campaigns, with the advice of the professor.

COMM 446 ADVERTISING CAMPAIGNS

3 CREDITS

Analysis of cases of Public Relations in organizations. Diagnosis of Public Relations in organizations, and using this as a basis, students will undertake the design, implementation and evaluation of PR campaigns, with the advice of the professor.

COMM 450 SUPERVISED PRACTICUM

3 CREDITS

Required course as a part of the program's concentration. The student will work at a business or studio related to the degree in communications during a full semester. This course will permit the student opportunities to put in practice what they have learned while completing their bachelor's degree. This will be a real work experience where the student will have the chance to put their skills in communications to use. The student will complete a total of 150 hours: 120 hours in the work scenario while also completing 30 hours of required meetings with the professor in charge of the course. This will be coordinated in collaboration with private and public agencies in the field of communications. By the end of the course the student will have completed a portfolio which will be turned in as their final project.

COMM 510 CONTEMPORARY THEORIES OF COMMUNICATION

3 CREDITS

Study of concepts, models and communication epistemology and the history of the theories of communication as foundations of contemporary communication. Application of contemporary paradigms of theories of communication to the communication disciplines. Study of the principal theories of communication in organizations and analysis of applications of the theories studied in multimedia journalism and / or public relations.

COMM 511 DEVELOPMENT AND MANAGEMENT OF MEDIA ENTERPRISES

3 CREDITS

The course provides students with the theoretical frameworks on management of mass media; organization and behavior of firms (newspapers, magazines, radio, television, film, music); industry analysis and market structure, and business challenges presented by the Internet and media convergence.

COMM 515 RESEARCH METHODS IN COMMUNICATIONS

3 CREDITS

Study of scientific knowledge and research and its applications to communication sciences. Analysis and application of different types of communication research. Development of the theoretical framework for communication research. Study of the quantitative and qualitative communication research, and the design and implementation of these techniques. Analysis of the concepts of universe, reliability and representativeness of the samples. Application of different methodologies to conduct communications research. Design of communication research projects, principally in multimedia journalism and public relations.

COMM 517 COMMUNICATIONS AND NEW MEDIA

3 CREDITS

Study of the concepts of globalization, the information society and that of the postindustrial society as the social context of the new media. Study of the INTERNET as a communication's new media and of postmodernism as the cultural logic of the information society, its postindustrial expression, globalization and the new media. Presentation of the history of the society of information and the turn of the XX Century as the catalytic of the new media and its cultural and social logics.

COMM 520 ADVANCED WRITING FOR THE MEDIA

3 CREDITS

The course studies the particularities of traditional and new media and its impact on writing for the media. The new demands in the digital era are also explored. The course studies the structures for news, press releases, speeches and messages for social networking. It also discusses the changes in the distribution and consumption of these products by the audience.

COMM 530 IDENTITY AND CORPORATE IMAGE

3 CREDITS

The course studies the components of identity and corporate image, as well as steps for developing the brand that distinguishes the organization are studied. The socio-historical development of the image, identity and reputation like its evolution in the digital era is analyzed. The interaction of different disciplines that interact and collaborate in the process of building identity and corporate image is also studied.

COMM 535 CRISIS COMMUNICATION

3 CREDITS

The course studies the public relations crisis experienced by organizations. Also, analyze the causes and steps to create a communication plan to run during crisis and how to learn from past crisis. The course also studies strategies to prevent crisis, including the use of digital platforms as part of the plan.

COMM 537 STRATEGIC COMMUNICATION IN PUBLIC RELATIONS

3 CREDITS

The course studies the components for the development of a strategic communications plan for an organization, using research and selecting targets and precise tactics to various audiences, including the media. Also studies how to identify a spokesperson for the organization as well as the skills necessary to be an effective communicator for the entity.

COMM 538 STRATEGIC DIRECTION OF PUBLIC RELATIONS AND DIGITAL CONVERGENCE

3 CREDITS

Study of the components of public relations and digital convergence. Audits of public relations as a basis for conventional and digital strategic direction. Application of digital techniques and traditional communication in public relations. Design and development of a strategic public relations plan, with emphasis on digital convergence.

COMM 550 PROJECT

3 CREDITS

In the course, students will conduct a communicational project according to their specialty area (Multimedia Journalism or Public Relations), integrating the knowledge, abilities and skills acquired at the University during his graduate studies.

COMM 806 THE MEDIA GLOBALIZATION

3 CREDITS

The course analyzes of the forms and characteristics of media culture in the first part of the XXI Century as they are directly related to the development of international capitalism. It studies the concepts of spectacle, simulation, and performance as foundational elements of contemporary culture. The course studies the world aesthetics in traditional media (film, radio and/or television) and new media (Internet) as these are a reflection and reflect the characteristics of international capitalism. Analyzes globalization and neoliberalism as the institutional matrix of the postmodern restructuring of contemporary capitalism from which the cultural forms of contemporary society stem from.

CPSY 601 FOUNDATION TECHNIQUES IN COUNSELING PSYCHOLOGY

3 CREDITS

The aim of this course is to discuss the historical development, the fundamental components and the ethical principles of Counseling Psychology.

CPSY 602 COUNSELING MODELS AND TECHNIQUES

3 CREDITS

This course provides the link between the theories of personality, theoretical models and the psychological counseling process focusing on evidence-based practices.

CPSY 605 PSYCHOLOGICAL INTERVENTIONS WITH CHILDREN AND ADOLESCENTS

3 CREDITS

Principle psychopathological disorders and evidence-based treatment therapies for children and adolescents. Ethical issues related to them. Due to its importance to contemporary society, a section about child abuse will be included.

CPSY 615 COGNITIVE THERAPY

3 CREDITS

Principles of cognitive therapy and their applications in counseling psychology.

CPSY 625 SEXUAL ASSAULT COUNSELING

3 CREDITS

Study of the dynamics of sexual abuse, sexual assault and sexual harassment. It includes and introduction to the psychological counseling techniques for the treatment of children or adult victims of sexual abuse, sexual assault or sexual harassment.

CPSY 630 CAREER AND OCCUPATIONAL COUNSELING

3 CREDITS

The course incorporates theory and practice in such a way that knowledge previously acquired could be applied to different settings, students will be related to a countless career counseling theories, techniques and concepts of life planning, as well as to guide for implementing and evaluating career counseling through lifespan programs.

CPSY 700 ATYPICAL SEXUAL BEHAVIORS

3 CREDITS

Analysis of atypical human sexual behaviors: etiologies and treatment modalities. Etiology and therapeutic treatment and management of sexual offenders.

CPSY 710 ANIMALS AS CO-THERAPISTS

3 CREDITS

Study of the relationships and interactions produced between humans and animals / pets; the benefits it has over the mental, physical and emotional well-being; it's history and development encased within an interdisciplinary approach. Study of scientific research, models, conceptual frameworks and theories in order to broaden knowledge and the skills focused on the modality of Animal Assisted Therapy.

CPSY 720 PSYCHOLOGICAL COUNSELING IN CASES OF DRUG/ALCOHOL ABUSE

3 CREDITS

This course will study and analyze the theoretical models and the techniques used in the counseling of alcohol and drug abusers.

CPSY 728 PSYCHOLOGICAL INTERVENTION WITH LGBTT INDIVIDUAL

3 CREDITS

This course provides an extensive view of the lesbian, gay, bisexual, transgendered and transsexual (LGBTT) sexual orientations; emphasis is given in sexual identity development models as well as specific psychological needs of these persons. Critical analysis about assessments and evidence-based psychotherapy interventions. Additionally, it will allow the student to become sensitive to LGBTT individuals.

CPSY 730 ETHICS

3 CREDITS

Critical analysis of the ethical and legal standards, in the state and federal levels, that regulate the professional practice of psychology in Puerto Rico. Discussion of the responsibility of the psychologists to know and observe the norms established by the regulating agencies such as the Junta Examinadora de Psicólogos de Puerto Rico, the laws that regulate the professional practice, the jurisprudence and the Codes of Ethics that professional organizations have established to practice the profession.

CPSY 738 SEXUAL COUNSELING AND THERAPY

3 CREDITS

This course will present the basic concepts of human sexual behavior: the history of sexuality, the human sexual response and sexual dysfunctions as stated in the DSM. In addition, it will present the basic sexual therapeutic interventions for such dysfunctions as well as sexual counseling.

CPSY 740 ANIMAL BEHAVIOR AND THE HUMAN ANIMAL BOND EVOLUTION

3 CREDITS

In this course the main aspects of human and animal behavior are discussed; and interactions based on the fields of psychology and anthrozoology. They include the history, the evolutionary process and the current situation of human-animal interactions. In addition, aspects of animal rights and welfare tempered to the environment of Puerto Rico are discussed. It includes a comprehensive discussion of the similarities and differences between humans and animals, emphasizing: learning, motivation, emotions, empathy, language, communication, cognition, behavior, morality, and problem solving. The relationship between cruelty to animals and violence to humans is discussed. Finally, ethical and moral issues about human-animal interactions and training needs for companion animals are reviewed.

CPSY 741 THERAPY ANIMALS, THEIR POTENTIAL AND OUR RESPONSABILITIES TOWARD THEM

3 CREDITS

This course is designed so that students from various professional fields can expand their knowledge and explore opportunities in this emerging and multidisciplinary field. The different animals that are part of the therapeutic interventions are investigated. It includes an in-depth discussion of the specific qualities, strengths and weaknesses of these animals and the context for their intervention. Guidelines, best practices and ethical responsibilities to be observed in professionals who use animals in their therapeutic interventions are evaluated. Finally, the laws on their training and the care necessary to maximize their therapeutic potential are analyzed.

**CPSY 742 APPLICATIONS AND PRACTICE OF ANIMALAL ASSISTED INTERVENTIONS
3 CREDITS**

In this course the student focuses on exploring, understanding and applying the theoretical foundations of Animal Assisted Therapy in different areas of health professions. Theories, models and research are discussed and examined in terms of the professional area of the student and how to integrate animals into practice. It includes the discussion and implementation of specific intervention models. Finally, the student can be certified as part of the team of professionals who use the integration of animal-assisted activities and implement interventions in their practice.

**CPSY 804 PROFESSIONAL ISSUES IN COUNSELING PSYCHOLOGY
3 CREDITS**

Critical revision of the history of Counseling Psychology and Health Service Psychology, and the relationship with other health professions. Analysis of issues related to professional practice, licensing, certification, responsibility, roles and identity of the psychological counselor; organizations and professional journals.

**CPSY 832 EVIDENCE BASED PRACTICES IN INDIVIDUAL COUNSELING
3 CREDITS**

This course provides an advanced examination of individual counseling. Classic models of counseling are explored and their appropriateness in various case studies are evaluated. Concepts and techniques from major therapeutic approaches are explored.

**CPSY 833 ADVANCED GROUP COUNSELING
3 CREDITS**

This course provides an advanced examination of individual counseling. Classic models of counseling are explored and their appropriateness in various case studies are evaluated. Concepts and techniques from major therapeutic approaches are explored.

**CPSY 834 MARRIAGE AND FAMILY COUNSELING
3 CREDITS**

This course presents the foundations of marital and family counseling. The students will study the emergence and the tenets of the major theoretical constructs in marriage and family counseling including psychoanalytic, behavioral, experiential, strategic and structural models. The specific therapeutic interventions derived from these models are evaluated.

**CPSY 904 ADVANCED PRACTICUM I
3 CREDITS**

The course is a didactic and experiential training intended to strengthen the development and consistent application of interpersonal skills in advanced practice. Emphasis is placed on the systematic and critical analysis of interpersonal skills of students and their implications for the therapeutic relationship. The course will provide an advanced link to the graduate student with the principles of the case conceptualization to the process of psychological counseling.

**CPSY 907 ADVANCED PRACTICUM II
3 CREDITS**

Didactic and clinical experience approach in enhancing the skills related to case conceptualization and treatment planning based on evidence-based practices. A minimum of 300 hours of clinical practice (250 at the practicum site, 30 hours of course meeting for didactic and 20 hours of research experience) are required.

**CPSY 908 ADVANCED PRACTICUM III
3 CREDITS**

Didactic and clinical experience approach in enhancing the skills related to case conceptualization and treatment planning based on evidence-based practices. A minimum of 300 hours of clinical practice (250 at the practicum site, 30 hours of course meeting for didactic and 20 hours of research experience) are required.

**CPSY 909 ADVANCED PRACTICUM IV
3 CREDITS**

Didactic and clinical experience approach in enhancing the skills related to case conceptualization and treatment planning based on evidence-based practices. A minimum of 300 hours of clinical practice (250 at the practicum site, 30 hours of course meeting for didactic and 20 hours of research experience) are required.

**CPSY 957 DOCTORAL PROJECT I
3 CREDITS**

Students will develop a scholarly project based upon their interests through which they complete an in-depth analysis of a clinical case or of a critical topic in the field of Professional/Counseling Psychology. The project will focus on the practical applicability of the scientific knowledge collected for the project. An Intensive Case Study may satisfy this requirement. A theoretical analysis of a particular problem within Counseling Psychology may also be used as a mechanism to fulfill this requirement. Through any of the different methods available, the student will demonstrate command of the scientific literature. The student will also demonstrate the ability to translate statistical information into clinically and professionally useful information to the practice of Counseling Psychology. The first of two required blocks is designed to produce an approved proposal. The determination of the theme of the project and the literature review will become the major component of the Doctoral Project. The methodology to be implemented for the project is to be designed during the semester.

**CPSY 957-1 CONTINUATION OF DOCTORAL PROJECT I
3 CREDITS**

Extension period to complete the doctoral project.

**CPSY 958 DOCTORAL PROJECT II
3 CREDITS**

Students will continue to develop a scholarly project based upon their interests through which they complete an in-depth analysis of a clinical case or of a critical topic in the field of Professional/Counseling Psychology. The project will focus on the practical applicability of the scientific knowledge collected for the project. An Intensive Case Study may satisfy this requirement. A theoretical analysis of a particular problem within Counseling Psychology may also be used as a mechanism to fulfill this requirement. Through any of the different methods available, the student will demonstrate command of the scientific literature. The student will also demonstrate the ability to translate statistical information into clinically and professionally useful information to the practice of Counseling Psychology. The first of two required blocks is designed to produce an approved proposal. The determination of the theme of the project and the literature review will become the major component of the Doctoral Project. The methodology to be implemented for the project is to be designed during the semester.

**CPSY 958-1 CONTINUATION OF DOCTORAL PROJECT II
3 CREDITS**

Extension period to complete the doctoral project.

**CPSY 961 INTERNSHIP COUNSELING PSYCHOLOGY PART TIME
3 CREDITS**

Required course for all Counseling Psychology doctoral candidates that will begin a part time internship. The internship should begin within the months of July or August and end after a two full year from the exact date of the beginning of the internship. The student will complete a minimum of 2000 hours in two years, in which the 25% will be in direct face to face contact with clients/patients. The intern will receive a minimum of two hours of individual supervision per week by a licensed doctoral level counseling or clinical psychologist that will be responsible for the cases and actions of the intern. The intern will be at the internship center for 20 hours per week. The intern will pay an internship fee of \$2,000.00 that can be paid in four installments at the beginning of each semester. The passing grade will be given after the completion of all the requirements of the internship established in the Internship Manual. A student in an internship program is classified as a full-time student.

**CPSY 962 INTERNSHIP COUNSELING PSYCH FULL TIME
3 CREDITS**

Required course for all Counseling Psychology doctoral candidates that will begin a part time internship. The internship should begin within the months of July or August and end after a two full year from the exact date of the beginning of the internship. The student will complete a minimum of 2000 hours in two years, in which the 25% will be in direct face to face contact with clients/patients. The intern will receive a minimum of two hours of individual supervision per week by a licensed doctoral level counseling or clinical psychologist that will be responsible for the cases and actions of the intern. The intern will be at the internship center for 20 hours per week. The intern will pay an internship fee of \$2,000.00 that can be paid in four installments at the beginning of each semester. The passing grade will be given after the completion of all the requirements of the internship established in the Internship Manual. A student in an internship program is classified as a full-time student.

CRED 201 ENTREPRENEURSHIP AND SELF-EMPLOYMENT IN RECREATION

3 CREDITS

Review of commercial recreation programs and services offered for profit. Analysis of the structure of these programs and services and that establish the foundation for entrepreneurship and self-employment in recreation: Social needs that they serve, programmatic philosophies, vision, mission, goals and objectives that they pursue, programs and services that they commercialize, sources of income and expenses, administrative structures, and job skills required of employees.

CRED 202 EVENTS COORDINATION

3 CREDITS

Study of common commercial sport events with the purpose of assessing those tasks that help for a better coordination of activities such as: marathons, triathlons, sport festivals, athletic events, children, and adult game festivals. Structure analysis of those related services, which include social needs, programmatic philosophies, vision, mission, goals, and aims pursuing commercial services, income sources and expenses, administrative structures, and needed labor skills.

CRED 203 DEVELOPMENT OF SMALL BUSINESS IN RECREATION

3 CREDITS

Study of the basic factors in developing a small business in recreation: business conceptual model and its viability, business plan, investment estimate, cost recovering, and project media strategies. The student is guided through the process of developing an own recreation business. Through the course, students would be able to get into communication with financial officials to know recreation and sports' business financing requirements.

CRED 204 MEDIA, SOCIAL NETWORKS AND RECREATIONAL AND SPORTS ENTREPRENEURSHIP

3 CREDITS

Analysis of the media and the uses of social networks as an instrument to publicize recreational and sports management. Study of common media practices in social networks with the aim of undertaking recreation and sports.

CRIM 103 INTRODUCTION TO CRIMINAL JUSTICE AND CRIMINOLOGY

3 CREDITS

This course is based on the study of the origin, development and history of the Criminal Justice system in Puerto Rico. Explore the influence that the development of the study of Criminal Justice as a matter has had on the creation and evolution of Criminal Justice Systems in the world. It examines the basic aspects and functions of the police, courts, defense lawyers, prosecutors, correction facilities and juvenile justice system, highlighting the importance of these components in our Justice System. It invests in the Public Policy of our Criminal Justice System to combat the criminal phenomenon in our country. It includes the study of crime, its definition, scope and the factors associated with it. Apply the theories used to explain the etiology of criminal behavior in the subject. Likewise, we analyze the effects of crime on our society and the mechanisms that our Justice System uses to reduce them.

CRIM 104 INTRODUCTION TO FORENSIC INVESTIGATION

3 CREDITS

Introductory course of the procedures and techniques used in forensic investigation, focusing in the important aspects of the analysis of the crime scene. The basic principles and concepts used by the professional forensic field are discussed. The students will have the opportunity to apply their knowledge with practical exercises in Forensic Field Investigation.

CRIM 115 ETHICAL ASPECTS OF JUSTICE

3 CREDITS

This course studies the principles and ethical theories that guide the individual decision-making process within the Criminal Justice System. The laws that regulate individual and professional ethical behavior are also discussed and the use of conferences and research in jurisprudence.

**CRIM 200 CONSTITUTIONAL LAW
3 CREDITS**

The course is an introduction to the constitutional development of Puerto Rico, with emphasis on civil rights provisions in the Constitution.

**CRIM 203 CRIMINAL LAW
3 CREDITS**

Study of the Criminal Code of Puerto Rico related in the crimes, penalties and security measures in the application of the criminal law. Discussion and analysis of judicial case studies.

**CRIM 204 SPECIAL CRIMINAL LAWS
3 CREDITS**

The course focuses on the study of special criminal laws regulating criminal conduct in Puerto Rico, including youth law and laws covering juvenile offenses, using case study and current jurisprudence as a tool. Based on the study of the origin, development and history of criminal laws of the criminal justice system in Puerto Rico, it seeks to explore the influence that the development of the study of special laws as a matter has had on the creation and evolution of our justice system.

**CRIM 206 CRIMINAL PROCEDURE
3 CREDITS**

This course is a study of the established procedures for the treatment of lawbreakers. Also covered are the criminal procedures to be followed in the investigation, arrest and the corrective measures applied. Attention is also given to civil rights and key decisions of the Supreme Court.

**CRIM 212 PROBATORY LAW AND EVIDENCE
3 CREDITS**

The course consists of the study and analysis of the Puerto Rico Rules of Evidence in force. These govern the procedures, both of a civil and criminal nature, before the judicial bodies of our country. It is designed to develop a better understanding of the fundamental concepts of Evidentiary Law. Emphasis on judicial knowledge, presumptions, admissibility and relevance of evidence, privileges, credibility and challenge of witnesses, expert opinions, reference evidence, authentication and identification, writings, photographs, recordings, demonstrative evidence, among others. Electronic evidence and data are important in court. In addition, the knowledge acquired in other courses such as: Criminal Law, Criminal Procedure and Constitutional Law, in the matter of evidence is integrated.

**CRIM 305 PUERTO RICO CRIMINAL JUSTICE SYSTEMS
3 CREDITS**

An overview of the criminal justice systems in Puerto Rico. Comparative approach to the legal framework, the system's structures, functions, procedures, relation to other institutions and its role in democracy.

**CRIM 320 CRIMINAL INVESTIGATION
3 CREDITS**

Study of the origin and evolution of criminal investigations and its application to Puerto Rico. Analysis includes the process of the investigation of the scene of the felony to the judicial process. The course examines basic techniques of scientific interviews, cross examination, and other modern methods for crime investigation.

**CRIM 325 JUVENILE DELINQUENCY IN PUERTO RICO
3 CREDITS**

Definition of the problem of juvenil delinquency in Puerto Rico. Study of the social, cultural, psychological and legal aspects: causes and prevention; procedures, rules and treatment approaches of the juvenil delinquent. Definición del problema de la delincuencia juvenil en Puerto Rico.

**CRIM 327 CORRECTIONAL PROGRAMS: ADMINISTRATIVE PRINCIPLES
3 CREDITS**

The course deals with the principles of the correctional system in Puerto Rico: philosophy, legal framework and regulations. Topics include structures, functions and procedures in the administration of penal institutions, the parole program, the adult probation system, the classification program, the diagnosis and treatment of inmates. The area of custody programs and treatment of minors is also discussed.

CRIM 328 FORENSIC INVESTIGATION TECHNIQUES

3 CREDITS

Study of research techniques used in the forensic field. The methods used for the analysis of criminal conduct and the evidence left by the criminal at the crime scene are studied. Emphasizes is given to the process of collecting and packaging evidence at the crime scene, specifically the evidence related to DNA, ballistics, fingerprints, testimony, among others. Students will learn how to correctly perform the process of preparing documentation and evidence to be presented before a magistrate.

CRIM 333 PREVENTION AND SOCIOLOGICAL ASPECTS OF CRIMINAL BEHAVIOR

3 CREDITS

Sociological, etiologically-based, study of criminal behavior. This course emphasizes in the analysis of the criminal phenomenon, based on sociological and criminological theories of crime. Students will analyze the individual and collective effects of crime. They will also develop proposals and discuss the public policies related to prevention, intervention and treatment of crime worldwide.

CRIM 350 REHABILITATION AND CORRECTIONAL SYSTEMS OF PUERTO RICO

3 CREDITS

Principles of the correction system in Puerto Rico, its philosophy, legal bases, organization and administration of correctional facilities. Included are the areas of penal institutions, community programs, the parole board, community rehabilitation, the bureau of evaluation and counseling, treatment programs, assistance for people confined to penal institutions and the penal officer's group.

CRIM 425 APPLIED CRIMINALISTICS

3 CREDITS

The Course consists of the study of the origin and development of forensic sciences based on the different types of evidence used in criminal investigation. Emphasis is placed on the importance of the preservation and management of evidence in the judicial process. Topics such as the definition and scope of forensic sciences are included. His study and application of scientific technique in criminal research, from an updated and directed approach to research specialized in scientific-legal techniques.

CRIM 432 CRIMINAL TECHNOLOGY, FRAUD, AND CYBER CRIMES

3 CREDITS

This course aims to familiarize students with fraud and its definition in the Penal Code, as well as offenses to which the term applies. Also consider the terms for the inhabitants of Cyberspace. Students will learn to apply search and tracking of evidence on computers and digital equipment. Work also includes how to identify, preserve, package and present such evidence in a legal and proper scrutiny in the preservation of the Chain of Evidence, as well as the study of Federal Law, State & International, applied in the digital computer fraud.

CRIM 435 INVESTIGATION AND LEGAL INFORMATICS

3 CREDITS

Study and analysis of procedures stages in the evidence collection process for preparing cases, reports and presentation of testimony in courts.

CRIM 436 FORENSIC SCIENCES

3 CREDITS

Study of the basic principles of the auxiliary sciences of Criminal Law. Emphasizes the application of science to legal proceedings in the Criminal Justice System, work on issues related to toxicology, anthropology, pathology, chemistry, physics, dentistry, among other disciplines, from a forensic perspective. Applies scientific knowledge to the legal context for the training of forensic expert thinking.

CRIM 475 SUPERVISED PRACTICUM

3 CREDITS

The course is an academic experience through which the student will have the opportunity to apply the knowledge, skills and values acquired in the theoretical courses. The student will be able to address a problem of contemporary social and criminal justice, using analysis and theoretical application, to provide recommendations aimed at resolving it.

CRJU 510 LAW AND SOCIETY

3 CREDITS

The course deals with the relationship between law and society. It centers on a theoretical and investigative vision of our legal system and procedural and substantive aspects of the legislative process. A discussion of the influence of social factors in the approval process of the law, vis-a-vis the influence of the law on societal changes will be included.

CRJU 600 VICTIM: CRIME, PRACTICES, AND SOCIETY

3 CREDITS

The course focuses on an analysis of the responsibility of the state in protecting the life and property of its citizens. It will examine the possibility of the state compensating the victim of a crime for damages resulting from the criminal act. It will also look at the doctrine of restitution, compensation for damages by the offender, as part of a sentence intended to alleviate the impact of the damages and as part of the rehabilitation process of the criminal. Policies and practices regarding this issue in other jurisdictions will be comparatively analyzed.

CRJU 630 TECHNIQUES FOR THE ORGANIZATION AND ADMINISTRATION OF THE POLICE

3 CREDITS

The course deals with the study of the organization and administration of the Puerto Rican police force. Emphasis is placed on organizational theory, administrative techniques, and procedures, as well as police administration and supervision programs. It analyzes alternative objectives, strategies, programs, institutional approaches, roles, perspectives and interagency relations of the police.

CRJU 635 MENTAL HEALTH AND LAW

3 CREDITS

The course centers on an analysis of the relationship between the mental health system and the law. It includes an in-depth look at the application of behavioral sciences techniques to the legal framework. Discussions concerning aspects such as diagnosis, risk, treatment, hospitalization, and mental disability viewed from a psycho-legal perspective, as well as the rights and responsibilities of institutional clients, their employees and the state, will also be included.

CRJU 640 ADDICTION PROBLEMS: LEGAL AND PSYCHOSOCIAL ASPECTS

3 CREDITS

The course deals with the study of the medical-legal aspects of drug addiction and alcohol abuse. It includes an analysis of the legal structure, from the framework of state and federal laws in the use and abuse of drugs and alcohol. Legislation, treatment and prevention programs will also be discussed.

CRJU 645 COMPARATIVE CORRECTIONAL SYSTEMS

3 CREDITS

The course consists of a comparative study of correctional systems in Europe, the United States, Canada, Latin America and Japan. The study will be carried out from the perspectives of historical development, administrative organization, correctional philosophy, human resources, and treatment and rehabilitation programs for inmates. It will also consider the administrative and judicial mechanism to protect the rights of inmates, as well as post-prison assistance. Trends and prison reforms in each country will also be reviewed.

CRJU 715 SEMINAR: PARTICULAR SITUATIONS IN THE ADMINISTRATION OF CORRECTIONAL PROGRAMS

3 CREDITS

The course focuses on an analysis of the correctional scenario, including the psychological, administrative, and disciplinary perspectives. Students will explore the subculture of the penitentiary and how it is manifested. This course will focus on themes, situations, controversies, and problems inherent in this scenario, scientific findings, program dynamics and decisions or legislation which impacts the correctional system.

CUST 701 CULTURAL, POSTCOLONIAL AND SUBALTERN STUDIES

3 CREDITS

This course studies the theoretical relationship among cultural studies, postcolonial studies, and subaltern studies. It also emphasizes medullary concepts of these areas of studies. Additionally, the discourse of affirmation, representation, and resistance of colonial and subaltern subjects will be examined. As a part of this dynamic study, nationalism and feminism as expressions within the colonial and subaltern context will be discussed and analyzed.

CUST 702 PHILOSOPHY, HISTORY AND LITERATURE: AN APPROACH TO THE READING OF THE CULTURAL PRODUCTION

3 CREDITS

From a historical and theoretical perspective, this course studies theoretical images reproduced in contemporary culture. Also, it examines symbolic cultural elaborations and the historical condition of the organization of image study in today's culture.

CUST 800 METHODS AND RESEARCH IN CULTURAL STUDIES I

3 CREDITS

The first part of this course is an exploratory study of the 'discourse on method' and its translation as 'method of discourse' in Cultural Studies in relation to the institutional and onto-epistemological category of truth. It studies the methodological tools that the 'epistemological slide' contained in the analytical category of discourse provides to the production of knowledge in Cultural Studies. It examines semiotics, discourse analysis, deconstruction, archeology and genealogy as methodological instruments of Cultural Studies. The idea of knowledge as its relation to ethics, history and the figure of the analyst in semiotics, discourse analysis, deconstruction, archeology and genealogy is also studied.

CUST 801 METHODS AND RESEARCH IN CULTURAL STUDIES II

3 CREDITS

The second part of the course explores the 'discourse on method' and its translation as 'method of discourse' in Cultural Studies in relation to the institutional and onto-epistemological category of truth. It studies the methodological tools that the 'epistemological slide' contained in the analytical category of discourse provides to the production of knowledge in Cultural Studies. It examines reading formations, iconography, ethnography, writing and the text as methodological instruments of Cultural Studies. The idea of knowledge as its relation to ethics, history, and the figure of the analyst in Cultural Studies in reading formations, iconography, ethnography, writing and the text is also studied.

CUST 802 SEMINAR ON RESEARCH IN CULTURAL STUDIES I

3 CREDITS

This seminar examines the different approaches to research in Cultural Studies. It analyzes the disciplinary, interdisciplinary, and anti-disciplinary research models in Cultural Studies. The course evaluates the differences between critical, traditional, and Cultural Studies theorizing. In addition, this seminar equips the student with the methodology and the necessary skills for the design of a research proposal in Cultural Studies.

CUST 803 SEMINAR ON RESEARCH IN CULTURAL STUDIES II

3 CREDITS

This is an advanced writing seminar that continues examining the different investigation modes in Cultural Studies. It equips the student for academic writing and research that focus on publishing. The student develops analytical and critical thinking skills in order to produce coherent and ethical scholarly papers. In addition, the seminar includes the ethnical aspects for effective academic writing and publication.

CUST 805 CULTURAL APPROACHES TO GENDER STUDIES

3 CREDITS

This course addresses gender studies from a cultural perspective. It implies an interdisciplinary approach, from where to explore key concepts in gender studies such as the construction of gender identities and sexuality, its ideologies, policies and representations. The course uses biological, theoretical, and historical perspective concepts in order to analyze the cultural construction of gender and sexual identities.

CUST 807 HISTORY AND LITERATURE

3 CREDITS

This course studies history through selected literary texts. It aims to examine literary narratives from a historical perspective. It analyzes social reality beyond the texts and links the extra-textual reality of both writers and readers. It also analyzes the narrative structure of history, and examines history and literature as a cultural artifact

CUST 808 METROPOLIS-COLONY RELATIONS: A POST-COLONIAL APPROACH

3 CREDITS

This course studies the political, material, economic, and cultural interactions within the metropolis-colony relationship by analyzing the effects of this phenomenon from both frontiers or worlds. It examines the origins and developments of the metropolitan political relationship by exploring the adjustments or reformulations from the beginning of such policies until the present. The course also emphasizes the postcolonial and subaltern discourse and their relationships to power in the metropolis-colony.

CUST 809 GEOPOLITICS AND GEOCULTURE IN THE ERA OF GLOBALIZATION

3 CREDITS

The course analyzes the existence and development of the world-system in the contemporary world. It studies the geoculture as a new field in the global system. The course also examines the development of imperialism during the XIX and XX Centuries and the changes generated by globalization in the contemporary world from a postcolonial perspective.

**CUST 901 OPEN SEMINAR IN CULTURAL STUDIES I: FILM THEORY
3 CREDITS**

The course analyzes the possibilities of cinema and the ethical parameters available within them, so as in the contemporary condition of cinema. Study of Jean Luc Godard's work as an expression of the ethical, political and aesthetic possibilities of cinema. It explores the imagination as an ethical, political and aesthetic concept.

**CUST 902 OPEN SEMINAR IN CULTURAL STUDIES II: MEDIA SEMIOTICS AND PERFORMANCE
3 CREDITS**

This seminar studies and analyzes the production processes of different meanings in the media. Diverse aspects produced by the media in the contemporary visual world will be addressed through a semiotic perspective. Through a thorough study of media products, the seminar identifies and analyzes the fabrication of meanings in media discourse and the latest theoretical and interdisciplinary proposals in art: performance. The course culminates with a comparative study between media and performance.

**CUST 904 CULTURE AND PERFORMANCE IN CARIBBEAN LITERATURE AND FILM: A STUDY OF
TRANSFORMATION IN IDENTITY AND GENDER
3 CREDITS**

This course examines the essence of carnival, masks, and performance in public and private spaces represented by Caribbean authors and filmmakers. It explores the development of characters and multiple identities through performance, while it reinterprets the production of meaning in different cultural proposals on masks. The course analyzes the contribution of selected authors and filmmakers to the social transformation of carnival, performance, and theater with particular attention to gender and identity. It also includes theoretical readings that reinforce the conceptual framework of the course.

**CUST 906 VISUAL CULTURE
3 CREDITS**

From a historical and theoretical perspective, this course studies theoretical images reproduced in contemporary culture. Also, it examines symbolic cultural elaborations and the historical condition of the organization of image study in today's culture.

**CUST 915 DOCTORAL DISSERTATION RESEARCH I
3 CREDITS**

This course is supervised research that requires the student to investigate and work on his/her doctoral dissertation in an area of cultural studies.

**CUST 916 DOCTORAL DISSERTATION RESEARCH II
3 CREDITS**

This course is supervised research that requires the student to investigate and work on his/her doctoral dissertation in an area of cultural studies. The student must complete an original research dissertation and defend it according to the stipulations established in the Dissertation Manual of the School.

**DITE 105 DIGITAL INFORMATION TECHNOLOGY
3 CREDITS**

Historical development of computer systems. Introduction to basic principles for the use and operation of computers for writing and production, including the physical components of operating systems. The necessary mechanisms for the development of the information skills that are involved in data processing and storage on the computer, as well as the use of programs related to writing and design. The course also engages students with the critical analysis of digital communication and the ethical use of information through the Internet.

**ECED 173 INTRODUCTION TO EARLY CHILDHOOD EDUCATION
3 CREDITS**

The course offers an overview of the field of early childhood education. Aspects such as: history, legislation, public policy, philosophy, curricula, and the early childhood profession are analyzed. A proper understanding of the reasons, rationale, importance, and objectives of early childhood education in contemporary society and in the next decades are addressed. Discussion of the early childhood education professionals: characteristics of early childhood educators, alternative careers within the field, learning styles, code of ethics, and professionalism.

**ECED 200 PLAY AND ART AS EDUCATIONAL STRATEGIES
3 CREDITS**

Emphasis on games and arts in early childhood education and the relation with development and appropriated practices of 0-8 years. Exploring and planning how the content areas support the use of games and arts as an educational strategy included in the different theories. Importance of the teacher's role as center for the teaching and learning process in early childhood (0-8 years). Use of manipulatives and simulations as part of the assessment process.

**ECED 201 FAMILY AS THE MAIN AXIS OF A LEARNING COMMUNITY
3 CREDITS**

Reflection and analysis of diverse families' integration to the early childhood education. Emphasizes the importance of the active participation of the family in the education of children. Include the assessment of knowledge and cultural experiences that the family provides to the educational, socio emotional and linguistic development of the child.

**ECED 301 CURRICULUM, METHODOLOGY, AND EVALUATION IN PRESCHOOL EDUCATION
3 CREDITS**

The knowledge and skills related to the different areas of the curriculum and its application with the different theories of learning are studied. It emphasizes the study of the specialized curriculum in infants and preschoolers, the preparation of instructional materials, methods, strategies, techniques and educational programs, as well as the diagnosis, evaluation and individualization of teaching. The value of the game is studied as a teaching strategy. This course offers the student clinical experiences in the application of the methodology of preschool education. The student must take this course near his semester of teaching practice.

**ECED 308 MANAGEMENT OF PHYSICAL AND SOCIO-EMOTIONAL PRESCHOOL ENVIRONMENT
3 CREDITS**

Provides a strong foundation about design, management, and interpersonal relationship in the learning environment. Interaction between environment and significant learning is addressed.

**ECED 360 TEACHING OF READING AND WRITING FOR PRESCHOOLERS
3 CREDITS**

Study of the foundations, principles, theories and approaches related to the teaching - learning process of reading and writing at the preschool level. Different perspectives of researchers, authors and specialists of the area are analyzed. It includes clinical experiences to provide the future educator with the basic techniques that are used in the preparation of the preschool child for literacy.

**ECED 441 CLINICAL EXPERIENCE IN EARLY CHILD EDUCATION
3 CREDITS**

The course is the final phase of the teacher preparation program. The student teacher is assigned to public or private pre-schools in the country to be involved in the teaching-learning process as preschool teachers. The student teacher must apply the methods, terms and strategies so that they can design / modify appropriate curricular activities for preschool children, implement them and evaluate them adequately.

**ECED 443 PRACTICUM SEMINAR IN EARLY CHILD EDUCATION
3 CREDITS**

The course is the final phase of the teacher preparation program. The student teacher is assigned to public or private pre-schools in the country to be involved in the teaching-learning process as preschool teachers. The student teacher must apply the methods, terms and strategies so that they can design / modify appropriate curricular activities for preschool children, implement them and evaluate them adequately.

**ECEG 621 OBSERVATION, EVALUATION, AND ASSESSMENT
3 CREDITS**

Analyze and apply formal and informal assessment for the planning of the individualized curriculum and teaching practices. Observe and assess children's development and learn to plan appropriate programs, performance guides, environments, interactions, and adaptations for individual differences. Select, evaluate and interpret standardized instruments and the information used in the assessment of children. This course will be carried out through the use of observation, analysis and development of assessment instruments and lesson planning; and responsible use of technology.

ECEG 622 FAMILY, SCHOOL, AND COMMUNITY

3 CREDITS

This course examines families through historical, social, cultural, and psychological perspectives. It will provide students with strategies to empower families, invigorate schools, and nurture community support. Emphasis will be placed on the preparation of the child to become a life-long learner, a productive worker, and a responsible member of society. The course will be conducted through case studies, interviews, research on specific early childhood education topics, and research posters. Responsible use of technology will be encouraged.

ECEG 623 FUNCTIONAL DIVERSITY AND EARLY INTERVENTIONS

3 CREDITS

Course that examines and critically analyzes the physical, cognitive, social and emotional development of children with functional diversity and the importance of early intervention. Emphasis is placed on disorders, treatment modalities, resources and the laws that protect this population. The role of educators, psychologists and therapists for assessment is discussed, as well as the importance of the family for early intervention. The course is based on observations, case discussions, and writing that strengthen critical thinking, written and oral communication, the use information effectively and respect for diversity among the population with functional diversity.

ECEG 624 INTEGRATION OF THE ARTS TO THE EARLY CHILDHOOD CURRICULUM

3 CREDITS

Analysis of the importance of art, music, play and movement experiences in the lives of children from birth to 8 years. Provide opportunities for theory and practice to enable them to understand, appreciate, design, implement and evaluate quality early childhood experiences of the arts. The course will be carried out through activities, demonstrations, evaluation of resources and materials aligned with appropriate practices for early education: in addition to the responsible use of technology.

ECEG 625 LANGUAGE DEVELOPMENT, WHOLE LANGUAGE, AND CHILDREN'S LITERATURE

3 CREDITS

Analysis and evaluation of various perspectives of emerging language. Recognition of how children acquire language and how it is done in emerging readers and writers. Study of the role of the family, centers, schools and community in the creation of linguistically enriched environments and the assessment of the development of literacy. This course will be carried out through lesson development, demonstrations, story reading, evaluation of children's literature and materials; in addition to the responsible use of technology.

ECEG 626 EARLY CONCEPTS IN MATH AND SCIENCES: CRITICAL THINKING, PROBLEM SOLVING

3 CREDITS

Exposure, analysis and integration of the principles, methods, materials and environments that provide support for the learning of science and mathematics concepts. Creates a relationship between cognitive development and math and science acquisition. Develop strategies that promote critical thinking and problem solving. The course will be conducted through the development of curricular units, demonstrations and evaluation of resources and materials (including the Internet); in addition, the responsible use of technology. The course includes the examination of the nature of science and mathematics. In addition, the analysis of its conceptual frameworks including: core concepts, basic and complex mental processes, teaching, learning and active assessment processes with emphasis on the factors that affect it. The aforementioned aspects will be studied and practiced within the constructivist theoretical framework.

ECON 121 ECONOMIC PRINCIPLES AND PROBLEMS I

3 CREDITS

Economic Theories and Practice: value and price, exchange, distribution, production, employment, social welfare and the influence of government in the microeconomic development.

ECON 122 ECONOMIC PRINCIPLES AND PROBLEMS II

3 CREDITS

Economic Theories and Practice: value and price, exchange, distribution, production, employment, social welfare and the influence of government in the macroeconomic development.

ECON 123 ECONOMIC PRINCIPLES AND PROBLEMS (COMPENDIUM)

3 CREDITS

Micro-economics and macro-economic theories and practices: value and price, exchange, distribution, production, employment, resources assessment, social welfare, social welfare, social empowerment and the influence of government in the economic development.

ECON 125 ANALYSIS AND INTERPRETATION OF ECONOMICS REPORTS

3 CREDITS

The course is designed to provide students with knowledge of key economic issues and debates, emphasizing the Puerto Rico and US economies. Basic principles of economic theory and analysis are presented, focusing on critical issues that impact societal economic wellbeing and ignite debates and controversies on government policies and the activities of various social actors. The course emphasizes learning about official and private sources of information on key economic issues and debates, such as publications specializing in economic statistics and analytical studies of the Puerto Rico economy.

EDCO 830 CURRICULUM DESIGN AND EVALUATION

3 CREDITS

This course examines the practices of the current curricular design, planning and development of educational systems in Puerto Rico and abroad. It also seeks to evaluate different curricula and educational programs through the analysis of different theoretically established models. Through the study of this course, it is expected that students will plan, design and evaluate a curriculum for school programs in the different areas in which an educational system can be observed.

EDCO 831 DEVELOPMENT OF EDUCATIONAL PROGRAMS AND PROJECTS

3 CREDITS

Examination of the critical aspects, contexts, theoretical fundamentals, and operational considerations related to educational planning. Different theories and types of planning are analyzed, as well as planning and program and project evaluation models. Emphasis is given to planning, programming and control. The scientific nature of planning is harmonized with the futuristic vision, the theory on the phenomenon of change, creativity and leadership of the program and project planner or designer. Aspects of accountability, the importance of identifying external funds, as well as the technical skills necessary for proposal development, are emphasized.

EDCO 836 INSTRUCTIONAL DESIGN AND TECHNOLOGY

3 CREDITS

Advanced course to study and discusses the nature, historical trajectory and future perspective of instructional theory: theoreticians, approaches, principles and controversies. Main characteristics of this theory are highlighted: design-oriented, its methods and sub methods, and the probabilistic nature of these methods. Special emphasis is applied to the analysis, application, creation and evaluation of instructional design models, for all educative levels, including the post-secondary and university level. Basic concepts and skills for the integration of technology to instructional design are presented. Formative and summative evaluation methods are also analyzed.

EDCO 963 POSTSECONDARY EDUCATION IN PUERTO RICO: TEACHING AND ANDRAGOGY

3 CREDITS

Application of the pertinent theoretical frameworks focused on the analysis and evaluation of opportunities and access to higher education institutions; the quality of their programs, the processes and student services; their relevance, the diversity of their programs, modalities and criteria; innovative educational methods, the comprehensive formation of their professors, the impact of the new technologies, projected impacts and local and international collaboration.

EDFO 815 PHILOSOPHY AND EDUCATION

3 CREDITS

This advanced course discusses ethical and philosophical controversial issues related to education. Postmodernist positions in educational philosophy and the impact of these on contemporary society are identified, as well as their ethical influences on education. Axiological approaches in the works of Nietzsche, Sartre and Marcel are analyzed. Axiological proposals in the education of Dewey, the movement of value clarification, the theory of ethical cognitive development of Kohlberg and the philosophical tenets of Hostos are studied. The relationship between ethics, morality and education as the basis for the professional, responsible practice of social morality is emphasized.

EDFO 820 ETHICS AND THE EDUCATION PROFESSIONAL

3 CREDITS

Axiology. Values: transmission and clarification. Family, church, school and community, intervention. Role of the teacher and the school regarding the transmission of values.

EDLE 808 HUMAN BEHAVIOR FUNDAMENTALS APPLIED TO LEARNING

3 CREDITS

Analysis of the dimensions of human behavior that affect learning, including psychological, sociological, biological and anthropological. Depth study of the theoretical perspectives of learning (behavioral, cognitive, socio-cultural, socio cognitive and humanistic) and of the theoretical principles that support each one. Analysis of information processing models and of empirically supported contemporary approaches to facilitate learning in educational settings. Emphasis on key concepts, theoretical principles and research findings as an essential source of understanding and explanation of human learning in educational settings.

EDLE 811 SOCIETY AND LEARNING

3 CREDITS

A comprehensive view of the scope and practical applications of perspectives and issues concerned in the relationship between education and society. Discussion of classical foundations, contemporary approaches and trends regarding the social context of education and its implications on teaching and learning process. Analysis of key theoretical perspectives, research findings and current polemics related to particular educational problems such as social, economic, cultural and political.

EDLE 816 AXIOLOGICAL AND PHILOSOPHICAL PERSPECTIVES ON LEARNING

3 CREDITS

This advanced course discusses ethical and philosophical controversial issues related to education. Postmodernist positions in educational philosophy and the impact of these on contemporary society are identified, as well as their ethical influences on the integral formation of the individual through the process of learning. Axiological and epistemological aspects are analyzed as they are displayed in the original texts. Axiological proposals in the education of Dewey, the movement of value clarification, the theory of ethical cognitive development of Kohlberg and the philosophical tenets of Hostos are studied. Reflection and search of explanations and paradigms for philosophical approach to global reality, to the power structures that impact the educational culture and the impact of these factors on the process of self-regulation of learning.

EDLE 911 EVALUATION OF LEARNING

3 CREDITS

Analysis of the fundamental concepts of learning assessment as a means of educational research. Examination of the essential considerations of theories, processes, tools and practices in the evaluation of learning. Study of trends around the measurement and assessment of learning in current and emerging educational settings.

EDRE 859 HISTORICAL AND PHILOSOPHICAL FOUNDATIONS OF EDUCATIONAL RESEARCH

3 CREDITS

A historical analysis of the field of Educational Research as a way to understand its origins, evolutions, research philosophies, assumptions, paradigms, methodologies and controversies. Evaluations of the ontological, epistemological, axiological and methodological foundations in the quantitative, qualitative and mixed methods models use to Educational Research and its relations to currents concepts of research, reality, science, knowledge, the search for truth and the role of educational research in society.

EDRE 862 QUANTITATIVE RESEARCH

3 CREDITS

The study of quantitative research and its impact on the field of education. The paradigms, premises and theories that support and sustain quantitative research, its strategies for collecting and analyzing data and the preparation of research reports are examined.

EDRE 863 QUALITATIVE RESEARCH

3 CREDITS

The study of qualitative research and its impact on the field of education. The paradigms, premises and theories that support and sustain qualitative research, its strategies for collecting and analyzing data and the preparation of qualitative research reports are examined.

EDRE 864 COMBINED METHODS RESEARCH

3 CREDITS

The study of combined method research and its impact on the field of education. The paradigms, premises and theories that support and sustain combined method research, its strategies for collecting and analyzing data and the preparation of combined method research reports are examined.

EDRE 865 EXPERIMENTAL AND NON-EXPERIMENTAL QUANTITATIVE RESEARCH

3 CREDITS

Theory and practice of surveys and correlational studies in the educational field. Emphasis on the study of: current designs of surveys and correlation studies, the construction and validation of instruments (scales, tests and questionnaires) for surveys, the selection of samples and the interpretation of data.

EDRE 870 USE OF COMPUTER PROGRAMMING AND DATA ANALYSIS

3 CREDITS

The study of the fundamentals underlying the analysis, interpretation and presentation of quantitative and qualitative data. The most common techniques for data interpretation are examined and the computer is used as a tool for tabulation, analysis, interpretation and presentation of data.

EDRE 871 DESCRIPTIVE STATISTICS

3 CREDITS

The course is designed to enable students to develop knowledge and skills about descriptive statistics, which they will apply in the design, analysis and interpretation of studies as educational researchers. The topics to be treated in depth will be design, development and interpretation of tables, preparation of graphs, measures of central tendency, measures of dispersion, and measures of position, probability concepts and correlations.

EDRE 872 INFERENCE STATISTICS

3 CREDITS

This course is designed to enable students to broaden their knowledge and skills on the different procedures of inferential statistics, which they will apply to the educational setting with the purpose of designing and conducting studies using both parametric and non-parametric tests. In this course, the reliability interval for the average and for proportions will be determined. In addition, the analysis of two or more variants and linear regression will be conducted, along with the power of the test, covariant analysis, ji squared (χ^2), and other non-parametric tests.

EDRE 873 INSTITUTIONAL RESEARCH AND ASSESSMENT

3 CREDITS

Analysis of the administrative, academic and fiscal structures of universities as the operational framework to understand the diversity of investigations and institutional assessments that are used to determine the quality and effectiveness of higher education.

EDRE 874 DESCRIPTIVE STATISTICS AND USE OF SOFTWARE

3 CREDITS

Study of the fundamental contents of descriptive statistics. Emphasis on the analysis, interpretation, presentation and reporting quantitative data and its application in the study and design of educational research. Use of computer and related software as a tool in the analysis, interpretation, presentation and communication of quantitative data.

EDRE 890 EXPERIMENTAL RESEARCH

3 CREDITS

Theory and practice on the design, analysis and interpretation of experimental and quasi-experimental research. Critical analysis of the methodological aspects of planning and conducting experimental and quasi experimental research in educational settings, including human, legal, and ethical aspects. Phases and processes, competencies required of the researcher.

EDRE 900 DISSERTATION PROPOSAL SEMINAR

3 CREDITS

Seminar to prosecute the student to identify, develop and approve the theme of his doctoral research with the aim of drafting a leaflet proposal that viable the constitution of the committee of dissertation. The seminar entails the oral defense journal of the prospectus of presentation before a committee preliminarily established.

EDRE 964 PRACTICUM IN EDUCATIONAL RESEARCH

3 CREDITS

The course provides supervised experience in qualitative or quantitative research in educational settings. The student designs, plans and carries out research under one of the designs of the qualitative or quantitative methodology and according to ethical requirements in educational research.

EDRE 965 PRACTICUM IN QUANTITATIVE RESEARCH

3 CREDITS

The course provides supervised experience in quantitative research in educational settings. The student designs, plans and carries out research under one of the designs of the quantitative methodology and according to ethical requirements in educational research.

EDRE 966 PRACTICUM IN QUALITATIVE RESEARCH

3 CREDITS

Supervised experience of qualitative research in real education scenarios. The student designs, plans and carries out research under one of the designs of qualitative methodology and according to ethical requirements in educational research.

EDTE 824 LEARNING FOUNDATIONS: MODELS AND PRACTICES

3 CREDITS

Analysis of the teaching and learning process through the study and application of theories, principles, approaches, and research related to the educational process. Study of models, strategies and practices that contribute to the educational process. Comparative study and evaluation that consider adaptation, formulation, development and implementation of such models for teaching practices at different levels in the educational context. Approach to current educational trends and implications for post constructivism. Theoretical approaches and research studies related to the biological, technological and multimedia dimension in order to consider models and teaching strategies that promote learning.

EDTE 832 CURRICULAR DESIGN

3 CREDITS

Critical analysis of the curriculum in light of the review of the teaching and learning practices. Study of the controversies and trends related to curriculum design, in addition to the core aspects of curriculum planning and development in the current educational systems in Puerto Rico and internationally. Experience in the curriculum design, planning and development.

EDUC 100 EDUCATION AND SOCIETY

3 CREDITS

Interdisciplinary view of education as a social commitment and as an academic and professional field. The course covers education and formation of integral instruction

EDUC 104 EFFECTIVE ORAL PRESENTATIONS

3 CREDITS

Analysis and application of the basic components to make an effective presentation. Emphasis on graphic design, content depth, diction, projection and security to make an appropriate presentation to the audience. The study, application and management of programs to make presentations. The course is developed from research, reflection, cooperative work and application project using technology responsibly.

EDUC 106 INTRODUCTION TO EDUCATION AND FIELD EXPERIENCE I

3 CREDITS

A general view of education as a social commitment and as an academic and professional field. Includes the study of the specifics of this viewpoint and an objective analysis of the school, the educational system and the teacher as central concepts. The course covers education, formation of integral instruction, the nature of values and value judgments in teaching, the school and teacher as agents of change.

EDUC 116 PERFORMING ARTS

3 CREDITS

The Program of Beautiful Arts recognizes that the education is a process of integral formation of all the students. The artistic production is, then, a constant in the human history that takes care of its diverse relations with the subject create that it and the subject perceives that it. In addition, it recognizes other needs that respond to the academic formation of the student and to the development of their cultural identity. This course analyzes the impact of the beautiful arts in the development of the boy. The student will examine the diverse ways in which the children can express their creative through planned activities that involve music, art, drama, corporal movement and dramatized games.

EDUC 161 INTEGRATION OF TECHNOLOGY IN EDUCATION

3 CREDITS

The purpose of this introductory course on the integration of educational technologies is to provide a foundation based on the field of educational technology, and the tools available for teaching with technology in its different modalities (face-to-face, hybrid and or at distance). Throughout the course, different educational technologies will be presented, and the student will be asked to experiment with them. They will also be asked to analyze and present how they could use them for educational purposes in their area of specialization. The student will conduct their explorations using a variety of media such as blogs, multimedia presentations, apps, and traditional documents. The student will also learn the strategies and best practices used to deliver distance or hybrid learning while ensuring effective communication with students.

EDUC 170 INTRODUCTION TO PRESCHOOL EDUCATION

3 CREDITS

Discussion of the history of early education, characteristics of children of early age and of preschool programs. Analysis of the philosophical, sociological and psychological theories that influence the development of the child and of appropriate programs.

EDUC 173 GROWTH AND HUMAN DEVELOPMENT

3 CREDITS

Study of scientific bases for human growth and development and their implications for the teacher and the school. Considers natural and environmental factors that help or endanger emotional stability and social adjustment of children and applies psychological principles to teaching at elementary and secondary levels. Studies existing social conditions and their relationships to changes in human conduct.

EDUC 202 EDUCATIONAL TECHNOLOGY AND LEARNING MATERIALS PRODUCTION

3 CREDITS

Analysis of the application of learning theories in pre-school education and in the selection of instructional activities, organization of the environment of the educational environment, materials and equipment. Identification of quality elements in the organization of services for early childhood. Techniques for working with preschoolers and parents are discussed. Study of the planning of the organization of the preschool classroom and its environment, as well as requirements of government agencies in the establishment of a pre-school education center.

EDUC 204 NATURE NEED EXCEPTIONAL CHILD

3 CREDITS

This course is designed to study the various exceptionalities that affect human development including physical, cognitive and emotional aspects. Categories, etiology, characteristics of various exceptionalities are analyzed. Federal and local regulations that guarantee the rights of the people with incapacities are analyzed. Scope and sequence of this course includes the study of the intervention strategies and the instructional materials needed to help these students out in order for them to be successful in classes. Application of technological assistance for each exceptionality is emphasized as part of the course of study.

EDUC 221 SPANISH TEACHING METHODOLOGY (4-6)

3 CREDITS

It consists of the study of the skills in the learning and teaching of Spanish as a native language. It emphasizes the mastery of reading comprehension and specific strategies to improve it. Systematic study of the development of language that analyzes the strategies and techniques used in the teaching of the Arts of the Language in the Elementary School and the Spanish Curriculum, and how it relates to the development of the basic skills inherent in the program of teaching the arts of language. Emphasis is given to the relationship between language and thought.

EDUC 222 ENGLISH TEACHING METHODOLOGY IN ELEMENTARY SCHOOL

3 CREDITS

Introduction to the principles and techniques of teaching English as a Second Language in the elementary school. Includes discussion and analysis of the English program and textbooks. Planning and demonstration classes are required.

EDUC 245 HUMAN GROWTH AND DEVELOPMENT

3 CREDITS

The course centers on the study of psychological thought related to growth and development from birth through adolescence, and its implications for the teacher and the school. Changes that occur in human beings from the moment of conception and throughout the different stages of life, such as prenatal, infancy, childhood, adolescence and adulthood, are studied from the physical, psychomotor, social, psychological, and moral viewpoints. Ten hours of classroom observations are part of the requirements.

EDUC 250 EXCEPTIONAL CHILD EDUCATION AND ASSISTIVE TECHNOLOGY

3 CREDITS

This course is based on evaluating the various exceptionalities that affect human development, including physical, cognitive, and emotional aspects. The different categories, etiology and characteristics of different disabilities are examined and analyzed in detail as established by law. It also analyzes and evaluates the concepts related to inclusion in Special Education. Federal and local regulations that guarantee the rights of people with disabilities are studied, analyzed, and applied. The scope and sequence of this course include the study of intervention strategies and instructional materials necessary to help these students to be successful in class. The applicability of the use and management of assistive technology for each exceptionality is emphasized as part of the course of study. It also emphasizes updating administrative processes as established in the Department of Education together with the

EDUC 251 SOCIOLOGICAL FOUNDATIONS IN EDUCATION
3 CREDITS

The course is a study of culture and its relationship to the educational process. It covers phenomena of change and their educational implications. School is analyzed as a social and political system. The role of economics, history and the social sciences in education and educational thought is examined. Different socio-cultural principles are analyzed as they relate to the development of the educational system of Puerto Rico.

EDUC 252 PSYCHOLOGICAL FOUNDATIONS IN EDUCATION
3 CREDITS

Study of psychology in the school context. Analysis of the fundamental psychological aspects of education and the teaching-learning process. The course emphasizes human development, individual variation, the theoretical and practical aspects of learning, motivation, intelligence, and effective strategies in the classroom, which are important for the process of teaching and learning. The course is developed through case analysis and observations in the school setting.

EDUC 270 LEARNING ENVIRONMENT
3 CREDITS

Analysis of the application of learning theories in pre-school education and in the selection of instructional activities, organization of the environment of the educational environment, materials and equipment. Identification of quality elements in the organization of services for early childhood. Techniques for working with preschoolers and parents are discussed. Study of the planning of the organization of the preschool classroom and its environment, as well as requirements of government agencies in the establishment of a pre-school education center.

EDUC 300 CURRICULUM AND METHODS IN EARLY CHILD EDUCATION
3 CREDITS

The knowledge and skills related to the different areas of the curriculum and its application with the different theories of learning are studied. It emphasizes the study of the specialized curriculum in infants and preschoolers, the preparation of instructional materials, methods, strategies, techniques and educational programs, as well as the diagnosis, evaluation and individualization of teaching. The value of the game is studied as a teaching strategy. This course offers the student clinical experiences in the application of the methodology of preschool education. The student must take this course near his semester of teaching practice.

EDUC 317 STATISTICS FOR TEACHERS
3 CREDITS

Introduction to the principles of basic statistics with a focus on analysis in the descriptive method. Specifically prepares the undergraduate student in education research. It includes the processes of non-clustered data collection and grouped data related to graphical presentation, measures of central tendency (location), measures of variability or dispersion, and position measurements. In addition, it includes and introduces the analysis of the principles of statistical inference, the normal data curve and principles of correlation and regression.

EDUC 318 DATA SOFTWARE ANALYSIS
3 CREDITS

Study of dominant statistical tests in educational research, its underlying assumptions and theories as the basis for interpretation, analysis and presentation of quantitative data using Excel and SPSS software. Excel and SPSS are also considered as software tools for the implementation of statistical evidence and for the creation of databases.

EDUC 322 EDUCATION AGAINST CULTURAL DIVERSITY
3 CREDITS

Study of the social elements that create cultural diversity in society; such as age, gender, sexual preference, religious preference, socioeconomic level, race, ethnic origin and lifestyles and their curricular implications. It is also analyzed how these elements directly or indirectly influence the professional practice of the contemporary preschool educator.

EDUC 323 LITERATURE FOR CHILDREN

3 CREDITS

Provides prospective teachers with the information needed in the area of children's literature to select the appropriate materials for students from preschool level to sixth grade. Facilitates the presentation of appropriate activities for preschool, early childhood and elementary students including analysis of stories, poems, biographies, dramas, and other materials to be presented in the class.

EDUC 327 FOUNDATIONS OF HEALTH, HYGIENE, AND NUTRITION

3 CREDITS

Factors related to the improvement and conservation of health. Analysis of environmental health and its impact on the preschool, early childhood, elementary and secondary students. Emphasis on the factors that affect teachers' and students' mental health, and that help reduce drug abuse, alcoholism and behavior disorders. Includes analysis of human reproduction and factors affecting pregnancy and labor. Personal health habits and the relationship of the human body to health nutrition and disease.

EDUC 330 SPANISH TEACHING METHODOLOGY (SECONDARY)

3 CREDITS

This course provides an integrated view of the Spanish program at the secondary level. Participants will gain basic knowledge of new approaches to the teaching of Spanish. It emphasizes the methods, strategies and techniques to develop contemporary and innovative teaching-learning process of the vernacular.

EDUC 332 TEACHING OF SOCIAL SCIENCES IN SECONDARY SCHOOL

3 CREDITS

This course provides futures teachers an overview of the History and Social Studies curriculum, and examines skills needed to teach one of these two areas of the secondary school curriculum. Principles of integration, processes, methods, techniques and styles of learning are studied along with the Standards of Excellence proposed by the Department of Public Education for these two areas.

EDUC 333 TEACHING OF MATHEMATICS IN SECONDARY SCHOOL

3 CREDITS

Professional course required of student whose major is the teaching of Mathematics in the Secondary School. Themes to be discussed are objectives, curriculum, standards and study units for the teaching of this subject in the junior and senior high school, as well as the theoretical framework that sustains the teaching of mathematics in the secondary school.

EDUC 334 TEACHING OF SCIENCE IN THE SECONDARY SCHOOL

3 CREDITS

Professional course required of students whose major is the teaching of general science, biology, or chemistry in the secondary school. Themes to be discussed are objectives, curriculum, standards and study units for the teaching of these subjects in the junior and senior high schools, as well as the theoretical framework that sustains the teaching of these subjects.

EDUC 351 TEACHING SCIENCE IN ELEMENTARY SCHOOL

3 CREDITS

Designed to develop teaching competencies and professional standards, which allow the students to perform effectively as science teachers, using science as a mode of inquiry. Analysis of methods, science content standards, programs, and materials for teaching science from Fourth to Sixth grade.

EDUC 353 TEACHING MATHEMATICS IN ELEMENTARY SCHOOL

3 CREDITS

Content analysis and the goals of the Elementary School Mathematics. Study of methods, techniques and teaching and learning processes commonly used in this area, especially the application of the constructivist approach of mathematics. Includes discussion of the problems facing the teacher in the teaching of mathematics. Review documents such as study guides, textbooks and Mathematics Program Standards and the relationship between them and the teaching process. Using computerized technology and software in the classroom. Demonstrations will be offered in different areas within the math curriculum in elementary school and its application to everyday life situations.

EDUC 357 TEACHING SOCIAL STUDIES IN ELEMENTARY SCHOOL

3 CREDITS

Designed to develop teaching competencies and professional standards, which allow students to perform effectively as social studies teachers in elementary school from fourth to sixth grade. In this course students analyze teaching methods, social studies standards, programs, and instructional materials.

EDUC 370 PHILOSOPHICAL FOUNDATIONS IN EDUCATION

3 CREDITS

Students will examine, analyze, and critique the historical, philosophical and cultural roots of our educational system and its changes over time. The basis for an educational philosophy will be studied, along with social, cultural, 84 Undergraduate Catalog 2017-18 religious and political changes that have influenced education in Puerto Rico. Some philosophical concepts will be examined, such as, idealism, realism, pragmatism, existentialism, and constructivism.

EDUC 375 CURRICULUM PLANNING AND DESIGN

3 CREDITS

This course prepares the future teacher in the development of curricular theories. Types of curricula, as well as organization, models and concepts, curriculum development and implementation are examined and analyzed. Lesson planning and classroom organization are also discussed.

EDUC 376 EVALUATION, MEASUREMENT, AND ASSESSMENT OF THE EDUCATIONAL PROCESS

3 CREDITS

The course covers the theory and practice in evaluating the educational process. Emphasis is placed on the taxonomy of objectives and to the skills required for promoting student achievement. Topics include current concepts in evaluation criteria, performance, and mastery testing, among others. Traditional concepts of preparation, administration, correction and interpretation of achievement tests; basic concepts of statistics, and recent evaluation criteria, such as assessment strategies and the use of portfolios, will be discussed and analyzed. The course includes discussions of other evaluation procedures that prospective teachers should be aware of.

EDUC 378 TEACHING AND LEARNING STEM METHODOLOGY (SCIENCE, TECHNOLOGY, ENGINEERING, AND MATH)

3 CREDITS

This course provides experiences to introduce and conceptualize teaching and learning from the educational approach of science, technology, engineering, and mathematics (STEM). Changes in educational models, scenarios, and challenges are analyzed to work with the learning needs of the 21st century. Ideas, concepts, and processes are developed, as well as the use of methodologies, strategies, and techniques for STEM education. Ideas, concepts, and processes are expanded, as well as the use of methodologies, strategies, and techniques for STEM education. The student will become familiar with innovative strategies, such as project-based learning (PBL) and the engineering design process (EDP). Topics and problems are discussed to work on a PBL project, in which science and mathematics standards are integrated.

EDUC 395 CLINICAL EXPERIENCES IN ELEMENTARY EDUCATION

3 CREDITS

The course offers a learning opportunity focusing on observation, reflection and integrating the theory to the practicum in the specialty area of education. It proposes to the student's diverse learning and teaching dimensions under the tutoring of an experienced teacher. The course promotes that the students reflect and experiment with the teaching process along with the newest strategies and methodologies regarding curriculum, planning, evaluation, assessment, research, and fundamental specialization areas. Required time is 100 hours distributed in 85 hours in an educational center or school and 15 hours in the seminar.

EDUC 396 PRACTICUM IN ELEMENTARY SCHOOL TEACHING (4-6)

6 CREDITS

This is a laboratory experience for students whose major is Fourth to Sixth Grade Education. The student teacher will participate in a real educational setting to practice knowledge acquired in education courses. The student teacher will gradually assume the responsibility of teaching in a real classroom.

EDUC 404 SPECIAL EDUCATION: INTERVENTION WITHIN TRADITIONAL CLASSROOM

3 CREDITS

The course proposes to develop the skills and techniques that will allow the future educator to create and organize educational experiences for students with disabilities in the regular current. The course will emphasize the stimulation of physical-motor development (fine and gross, visual perception), language development (receptive and expressive), social and emotional development, and cognitive development. In addition, you will focus on State and Federal Laws related to Special Education. An analysis will be made of the capabilities of students who receive an appropriate education in a less restrictive and inclusive environment that motivates their comprehensive development and maximizes their learning potential. Identify and adapt the reasonable accommodation that meets the needs of the special education student that allows him or her to be measured and evaluated in grade and in compliance with the skills of the DE curriculum. It includes the examination, analysis and study of stimulation exercises for comprehensive development that can be adapted to children with disabilities.

EDUC 411 SCIENCE TEACHING AT THE ELEMENTARY SCHOOL

3 CREDITS

Analysis of the Standards and Expectations of the Science Program from Kindergarten to Third grade. Study of the methods, techniques and teaching-learning processes most used in this area. Examination of documents such as study guides, texts and Program Standards and the relationship between them with the teaching process. Demonstrations of the different areas within the curriculum and their application to situations of daily life for the development of a scientific culture will be offered.

EDUC 412 TEACHING OF SOCIAL STUDIES AT THE PRIMARY LEVEL K-3

3 CREDITS

Analysis of the Social Studies in the primary level (K-3) such as, means of formation of an integral citizen within a democratic society. Reflection, skills of critical-creative thought and construction of knowledge within the context of the civic action and Puerto Rican culture. Study of curriculum guides, standards, texts, and references, as well as, other educational resources. Awareness, application and assessment of techniques, methodologies, and approaches in the education of the social studies.

EDUC 413 TEACHING ENGLISH AT PRIMARY LEVEL K-3

3 CREDITS

Study and analysis of the curricular framework and the standards of English as a second language in the primary level (K-3). The analysis and interactive presentations of diverse methodologies, approaches, and techniques are emphasized for this course. Students will align the curriculum content and grade level expectations to design simulations and practical interventions for the K-3 level. Reflections of critical creative skills and construction of knowledge from the linguistics skills domain are emphasized.

EDUC 414 LANGUAGE ARTS AT THE PRIMARY LEVEL K3

3 CREDITS

Study and analysis of the curriculum guides and standards for the education of language arts at the primary level (K-3). Evaluation and praxis of the methodologies, techniques and approaches for the linguistics and literature in this level. Emphasis on grammar and oral practice, reading and writing skills for the primary levels. Reflection, skills of critical creative thought and construction of knowledge from the domain of the Spanish linguistics skills. Awareness, application and assessment of techniques, methodologies, and approaches in the education of the Spanish like second language.

EDUC 416 TEACHING MATHEMATICS AT THE PRIMARY LEVEL K-3

3 CREDITS

Study of the philosophy, principles, foundations, and methodology in teaching mathematics in the primary level (K-3). Analysis and discussion of the mathematics curriculum of the Puerto Rico Department of Education in K-3. Emphasis on the comprehension, interpretation, and mastery of the mathematics' content at the primary level. Planning and integration of strategies, materials, technology, and assessment in teaching and learning processes in mathematics.

EDUC 419 INTRODUCTION TO EDUCATIONAL RESEARCH

3 CREDITS

Study of basic scientific methods used for inquiry, research, and planning. It includes the techniques used in the observation, analysis and presentation of data obtained from tests, interviews, and questionnaires. Discussion of the role of theoretical research in education. Practice in formulation of problems and hypotheses, samplings, measurement and scale construction. Students are supervised in the design and completion of simple research projects.

EDUC 427 PLAY AS A TEACHING STRATEGY

3 CREDITS

Study of games as a teaching strategy in preschool education. Multidisciplinary concepts and theories of games and their impact in the physical, motor, intellectual, affective and creative development of the infant and the preschool child, are studied. The course includes a variety of indoor and outdoor games, and field observations

EDUC 430 CLINICAL EXPERIENCE AT SECONDARY SCHOOL (MATHEMATICS)

3 CREDITS

The course offers a learning opportunity focusing on observation, reflection and integrating the theory to the practicum in the specialty area of education. It proposes to the student's diverse learning and teaching dimensions under the tutoring of an experienced teacher. The course promotes that the students reflect and experiment with the teaching process along with the newest strategies and methodologies regarding curriculum, planning, evaluation, assessment, research, and fundamental specialization areas. Required time is 100 hours distributed in 85 hours in an educational center or school and 15 hours in the seminar.

EDUC 431 CLINICAL EXPERIENCE AT SECONDARY SCHOOL (GENERAL SCIENCES)

3 CREDITS

The course offers a learning opportunity focusing on observation, reflection and integrating the theory to the practicum in the specialty area of education. It proposes to the student's diverse learning and teaching dimensions under the tutoring of an experienced teacher. The course promotes that the students reflect and experiment with the teaching process along with the newest strategies and methodologies regarding curriculum, planning, evaluation, assessment, research, and fundamental specialization areas. Required time is 100 hours distributed in 85 hours in an educational center or school and 15 hours in the seminar.

EDUC 432 CLINICAL EXPERIENCE AT SECONDARY SCHOOL (BIOLOGY)

3 CREDITS

The course offers a learning opportunity focusing on observation, reflection and integrating the theory to the practicum in the specialty area of education. It proposes to the student's diverse learning and teaching dimensions under the tutoring of an experienced teacher. The course promotes that the students reflect and experiment with the teaching process along with the newest strategies and methodologies regarding curriculum, planning, evaluation, assessment, research, and fundamental specialization areas. Required time is 100 hours distributed in 85 hours in an educational center or school and 15 hours in the seminar.

EDUC 433 CLINICAL EXPERIENCE AT SECONDARY SCHOOL (CHEMISTRY)

3 CREDITS

The course offers a learning opportunity focusing on observation, reflection and integrating the theory to the practicum in the specialty area of education. It proposes to the student's diverse learning and teaching dimensions under the tutoring of an experienced teacher. The course promotes that the students reflect and experiment with the teaching process along with the newest strategies and methodologies regarding curriculum, planning, evaluation, assessment, research, and fundamental specialization areas. Required time is 100 hours distributed in 85 hours in an educational center or school and 15 hours in the seminar.

EDUC 434 CLINICAL EXPERIENCE AT SECONDARY SCHOOL (HISTORY)

3 CREDITS

The course offers a learning opportunity focusing on observation, reflection and integrating the theory to the practicum in the specialty area of education. It proposes to the student's diverse learning and teaching dimensions under the tutoring of an experienced teacher. The course promotes that the students reflect and experiment with the teaching process along with the newest strategies and methodologies regarding curriculum, planning, evaluation, assessment, research, and fundamental specialization areas. Required time is 100 hours distributed in 85 hours in an educational center or school and 15 hours in the seminar

EDUC 435 INTERDISCIPLINARY SEMINAR

3 CREDITS

Professional seminar blending socio-humanistic and scientific academic knowledge that students has developed during their teacher preparation courses. Discussion and analysis of trends, methods and innovations related to fundamental knowledge and communication competencies of the future teacher in his/her local and global context. Emphasis in case studies, problem solving, themes discussion and application of technology.

EDUC 436 SEMINAR OF PEDAGOGICAL INTEGRATION

3 CREDITS

Professional seminar blending all professional and academic knowledge students has acquired during their teacher preparation. Involved discussion and analysis of trends, methods and innovations related to field of education.

EDUC 448 CLINICAL EXPERIENCE AT SECONDARY SCHOOL (SPANISH)

3 CREDITS

This is a practicum course for students whose major is the teaching of Spanish at the secondary level. The student teacher will participate in real educational settings to practice knowledge acquired in education courses. The student teacher will gradually assume teaching responsibilities in a real classroom.

EDUC 449 PRACTICUM SEMINAR SECONDARY SCHOOL (SPANISH)

6 CREDITS

Teaching practice course for students of secondary English concentration. It is a clinical experience in which the candidate to teacher puts into practice in a scenario the knowledge, skills and attitudes acquired in the preparatory courses. The teacher candidate will gradually assume responsibility for teaching in the classroom.

EDUC 450 PRACTICUM SEMINAR SECONDARY SCHOOL (MATHEMATICS)

6 CREDITS

Teaching practice course for students of the concentration of secondary mathematics. It is a clinical experience in which the candidate to teacher puts into practice in a scenario the knowledge, skills and attitudes acquired in the preparatory courses. The teacher candidate will gradually assume responsibility for teaching in the classroom.

EDUC 451 PRACTICUM SEMINAR SECONDARY SCHOOL (GENERAL SCIENCES)

6 CREDITS

Teaching practice course for students of the secondary general science concentration. It is a clinical experience in which the candidate to teacher puts into practice in a scenario the knowledge, skills and attitudes acquired in the preparatory courses. The student candidate for teacher will gradually assume responsibility for teaching in the classroom.

EDUC 452 PRACTICUM SEMINAR SECONDARY SCHOOL (BIOLOGY)

6 CREDITS

Teaching practice course for students of the concentration of secondary biology. It is a clinical experience in which the candidate to teacher puts into practice in a scenario the knowledge, skills and attitudes acquired in the preparatory courses. The teacher candidate will gradually assume responsibility for teaching in the classroom.

EDUC 453 PRACTICUM SEMINAR SECONDARY SCHOOL (CHEMISTRY)

6 CREDITS

Teaching practice course for students of the concentration of secondary chemistry. It is a clinical experience in which the candidate to teacher puts into practice in a scenario the knowledge, skills and attitudes acquired in the preparatory courses. The teacher candidate will gradually assume responsibility for teaching in the classroom.

EDUC 455 SECONDARY SCHOOL PRACTICUM (HISTORY)

6 CREDITS

Teaching practice course for students of secondary history concentration. It is a clinical experience in which the candidate to teacher puts into practice in a scenario the knowledge, skills and attitudes acquired in the preparatory courses. The teacher candidate will gradually assume responsibility for teaching in the classroom.

EDUC 500 LEARNING THEORIES

3 CREDITS

Study of the most important theories of learning, knowledge acquisition, and information processing. Special emphasis given to the application of theory to enhance the learning-teaching process.

EDUC 501 PRINCIPLES AND CURRICULUM DEVELOPMENT

3 CREDITS

Study of the fundamentals, principles and practices of the curriculum development. Reading and discussion of the curriculum formulation and production processes. Analysis of the present problems of the contents as well as the curriculum structure in the modern education and its application to the actual Puerto Rican educational system.

**EDUC 502 CLASSROOM AND SCHOOL MANAGEMENT AS LEARNING COMMUNITIES
3 CREDITS**

Critical study and analysis of classroom and school management as a learning community. Included themes discussion such as educational system restoration, the classroom as a laboratory, decentralization, total quality philosophy, the school autonomy, open school systems and instructional leadership.

**EDUC 503 INTRODUCTION TO THE EDUCATIONAL ENTERPRISE
3 CREDITS**

Analysis of concepts, philosophical bases, theories, and research that impact contemporary educational practices. Emphasis is given to educational innovations in the U.S.A., and Puerto Rico.

**EDUC 504 LEADERSHIP, COMMUNICATION AND TEAMWORK
3 CREDITS**

The course centers on the study and analysis of leadership concepts and practices, communication and teamwork as applied to the role of educators.

**EDUC 505 TEACHING MODELS AND SYSTEMS
3 CREDITS**

Critical analysis and study of models and systems of teaching innovative methods and strategies that facilitate learning Construction of knowledge related with teaching and learning styles. Reconstruction of previous knowledge about philosophical foundations and its connection with aptitudes, and cognitive levels of the student. Emphasis on use of technology as a tool in service of models and systems of teaching.

**EDUC 506 CONFLICT RESOLUTION IN SCHOOLS
3 CREDITS**

This course focuses on the knowledge, skills and abilities required to design, implement and evaluate effective conflict resolution programs in schools. Students will get acquainted with the following concepts: inter and intrapersonal conflict resolution, persuasion, problem solving and decision making in conflict in diverse organizations and will develop strategies that could address these conflicts.

**EDUC 507 PHILOSOPHICAL, CRITICAL THINKING, AND EDUCATION
3 CREDITS**

Critical analysis of the ethical and philosophical foundations of education. Study of contemporary paradigms, issues, theories and practices, which encourage the development of critical thinking.

**EDUC 509 LEARNING THEORIES AND COGNITIVE DEVELOPMENT
3 CREDITS**

Analysis of concepts, philosophical bases, theories and research that impact contemporary educational practices. Emphasis is given to educational innovations in the U.S.A., and Puerto Rico.

**EDUC 510 FUNDAMENTAL CONCEPTS OF EDUCATION MANAGEMENT
3 CREDITS**

This is an introductory course in which the development of managerial thinking in this century is analyzed, and the new focus of managerial education for the autonomous school of the twenty-first century is discussed.

**EDUC 512 EDUCATIONAL STRATEGIES AND INNOVATIONS
3 CREDITS**

Contemporary and futuristic trends, models and paradigms on curriculum, philosophy and changes in education. Includes recent reform writing and research in educational strategies and innovations.

**EDUC 513 EDUCATIONAL ASSESSMENT, MEASUREMENT AND EVALUATION
3 CREDITS**

Study of the assessment, measurement and evaluation techniques applied to the teaching process. Emphasis in the adequate planning for assessment and for making and analyzing tests and other instruments of pedagogic evaluation.

EDUC 515 PRACTICUM (SCHOOL ADMINISTRATION)

3 CREDITS

The course consists of a series of field experiences encompassing all the tasks and functions of school administrators and supervisors. This provides students with the opportunity to apply theories of school administration and supervision. The student is placed in an educational institution, which serves him/her as a laboratory to carry out the administrative tasks required of school administrators. In addition to the supervised practice in a teaching center, the student must attend meetings with the practicum supervisor.

EDUC 517 SUPERVISION OF INSTRUCTION IN TEACHING PRACTICE

3 CREDITS

Theories, models and trends of the instructional process and its practical applications. Importance of the evaluations and supervision processes in student teaching.

EDUC 519 HUMAN RESOURCES MANAGEMENT AT THE EDUCATION ENTERPRISE

3 CREDITS

The course focuses on analyzing theories and practices of human resources management in educational settings. Emphasis is placed on human resources management cycles: planning, recruitment, selection, training, development, evaluation, and compensation, especially as applied in the Puerto Rico Department of Education. Other topics discussed are motivation, communication and human resources legislation that apply to educational enterprises in Puerto Rico and the United States.

EDUC 520 PUERTO RICO SCHOOL LAWS AND REGULATIONS

3 CREDITS

The course focuses on the study and analysis of the legal aspects that regulate the educational process in Puerto Rico.

EDUC 521 TECHNOLOGY AS A RESOURCE FOR TEACHING READING AND WRITING

3 CREDITS

The course provides an opportunity to explore, practice and handle different technologies available for the teaching of reading and writing in elementary and secondary schools. It includes discussion of ethical and legal issues concerning the use of the available technology for teaching of reading and writing.

EDUC 523 SCHOOL LIBRARY MANAGEMENT

3 CREDITS

Principles of school library management. Overview of theories and models for curriculum development and applications for libraries. Emphasis will be given to strategies for integrating the school library to the curriculum and to the role of the school librarian in this process

EDUC 524 REFERENCES INFORMATION SERVICES

3 CREDITS

The course deals with processes related to reference services in the school library. Emphasis is placed on the integration of reference services to the student's learning processes. It includes topics such as: interviews with users, information search strategies, reference sources, information and referral services and the evaluation of reference services.

EDUC 525 STATISTICS FOR SOCIAL AND PEDAGOGICAL EVALUATION AND RESEARCH

3 CREDITS

Includes knowledge and skills of descriptive and inferential statistics as psychometric and resources at a graduate level. Application of statistical methods on the design, testing, use and interpretation of learning measurements and other measurement instruments with emphasis in education, physical education and recreation.

EDUC 526 CURRICULUM DESIGN AND PLANNING

3 CREDITS

The course covers principles of bibliographical organization as an important factor for locating information. Different classification systems, including computerized systems, will be studied, and analyzed.

EDUC 527 DEVELOPMENT OF BIBLIOGRAPHICAL COLLECTIONS

3 CREDITS

The course deals with policies for the development of a bibliographical collection, and the process of selection, acquisition, and evaluation of the collection. Mechanisms for sharing resources, book markets, intellectual freedom and censorship are also discussed in this course.

**EDUC 528 LIBRARY SERVICES FOR CHILDREN AND ADOLESCENTS
3 CREDITS**

Study of the characteristics of children and adolescent and their implications for the school library services strategies for needs assessments and interest and activities and services appropriate for this population are discussed. Emphasis is given to information skills critical thinking and reading programs.

**EDUC 529 CLINICAL EXPERIENCE FOR THE SCHOOL LIBRARY
3 CREDITS**

The course offers practical experience in offering school library services, in coordination with the classroom teacher. Students will coordinate reading orientation and development of information and critical thinking skills program activities. Students will apply knowledge and skills acquired in their program of studies in the coordination of reading orientation and development of information and critical thinking program activities.

**EDUC 530 PSYCHOSOCIAL AND EDUCATIONAL IMPLICATIONS AT BIRTH OR ADVENT OF A STUDENT WITH DISABILITIES: FAMILY, SOCIETY, SERVICES AND EDUCATION
3 CREDITS**

The course focuses on the discussion and analysis of the impact of a student with physical, mental, emotional, and multiple handicaps in the family, society, and educational systems. Family and social systems will be studied to understand both systems' bi-directional influence in the lives of students with handicaps. The course includes discussion of the different psychological processes involved in managing a student with handicaps in family and educational systems. Professional collaboration and the educational possibilities, including transit.

**EDUC 531 LEGAL ISSUES AND TRENDS IN SPECIAL EDUCATION
3 CREDITS**

Knowledge, analysis and discussion of current federal and state legislation in special education.

**EDUC 532 ADMINISTRATION AND SUPERVISION OF SPECIAL EDUCATION PROGRAMS
3 CREDITS**

Examines the theories and principles of administration and supervision. Emphasis on tasks and functions of the school administrator and supervisor in special education programs.

**EDUC 533 EVALUATION OF CURRICULUM AND INSTRUCTION
3 CREDITS**

The study and analysis of the principles that guide the different curricular evaluation strategies in both aspects: the formative and the summative. This course includes the analysis of the recommended methodologies for the curricular evaluation, selection and application of strategies and curricular evaluation models.

**EDUC 534 TEACHING OF READING AND WRITING IN SPECIAL EDUCATION
3 CREDITS**

Study of the most recent teaching methods and techniques to improve reading and writing skills in children with learning disabilities. Practice based on problem solving of oral and written language.

**EDUC 535 INCLUSION AND THE SPECIAL EDUCATION TEAM WORK
3 CREDITS**

The philosophy of inclusion is presented, studied, and analyzed. The evolution of special education laws and the terms related to the interpretation of the less restrictive environment will be studied. The roles and responsibilities of each of the members of the special education team will be presented. The inclusion of children and youth with physical, emotional, and mental disabilities will be discussed. Environmental, routine, physical, and all other adaptations to include children and youth with disabilities in the regular education classroom will be studied. Team-work, professional communication, and collaboration among the concerned professionals will be stressed.

**EDUC 536 CONTEMPORARY APPROACHES TO EARLY INTERVENTION
3 CREDITS**

The course focuses on the study and analysis of contemporary approaches in the early intervention field, including historical and evolutionary aspects. Philosophical, ethical, and legislative foundations will also be studied. Contemporary approaches and regulations for the provision of early intervention services in Puerto Rico will be analyzed, as they intend to reduce the future need for additional special education services. Students will become familiar with the Puerto Rico early intervention services delivery system called Avanzando Juntos, the Puerto Rico Department of Health Interagency Coordination Council (ICC), and the Puerto Rico Comprehensive System for Personnel Development (CSPD), established under IDEA.

EDUC 537 MANAGEMENT AND EDUCATIONAL STRATEGIES FOR STUDENTS WITH AUTISM SPECTRUM DISORDERS

3 CREDITS

The course consists of the presentation, discussion, and analysis of different management and educational strategies and their applicability in the education of children with pervasive developmental disorders, attention deficit, or other psychiatric disturbances. Special emphasis will be given to the implementation of management and educational strategies according to the student's academic placement along the special education continuum. Special education students and parents' rights and responsibilities will be studied. Application of behavior modification techniques will be studied as they relate to the inclusion of children with special needs into regular education classrooms.

EDUC 538 TEACHING CHILDREN WITH EMOTIONAL DISTURBANCES

3 CREDITS

Physical, emotional, social and intellectual characteristics of the emotionally disturbed child. Emphasis on methods and instructional materials.

EDUC 539 ASSESSMENT AND INSTRUCTIONAL DESIGN FOR TEACHING STUDENTS WITH DISABILITIES

3 CREDITS

The course focuses on assessment as the basis for individualized instructional design. Students will work with a variety of formal and informal assessment instruments. Adaptation of assessment instruments and procedures to provide for the needs of children with disabilities will be studied. Individualized instructional design based on identified strengths and needs, will be discussed. The integration of academic, clinical, and family goals into the curriculum will be emphasized. Students will be exposed to different curricular alternatives and will gain skills that will enable them to analyze and propose curricular changes based on their students' needs.

EDUC 540 FINE ARTS TEACHING METHODOLOGY: THEORIES, STRATEGIES AND RESOURCES

3 CREDITS

This course provides an overview of current approaches and methodology that applies the teaching-learning of the Fine Arts. Study, discussion and analysis of theories that sustain the teaching of music, arts, dance and drama in the elementary and secondary schools. Exploration of innovative strategies used to motivate students in their artistic and creative experiences. Inventory of resources needed for the teaching of fine arts in the different school levels. Exploration of available technology resources to teach these subjects. This course provides also an overview of current approaches.

EDUC 541 HISTORY OF EDUCATION

3 CREDITS

This course will exploration, practice, and management of different available technological resources that are used to enrich the teaching of music, visual arts, dance arts and theater arts in elementary and secondary schools. In addition, the discussion of ethical and legal considerations in the use of technology for the teaching of fine arts.

EDUC 542 COMPARATIVE EDUCATION

3 CREDITS

Comparative study of different contemporary educational systems. Examine the significant differences and similarities between educational politics and practices. Analyze the Puertorrican educational system compared with other systems.

EDUC 543 CULTURE AND EDUCATION

3 CREDITS

Sociological and philosophical concepts with special attention to the socio-cultural contexts of education and the role of the education within society. Cultural values, ideologies and social constructions are examined.

EDUC 544 VISUAL ARTS PRODUCTION WORKSHOP

3 CREDITS

This course uses experimentation and production as a mean for the art teachers to review and enrich their own artistic abilities, while practicing strategies and techniques that may be used in their teaching. Emphasis will be placed on creation of art forms, while also reviewing artistic criticism and aesthetics.

EDUC 545 INFORMATICS AND SOCIETY

3 CREDITS

Trends, practices and effects of social-scientific and technological changes related to informatics. This course explores the impact of informatics in various economic and social organizations. Educational implications of informatics science in the context of the school curriculum and learning styles.

EDUC 546 ASSISTIVE TECHNOLOGY IN SPECIAL EDUCATION

3 CREDITS

The course presents a general vision of disabilities and the potential benefit of assistive technology to facilitate academic performance, communication, and the independence of students with special needs. Students will learn how mobility, sensory, and communication aids, adapted computer access, and environmental controls help people with different disabilities participate and fully interact in their homes, schools, and community. Students of this course will learn about the legal, administrative, and academic bases that support the technological aids needed in and out of the classroom by people with special needs.

EDUC 547 LANGUAGE ACQUISITION AND DEVELOPMENT: IMPLICATIONS FOR LITERACY

3 CREDITS

Study of the processes involved in the acquisition and development of language in children from birth to 8 years old. Theories and curricular models that promote maximum development of language skills are also studied. Emphasis is given to the study of the Whole language approach and reading-writing skills development.

EDUC 550 SECOND LANGUAGE ACQUISITION

3 CREDITS

This course discusses the processes of second language (L2) learning and teaching, the leading related theories, and factors which influence second language acquisition. It attempts to answer questions such as: How does a L2 learner create a new language system? How much influence does the first language (L1) have on this process? Why are some people better than others in learning a L2? What is the best possible environment for optimum L2 acquisition? What are the implications for the L2 teacher?

EDUC 551 READING PROCESSES IN SECOND LANGUAGE SETTINGS

3 CREDITS

Study and analysis of current theories on reading processes. The different approaches to the teaching of reading and their application to the ESL Classroom will be discussed. Students will also be acquainted with the different skills involved in the reading process and with various teaching and evaluation strategies that can be used in the ESL classroom.

EDUC 553 LANGUAGE, COGNITION AND ESL CURRICULUM DEVELOPMENT

3 CREDITS

An examination of the relationship between language and cognitive human related issues in curriculum and instruction. Students will investigate seminal and recent studies from linguistics philosophy and psychology as these relate to the problem of curriculum and instruction.

EDUC 554 USE OF COMPUTER IN ESL TEACHING

3 CREDITS

The course focuses on the discussion of the ways in which microcomputers can be used to enhance the learning of ESL. Emphasis will be placed on strategies for integrating the use of the computer and ESL curriculum effectively. Hands-on evaluation of ESL software using tutorials, simulations, and drill and practice are also included.

EDUC 557 ORGANIZATION OF VOCAL MUSIC GROUPS

3 CREDITS

The course focuses on the composition and organization of vocal music groups within the elementary and secondary schools. It includes the development of work units for the different school levels, as well as appropriate musical arrangements for the different age groups and vocal music groups. Techniques and methodologies to work with vocal music groups will be examined. The role of vocal music groups in the school curriculum will be discussed. Study, discussion and analysis of the composition and organization of vocal music groups within the elementary and secondary schools. Discussion and analysis of the development of work units for the different age groups and vocal music groups. Different techniques and methodologies to work with vocal music groups will be examined. Discussion and analysis of the role of vocal music groups in the school curriculum.

EDUC 558 MUSICAL PRODUCTION SEMINAR

3 CREDITS

The course is a musical production seminar in which principles involved in the organization of musical activities are discussed. Activities and programs appropriate to the grade level and musical competence of children are developed.

EDUC 559 TECHNIQUES FOR THE ORGANIZATION OF INSTRUMENTAL GROUPS

3 CREDITS

The course focuses on the study and analysis of different instrumental groups that may be organized in elementary or secondary schools. Techniques used to create, conduct, rehearse and develop musicality in these groups will be examined.

EDUC 560 TEACHING READING AND WRITING SECONDARY SCHOOL

3 CREDITS

This course examines the nature of reading comprehension and writing at the secondary level. It includes discussion of strategies to teach the stages required for the development of those skills. Thinking skills and critical thinking as a basis for the development of appropriate reading comprehension and writing levels in all content areas will also be discussed.

EDUC 561 COMPUTER APPLICATIONS FOR TEACHING

3 CREDITS

The course focuses on the different uses of computers in education. It includes the following applications: text processors, electronic worksheets, statistical analysis programs, database systems, tutorials, educational games, simulations, common language programs, and specialized languages for creating educational modules.

EDUC 563 TEACHING OF WRITING: THEORY AND PRACTICE

3 CREDITS

The course centers on the study and analysis of theoretical and practical issues related to the teaching of writing. Students will improve their own writing while learning the writing process. Strategies for teaching the thinking/writing process and their applications to ESL teaching will be emphasized. The course uses a workshop format and is designed to model the recommended strategies.

EDUC 564 APPLIED LINGUISTICS FOR ESL TEACHERS

3 CREDITS

"Applied Linguistics for ESL Teachers" provides the student with substantial knowledge of key concepts, issues, insights, and pedagogical implications of research in some of the issues related to ESL and applied linguistics. Some of the applied linguistic issues that will be examined in the course include the following: the use of phonics and phonemic awareness in learning to read, factors in teaching oral communication in social contexts, irregularities in English orthography and implications for teaching, word formation in vocabulary development and writing, and language proficiency in ESL.

EDUC 566 METHODS OF TEACHING ENGLISH AS A SECOND LANGUAGE

3 CREDITS

Study of principles of bibliographical organization as an important factor for locating information. Different classification systems. Including computerized systems will be studied and analyzed.

EDUC 571 SEMINAR FOR DANCE PRODUCTION: BODY MOVEMENT AND EXPRESSION

3 CREDITS

The course is a seminar/workshop of dance production, in which principles involved in dance activities are discussed. The production of dance programs is central to the course; this will be accomplished according to the ability and level of competence of the students. The course also includes the theory and practice of the motor skills of the human body, from the standpoints of movement and artistic expression.

**EDUC 572 DEVELOPMENT AND EVOLUTION OF DANCE
3 CREDITS**

The course deals with the origin, evolution and development of dance throughout the human history. The role of dance in different cultures, from the Far East to the Western World, is discussed. The role of dance in the history of Puerto Rico is analyzed. The diverse manifestations of dance such as magical dance, social dance and representative dance are explored.

**EDUC 573 METHODOLOGY AND INTEGRATION OF DANCE TO ELEMENTARY TEACHING
3 CREDITS**

The course deals with the integration of dance and corporal movement into the study and learning of other subject matters. Methodologies appropriate to this art form are identified and studied. How this art may contribute to the enrichment of the basic elementary curriculum is examined. The use of technological innovations to teach dance and corporal movement is discussed.

**EDUC 574 THEATRICAL TECHNIQUES
3 CREDITS**

The course focuses on diverse theatrical techniques used to enhance non-dramatic literature for the observer and to present a creative challenge to the performer. In this course students will learn theatrical techniques to be used with nondramatic literary genres as well as with other written expressions.

**EDUC 576 TEACHING MODELS AND SYSTEMS
3 CREDITS**

Analysis of the teaching systems and models, the traditional and innovative teaching strategies, and their adaptation according to the student's aptitudes. Emphasis will be given to: the cognitive development, the learning styles, the teaching models and the application of Deming's philosophy, and Total Quality Management for teaching in the classroom.

**EDUC 578 ETHICAL AND LEGAL PRINCIPLES IN INFORMATION SYSTEMS
3 CREDITS**

The course deals with ethical issues pertaining to the information specialist profession. Topics include leadership, legislation related to information rights, equal informational opportunity, and the Privacy Information Act.

**EDUC 579 ORGANIZATION OF BIBLIOGRAPHICAL RESOURCES
3 CREDITS**

Study of principles of bibliographical organization as an important factor for locating information. Different classification systems. Including computerized systems will be studied and analyzed.

**EDUC 580 EDUCATIONAL PSYCHOLOGY: HUMAN GROWTH AND DEVELOPMENT
3 CREDITS**

The course deals with theories of human development as seen from different perspectives: biological, social, philosophical, historical, and psychological. It examines the physical, moral, sexual, social, and cognitive development of individuals from conception through the aging process. Human development is analyzed as a continuous process throughout the lifespan, giving special attention to the social and cultural context in which development occurs.

**EDUC 581 INTRODUCTION TO COUNSELING SERVICES
3 CREDITS**

The course centers on a professional orientation to the counseling profession. Topics include history and philosophy, work setting and roles. Students will be introduced to theories, approaches and stages of the helping process.

**EDUC 582 LEGAL AND ETHICAL ISSUES IN COUNSELING
3 CREDITS**

Study of the ethical and legal issues related to the guidance and counseling process. Emphasis is given to legal dispositions related to the services, procedures and the rights of individuals involved in the process. The course also provides the student with knowledge of ethical codes and standards for the counseling profession.

**EDUC 583 ASSESSMENT INSTRUMENTS AND TECHNIQUES
3 CREDITS**

Study of instruments and techniques used for assessment, measurement and evaluation. The purpose, characteristics and kinds of standardized test, scales observations and records will be analyzed. Emphasis is placed on aptitude, achievement, intelligence and personality tests.

**EDUC 584 INDIVIDUAL COUNSELING TECHNIQUES
3 CREDITS**

Study and analysis of the helping process of individual counseling. Emphasis on the counseling process stages (establishing the relationship, assessing the problem goal setting initiating intervention termination and follow-up) as a helping system. Exposition, study and discussion of different technique with emphasis on the cognitive/behavioral and affective areas.

**EDUC 585 GROUP COUNSELING TECHNIQUES
3 CREDITS**

Study and analysis of theories, techniques and procedures used in Group guidance and counseling. Discussion of topics such as purposes and goals of group guidance and counseling advantages, disadvantages, selection of members, roles, leadership as well as the different phases of the process.

**EDUC 586 CAREER AND LIFE COUNSELING
3 CREDITS**

Study and analysis of theories and principles of career counseling. The course combines theory and practice applied to career counseling. It includes knowledge and use of different occupational standardized tests, (aptitude, personality, occupational interest as well as other resources in a career center).

**EDUC 587 INTERNSHIP
3 CREDITS**

Supervised clinical experience where students will put into practice the knowledge and skills acquired in the program. Students will have to complete 150 direct service hours in counseling activities in the selected scenario.

**EDUC 590 METHODS OF DIAGNOSIS AND ASSESSMENT OF READING
3 CREDITS**

The course focuses on assessment as a tool in making instructional decisions about reading and writing. Topics include the uses, characteristics, interpretations, and limitations of a variety of formal and informal measures and approaches of reading/writing and related skills. A case study approach is used. The course assists the student in becoming a knowledgeable consumer of assessment measures and of diagnostic support services.

**EDUC 592 INTEGRATION OF ARTS AT THE PRIMARY LEVEL
3 CREDITS**

The course deals with the study of the mechanisms that act upon the physiological and biomechanical responses to exercise and their relationship.

**EDUC 593 TEACHING SCIENCE AT PRIMARY SCHOOL
3 CREDITS**

The course prepares teachers to engage students in science inquiry and to use constructivist teaching methodologies and new assessment strategies. Emphasis on the history of science education and the analysis of the Science Education Standards.

**EDUC 594 TEACHING MATHEMATICS AT PRIMARY SCHOOL
3 CREDITS**

Discussion and analysis of current methods of teaching mathematics at the K-3 level. Study of activities-based curriculum focused on problem solving and standardized instruments for curriculum and student evaluation and assessment. Emphasis is given to use of technology for problem solving and decision making.

**EDUC 595 INTEGRATION OF READING INTO THE CURRICULUM
3 CREDITS**

The course deals with instructional strategies for integrating reading skills in social studies, sciences, mathematics, and fine arts courses. Stress is on the acquisition of simple to complex reading skills in the school curriculum, through comprehension and critical thinking. The holistic approach in different subjects and school levels will be emphasized.

EDUC 596 THE WHOLE LANGUAGE APPROACH AND THE DEVELOPMENT OF THE READING AND WRITING PROCESSES

3 CREDITS

The course focuses on the study of the theoretical bases of the whole language approach and its implications for the teaching of reading and writing. It includes analysis of strategies and materials that can be used to integrate reading and writing to the K-3 curriculum.

EDUC 597 CURRICULUM AND METODOLOGY OF TEACHING SOCIAL STUDIES

3 CREDITS

Critical analysis of current methodology trends and issues in social studies curriculum and learning. Content and professional standards of the National Council for the Social Studies and their relationship to Puerto Rico's curriculum is analyzed. Research and the use of technology are required in this course.

EDUC 598 TEACHING SCIENCES AT ELEMENTARY SCHOOL

3 CREDITS

Critical analysis of scientific activities, teaching strategies, student assessment and integration of the new technologies used in the science classroom. The student will study and compare curriculums from other countries with the Conceptual Framework and the content standards for the science program designed by the Department of Education of Puerto Rico.

EDUC 599 TEACHING MATHEMATICS AT ELEMENTARY SCHOOL

3 CREDITS

Analysis and discussion of up-to-date mathematics teaching trends, for grades 4th through 6th. Emphasis will be given on instructional design process that focus on a constructivist curriculum view supported by the application of inquiry, discovery and problem solving. An integration of information and communication technology to the instructional process will be presented as a support tool for mathematics teaching strategies. Assessment evaluation and measurement techniques will be integrated in the teaching-learning process.

EDUC 600 EDUCATIONAL RESEARCH METHODS

3 CREDITS

Introduction to the concepts and procedures of an educational research. Will study the nature and purposes of research: designs, investigation instruments and methods for interpreting data. Emphasis on the planning, writing and evaluation of different types of research and their contribution to the educational field.

EDUC 602 RESEARCH SEMINAR FOR THESIS

3 CREDITS

The purpose of this course is to prepare students to select a research problem, submit a proposal for the study of the problem and elaborate a thesis under the direction of the advisor. It is a research course for all specialties.

EDUC 603 RESEARCH SEMINAR

3 CREDITS

The course is geared to the study and discussion of the content, strengths, and weakness of the most recent researches in education. The content (information) of current research in the specialties of each student is examined: their assumptions, research methodologies, data interpretation techniques and presentation styles. The seminar requires a literature review on a research topic of student's interest.

EDUC 608 SPECIAL PROJECT IN READING

3 CREDITS

The course centers on the application of theoretical knowledge acquired in previous courses to the teaching of reading as well as on the practical skills developed as educational practitioners. The course requires the design and development of a project geared to improving the reading abilities of elementary school students.

EDUC 610 EDUCATION OF THE EXCEPTIONAL CHILD

3 CREDITS

Requirements and legislative principles of the federal and state laws that protect the exceptional child. Study of the physical, social, emotional and educational characteristics of the different exceptions. Methods and instructional materials for the exceptional child.

**EDUC 611 EDUCATION OF THE EXCEPTIONAL CHILD IN REGULAR CLASSROOMS
3 CREDITS**

Requirements and legislative principles of the federal and state laws that protect the exceptional child. Study of the physical, social, emotional and educational characteristics of the different exceptions. Methods and instructional materials for the exceptional child.

**EDUC 612 ROLE MODEL FOR CHILDREN WITH MILD AND SEVERE DISABILITIES
3 CREDITS**

Different methods to be used in the education of the exceptional child. Emphasis on distinct methods: task analysis, behavior modification and the psychokinetic method.

**EDUC 613 PRESCHOOL EDUCATION OF THE EXCEPTIONAL CHILD
3 CREDITS**

It is the comprehensive study of the physical, social, emotional, cognitive, and language developmental aspects of exceptional children, when participating in a preschool environment. Emphasizes on the early intervention (B- 2 years) and Preschool Special Education (3-4 years) for infants, toddlers and preschoolers with special needs, diverse capabilities, and exceptionalities. This course also covers the evaluation and creation processes and practices of assessment, curriculum (ISFP), teaching strategies, learning materials, and technology, these children.

**EDUC 616 ASSESSMENT, MEASUREMENT, AND EVALUATION IN SPECIAL EDUCATION
3 CREDITS**

This course emphasis the most important concepts of measurement, evaluation and assessment and the importance in the special education. In legal terms, responds to the public laws and all the dispositions related with evaluation. Also, criterion, normalize and no normalize evaluation forms and assessments strategies in Special Education.

**EDUC 617 RESEARCH PROJECT IN SCHOOL SETTINGS
3 CREDITS**

Development and practice of the competencies and standards related to the creation and implementation of curriculum and teaching strategies in special education. The students acquire a historical perspective of the curriculum as a field of study and examine various theories of curriculum design. They evaluate curriculum practices of the special education program. Also, study the relationship between curriculum, assessment and the individualized educational programs (IEP). The course provides for the profound analysis of appropriate teaching strategies and methods for exceptional students.

**EDUC 618 CHILDREN AND ADOLESCENTS COUNSELING
3 CREDITS**

This course examines the theories and strategies of intervention for children and adolescents counseling at school. It includes the study of the children and adolescents counseling, students of diverse cultures and students with special needs. Specific situations such as the abuse of controlled substances, school violence, child abuse, self-esteem, the duel, and the divorce will be studied.

**EDUC 619 PROFESSIONAL EXPERIENCES SEMINAR
3 CREDITS**

Course designed for students to examine, analyze and reflect about issues and tendencies related to their respective disciplines and how they impact education globally as well as their professional community students will explore alternatives to address the identified issues.

**EDUC 620 CONCEPTS, PROCESSES AND PRINCIPLES OF EDUCATIONAL ADMINISTRATION
3 CREDITS**

Concepts, processes, and principles of administration. Its applications for educational institutions, organizations and agencies.

**EDUC 621 EDUCATIONAL THEORIES, PRACTICES AND TRENDS
3 CREDITS**

Introduction to the different theories, practices and trends of educational administration and their impact upon the field of education. Emphasis on the fundamentals of principalship are studied and its relationship with the diverse administrative roles and positions within the educational system.

EDUC 622 LEADERSHIP: FUTURE OUTLOOK IN EDUCATIONAL ADMINISTRATION
3 CREDITS

Organization and theories of change in educational environments. Emphasis upon participant administration, problem solving, decisions making, organizational behavior, and environment.

EDUC 623 EDUCATIONAL POLICY, FUND MANAGEMENT AND PROCESSES
3 CREDITS

Analysis of Puerto Rico's school laws and regulations. Emphasis upon the analyses of political and economic aspects of the administration of educational institutions. Management of funds and decision-making processes. Impact upon federal and state policies of private and public education.

EDUC 624 CONTEMPORARY AND FUTURISTIC SUPERVISORY PRACTICES
3 CREDITS

Processes, principles and practices of supervision. Examines futuristic approaches within the tasks and functions of the school's supervisor and administrator.

EDUC 630 STATISTICS FOR EDUCATIONAL RESEARCH
3 CREDITS

Identification of the adequate research approach for the solution of pedagogical problems. Emphasis is made in topics related to descriptive and inferential data analysis making emphasis in results' interpretation. Other topics that will be covered include elementary notions of probability, estimation, sampling, hypothesis testing, experts' criteria and experimental design.

EDUC 640 INSTRUCTIONAL DESIGN PRINCIPLES
3 CREDITS

Analysis of instructional design as a systematic process for planning learning experiences. The general design model applied uses the identification of learning needs to design and develop an instructional system supported by information and communication technologies. Also, several instructional design models will be discussed based on their theoretical foundations and learning strategies.

EDUC 641 FOUNDATIONS OF EDUCATIONAL TECHNOLOGY
3 CREDITS

Discussion of the development of the concept and the professional field of educational technology. Study of the background, foundations, issues, modern trends and practices related to educational technology. It emphasizes the discussion of social aspects and policies regarding the use and integration of technology in the educational setting.

EDUC 642 INSTRUCTIONAL MEDIA
3 CREDITS

This course presents the historical development of the use of instructional media for teaching and training. Concepts related to instructional media for training or virtual courses are discussed, including the mention of some instructional media, their importance and their evaluation. The basic principles for the creation, selection and use of various media in the instructional process are discussed.

EDUC 643 FOUNDATIONS OF DISTANCE EDUCATION
3 CREDITS

Discussion of the theoretical and philosophical foundations of distance education. Exploration of current trends affecting distance educational and its implications for the design and development of learning experiences at a distance. Students will examine different models, theories and technologies used in the development and distribution of distance education. It will emphasize the role of internet and the learning/content management systems in the management for quality in distance education.

EDUC 645 INTRODUCTION TO SCHOOL COUNSELING
3 CREDITS

Introduction to the school counseling profession. Evaluated professional aspects including history, organizational structure, and multicultural standards, legal and Ethical aspects. Explore the School Counseling as profession with emphasis in the cognitive, emotional, affective, academic and social areas in children and adolescents.

**EDUC 646 DEVELOPMENT AND MANAGEMENT OF SCHOOL COUNSELING
3 CREDITS**

This course is designed to introduce students to the philosophy of counseling programs at the school in grades K12 using the ASCA national model. Students must demonstrate professional knowledge, the skills needed to promote academic excellence, personal emotional development / social of all K-12 students. The emphasis in the programs of school counseling as critical components of the enterprise, education, planning, accountability and the assessment thereof.

**EDUC 649 COUNSELING OF STUDENT AFFAIRS IN HIGHER EDUCATION
3 CREDITS**

The purpose of this course is to provide the future counselor information about counseling roles in higher education institutions. Through the study of different theoretical perspectives students will analyze the philosophy and organizational culture of higher education institutions and their impact on counseling programs. Characteristics and profile of traditional and non-traditional students the role of student service offices and the relationship of counseling professional with the institution's mission and goals will also be topics of discussion.

**EDUC 650 COUNSELING FOR STUDENT DEVELOPMENT IN EDUCATION
3 CREDITS**

The purpose of this course is to provide prospective counselors with the strategies needed for the development and well-being of university students. During the course, students will have the opportunity to discuss resources needed for the transition from school to a higher education institution as well as legal and ethical issues pertaining university students. Topics discussed include cultural diversity, college adaption, students' needs and retention.

**EDUC 651 PREVENTION COUNSELING: STUDENT EXPERIENCES
3 CREDITS**

The purpose of this course is to provide prospective counselors with the strategies needed for the development and well-being of university students. During the course, students will have the opportunity to discuss resources needed for the transition from school to a higher education institution as well as legal and ethical issues pertaining university students. Topics discussed include cultural diversity, college adaption, students' needs and retention.

**EDUC 653 NATURE AND PSYCHOSOCIAL ASPECTS OF THE STUDENT WITH AUTISM
3 CREDITS**

This course offers students and overview and analysis of the spectrum nature of autism based on recent research. We will discuss the basic concepts and new discoveries about this condition. Be considered characteristic of the behaviors, attending and giving emphasis to the psychological aspects of a student with autism. Through the course will present the main models of intervention used to achieve effective social relations in the different environments that the student shares. Also, learning activities that emphasize the optimal development of social skills will be designed.

**EDUC 654 COMMUNICATION METHODS OF THE CHILD WITH AUTISM
3 CREDITS**

Presentation, discussion and analysis of the main methods of communication used in the intervention of students with autism as well as recommended strategies to address the problems of communication in this population. Students will analyze different etiologies related to the communication of the child with autism. The theories that have different approaches to intervene appropriately with students within the autism spectrum will be studied. This course also emphasizes the recommended techniques to work effectively the particular needs presented by each student. It also took into consideration the use of technological assistance to improve communication difficulties.

**EDUC 655 BEHAVIOR MANAGEMENT OF STUDENTS WITH AUTISM
3 CREDITS**

This course presents the main strategies used in the intervention and behavior management of students with autism. The basic principles of the suggested models for working with behavior modification will be discussed. Educational programs will be evaluated as well as existing approaches to intervene positively with behavioral patterns present in this population. It emphasized the application of the techniques with the purpose of evaluating their effectiveness in designing intervention plans that will lead to improved autistic behavior.

EDUC 656 METHODOLOGY FOR TEACHING AUTISTIC STUDENTS

3 CREDITS

This course is aimed at understanding the concept of methodology and curriculum as a basis for instructional and educational design based on the strengths and needs of students with conditions that make up the autism spectrum. It presents the characteristics that describe the student with autism to emphasize the importance of adapting the procedures of assessment to meet the needs of these. The theoretical and philosophical basis and different curricular alternatives and skills that enable them to integrate the curriculum goals according to requirements will be discussed. Educational programs will be evaluated as well as existing approaches to intervene positively with the learning process in this population. The processes of integration, inclusion, transition and independent living will be analyzed.

EDUC 657 EVALUATION OF CHILDREN WITH AUTISM

3 CREDITS

This course is aimed at understanding the process of evaluation of conditions that make up the autism spectrum. It presents the indicators, characteristics and behaviors that describe the student with autism with emphasis on early identification. It will also discuss aspects of alternative assessment to achieve an accurate diagnosis as an appropriate educational intervention. Students will learn about different scales of assessment and screening for autism, including those developed in Puerto Rico.

EDUC 658 PHYSICAL AND HEALTH DISABILITIES IN CHILDREN AND ADOLESCENTS

3 CREDITS

The course presents an overview of the characteristics, prevalence, types and causes that can develop physical disabilities and health impairment. It emphasizes the different teaching methods and educational strategies that can be used with this population. It focuses on the intervention process and modifications to the elementary and secondary levels.

EDUC 659 SENSORY PROBLEMS IN CHILDHOOD AND ADOLESCENCE

3 CREDITS

The course presents an overview of teaching methodologies and educational strategies for people who have been diagnosed with any needs related to five senses. It emphasizes the teaching and modifications necessary to maximize the potential of students with auditory, visual, speech and/or sensory impairments. The course provides to the professional, the knowledge and skills on strategies for teaching these students in kindergarten through twelfth grade.

EDUC 660 THE EDUCATION OF CHILDREN AND YOUTH WITH COGNITIVE DISABILITIES

3 CREDITS

The course offers to the professional the knowledge and intervention strategies for teaching people with cognitive disabilities throughout their school years. Although, emphasize for teaching students with intellectual disabilities, learning disabilities and autism, during his studies at the preschool, elementary and secondary level. It is proposed to enable the professional development of tools to maximize student performance and enable the professional development of tools to maximize student performance and enable it for proper integration into society.

EDUC 662 TRANSITIONAL PROCESS FOR SPECIAL EDUCATION STUDENTS

3 CREDITS

The course presents the methodology used for teaching handicap students who are in the process of entering high school. It proposes a vision for the process of transition to adulthood, emphasizing the development of activities that promote student skills in the areas of education, training, employment, independent living and other activities in the community.

EDUC 663 CURRICULUM AND TEACHING METHODOLOGY IN SCIENCES

3 CREDITS

Study and critical analysis of the curricular content and methodological strategies used to create effective learning environments in science classrooms. Analysis and application of scientifically based literature and official documents from the PR Department of Education in the instructional design process for teaching science. Development and demonstration of instructional activities with emphasis in a constructivist learning approach.

EDUC 664 LEARNING ASSESMENT IN SCIENCES

3 CREDITS

The course explores theories and concepts underlying learning assessment for science education. Assessment topics to be discussed include theory of measurement, reliability, and validity; design, administration and use of

assessment results to enhance student learning; and assessment accommodations for students with disabilities in a science classroom. It emphasizes the analysis of research identifying best practices and assessment approaches to be integrated them into the instructional process.

**EDUC 665 TECHNOLOGY INTEGRATION INTO SCIENCE TEACHING
3 CREDITS**

The course discusses the integration of Information and communication technologies in the science classroom. It analyses the teacher's role in dealing with Internet growth and current educational technology tools. Emphasis is given to teaching science in a real context where technology, pedagogy, scientific content, beliefs and information resources intertwined. Appropriate selection, planning and technology integration is discussed as part of the design of face to face, hybrid and online learning environments.

**EDUC 666 TECHNOLOGY AS A RESOURCE IN SCIENCE EDUCATION
3 CREDITS**

The course discusses current educational trends that affect science teaching and learning. It analyses science from the perspective of an inherent need for human beings and a field and discipline of knowledge, for which students should develop a scientific thinking process. It emphasizes the instructional trends and research to design learning environments that foster problem solving through strategies of collaboration, information exchange, constructivism and authentic based on a local and global setting.

**EDUC 667 PSYCHOPATHOLOGY
3 CREDITS**

Study of the nature, origin and development of mental disorders. Discussion of explanatory theoretical models of mental disorders. Application of concepts, principles, strategies and practices designed for the intervention with people with mental disorders.

**EDUC 668 INTRODUCTION TO FAMILY COUNSELING
3 CREDITS**

The course includes the history of family counseling. Emphasizes and analyzes the role of the family with traditional and non-traditional styles and their problems in a diverse multicultural environment. Includes the review of family counseling theories and intervention strategies as a therapeutic modality.

**EDUC 670 USE OF TECHNOLOGY AS A RESOURCE FOR THE TEACHING OF FINE ARTS
3 CREDITS**

The course centers on exploration, practice, and handling of different technologies available for the teaching of music, visual arts, dance and theater arts in elementary and secondary schools. It includes discussion of ethical and legal issues concerning the use of the available technology for teaching fine arts.

**EDUC 671 CURRICULAR INTEGRATION OF FINE ARTS INTO SECONDARY SCHOOL
3 CREDITS**

The course focuses on the study and analysis of contemporary theories that sustain the integration of fine arts activities in the secondary school curriculum. Emphasis is on the development of study units that integrate one or more of the fine arts into the teaching of academic subjects in the secondary school. Strategies for assessment and evaluation of students who are involved in fine arts activities in the secondary school will be examined.

**EDUC 672 TECHNIQUES AND MATERIALS FOR TEACHING VISUAL ARTS
3 CREDITS**

Study and analysis of innovative media, techniques and materials available for the teaching of visual arts in the elementary and secondary schools. Exploration of diverse approaches, such as technology media that contribute to the development of student's creativity and the ability to communicate through the visual arts.

**EDUC 673 THEATRE PRODUCTION WORKSHOP
3 CREDITS**

This course uses the presentation of a one-act play or different scenes of dramatic work as a means of refreshing theatre techniques while practicing strategies and techniques appropriate for the integration of theatrical activities into teaching. Students in this course will take part in the entire process of preparing a play for production by developing a theatrical design.

EDUC 674 MUSIC WORKSHOPS/SEMINARS

1 CREDIT

These one-credit courses provide space for a workshop or seminar related to a specific theme in music. Topics may vary according to the availability of visiting music lecturers. Students may take up to three workshops or seminars to complete three credits counted as an elective. These seminars or workshops will be available to graduate students upon the authorization of the Director of the Graduate Program. Enrollment is open to graduate students, faculty of the University, and interested professionals, who must have the authorization of the Director of the Graduate Program.

EDUC 675 MUSIC WORKSHOPS/SEMINARS

1 CREDIT

These one-credit courses provide space for a workshop or seminar related to a specific theme in music. Topics may vary according to the availability of visiting music lecturers. Students may take up to three workshops or seminars to complete three credits counted as an elective. These seminars or workshops will be available to graduate students upon the authorization of the Director of the Graduate Program. Enrollment is open to graduate students, faculty of the University, and interested professionals, who must have the authorization of the Director of the Graduate Program.

EDUC 676 MUSIC WORKSHOPS/SEMINARS

1 CREDIT

These one-credit courses provide space for a workshop or seminar related to a specific theme in music. Topics may vary according to the availability of visiting music lecturers. Students may take up to three workshops or seminars in order to complete three credits counted as an elective. These seminars or workshops will be available to graduate students upon the authorization of the Director of the Graduate Program. Enrollment is open to graduate students, faculty of the University, and interested professionals, who must have the authorization of the Director of the Graduate Program.

EDUC 677 DANCE WORKSHOPS/SEMINARS

1 CREDIT

These one-credit courses provide space for a workshop or seminar related to a specific dance theme that may vary each semester, according to the availability of visiting dance lecturers or artists. Students may take up to three workshops or seminars in order to complete three elective credits. These seminars or workshops will be available to graduate students with the authorization of the Director of the Graduate Program. Enrollment is open to graduate students, faculty of the University, and interested professionals, with the authorization of the Director of the Graduate Program.

EDUC 678 DANCE WORKSHOPS/SEMINARS

1 CREDIT

These one-credit courses provide space for a workshop or seminar related to a specific dance theme that may vary each semester, according to the availability of visiting dance lecturers or artists. Students may take up to three workshops or seminars to complete three elective credits. These seminars or workshops will be available to graduate students with the authorization of the Director of the Graduate Program. Enrollment is open to graduate students, faculty of the University, and interested professionals, with the authorization of the Director of the Graduate Program.

EDUC 679 DANCE WORKSHOPS/SEMINARS

1 CREDIT

These one-credit courses provide space for a workshop or seminar related to a specific dance theme that may vary each semester, according to the availability of visiting dance lecturers or artists. Students may take up to three workshops or seminars in order to complete three elective credits. These seminars or workshops will be available to graduate students with the authorization of the Director of the Graduate Program. Enrollment is open to graduate students, faculty of the University, and interested professionals, with the authorization of the Director of the Graduate Program.

EDUC 680 VISUAL ARTS WORKSHOPS/SEMINARS

1 CREDIT

These one-credit courses provide space for a workshop or seminar related to the visual arts. Topics may vary according to the availability of visiting lecturers or artists. Students may take up to three workshops or seminars in order to complete three credits that will be considered as an elective course. These seminars or workshops will be available to graduate students upon the authorization of the Director of the Graduate Program. Enrollment is available to graduate students, faculty of the University, and interested professionals, with the authorization of the Director of the Graduate Program.

EDUC 681 VISUAL ARTS WORKSHOPS/SEMINARS

1 CREDIT

These one-credit courses provide space for a workshop or seminar related to the visual arts. Topics may vary according to the availability of visiting lecturers or artists. Students may take up to three workshops or seminars in order to complete three credits that will be considered as an elective course. These seminars or workshops will be available to graduate students upon the authorization of the Director of the Graduate Program. Enrollment is available to graduate students, faculty of the University, and interested professionals, with the authorization of the Director of the Graduate Program.

EDUC 682 VISUAL ARTS WORKSHOPS/SEMINARS

1 CREDIT

These one-credit courses provide space for a workshop or seminar related to the visual arts. Topics may vary according to the availability of visiting lecturers or artists. Students may take up to three workshops or seminars in order to complete three credits that will be considered as an elective course. These seminars or workshops will be available to graduate students upon the authorization of the Director of the Graduate Program. Enrollment is available to graduate students, faculty of the University, and interested professionals, with the authorization of the Director of the Graduate Program.

EDUC 683 THEATER WORKSHOPS/SEMINARS

1 CREDIT

These one-credit courses provide space for a workshop or seminar related to a specific theater arts theme that may vary each semester, according to the availability of visiting lecturers, dramatists, or actors. Students may take up to three workshops or seminars in order to complete a three-credit elective course. These seminars or workshops will be available to graduate students upon the authorization of the Director of the Graduate Program. Enrollment is open to graduate students, faculty of the University, and interested professionals, with the authorization of the Director of the Graduate Program.

EDUC 684 THEATER WORKSHOPS/SEMINARS

1 CREDIT

These one-credit courses provide space for a workshop or seminar related to a specific theater arts theme that may vary each semester, according to the availability of visiting lecturers, dramatists, or actors. Students may take up to three workshops or seminars in order to complete a three-credit elective course. These seminars or workshops will be available to graduate students upon the authorization of the Director of the Graduate Program. Enrollment is open to graduate students, faculty of the University, and interested professionals, with the authorization of the Director of the Graduate Program.

EDUC 685 THEATER WORKSHOPS/SEMINARS

1 CREDIT

These one-credit courses provide space for a workshop or seminar related to a specific theater arts theme that may vary each semester, according to the availability of visiting lecturers, dramatists, or actors. Students may take up to three workshops or seminars in order to complete a three-credit elective course. These seminars or workshops will be available to graduate students upon the authorization of the Director of the Graduate Program. Enrollment is open to graduate students, faculty of the University, and interested professionals, with the authorization of the Director of the Graduate Program.

EDUC 687 INTEGRATION OF FINE ARTS AT PRIMARY LEVEL

3 CREDITS

The course focuses on modern theories related to the integration of the arts into the primary curriculum. Study units using one or more artistic expressions as teaching strategies will be prepared. Assessment and evaluation strategies appropriate to children's artistic performance will be discussed and analyzed.

EDUC 690 ADMINISTRATION OF THE FISCAL RESOURCES IN EDUCATIVE INSTITUTION

3 CREDITS

The course focuses on basic knowledge related to the administration of fiscal resources. Topics include the components of an operational budget preparation, administration, and control, establishing financial priorities, budget transfer, and financial forecasts.

**EDUC 691 PLANNING AND EVALUATION IN EDUCATION
3 CREDITS**

The course deals with the conceptualization and practice of planning and evaluation in the educational setting. It includes analysis of approaches, tendencies, strategies for planning and evaluation, and the practical application of these concepts to real situations facing the administrative and teaching personnel in the education system.

**EDUC 702 PRACTICUM IN ADMINISTRATION AND SUPERVISION (ELEMENTARY K-6)
3 CREDITS**

Each student is assigned to an accredited educational institution under the guidance of a school superintendent, supervising principal or official of an educational organization who serves as a supervising administrator. The student's activities include field experiences in administration and community leadership. Students must participate in a three-hour seminar, once a month, to discuss practical problems that arise in the practice. A university supervisor will guide the practice. Eight hours weekly of practice will be required during a regular class semester.

**EDUC 704 PRACTICUM IN ADMINISTRATION AND SUPERVISION (SECONDARY 7-12)
3 CREDITS**

Each student is assigned to an accredited educational institution under the guidance of a school superintendent, supervising principal or official of an educational organization who serves as a supervising administrator. The student's activities include field experiences in administration and community leadership. Students must participate in a three-hour seminar, once a month, to discuss practical problems that arise in the practice. A university supervisor will guide the practice. Eight hours weekly of practice will be required during a regular class semester.

**EDUC 705 PLANNING AND EVALUATION IN EDUCATION
3 CREDITS**

The course deals with the conceptualization and practice of planning and evaluation in the educational setting. It includes analysis of approaches, tendencies, strategies for planning and evaluation, and the practical application of these concepts to real situations facing the administrative and teaching personnel in the education system.

**EDUC 706 CDROM'S AND ONLINE DATABASES AS RESEARCH TOOLS
3 CREDITS**

Study of processes related to CD-ROM-s publications selection and evaluation. Emphasis is placed strategies for the use of thesaurus as a research tool. It includes Boolean Search Strategies and online Data Base topics. Emphasis will be given to workshops using CD-ROM's databases.

**EDUC 707 ORGANIZATION OF BIBLIOGRAPHIC RESOURCES IN AUTOMATED SYSTEMS
3 CREDITS**

Study of Principles of information resources organization in automated environment. Different classifications system and cataloging process will be studied and analyzed using automated library systems. Emphasis will be given to workshops.

**EDUC 708 INFORMATION LITERACY SKILLS DEVELOPMENT
3 CREDITS**

Study of Information Literacy skills. Emphasis is placed on the development of an information literacy program according to the clientele's needs. Study of different instructional methods including instructional design.

**EDUC 709 THESIS: DOCUMENTAL RESEARCH
3 CREDITS**

Research based on document analysis. Its objective is to provide deep analysis of literature experiences aligned to a special subject that represents a contribution to the research about the educational process. The course also aims to open new sources of field research in related educational themes.

**EDUC 710 THE INTERNET AS A RESEARCH TOOL
3 CREDITS**

Overview of the outline System Internet Study of its characteristics. Emphasis will be given to Internet uses and strategies for information research. It includes 3 workshops in Internet.

EDUC 711 INFORMATION SERVICES IN PUBLIC LIBRARIES

3 CREDITS

Study of the characteristics of children and adolescent and their implications for the school library services strategies for needs assessments and interest and activities and services appropriate for this population are discussed. Emphasis is given to information skills critical thinking and reading programs.

EDUC 714 HISTORICAL AND PHILOSOPHICAL PERSPECTIVES IN EDUCATION

3 CREDITS

The course covers historical and philosophical bases of education in the context of Puerto Rico, the United States and other countries, and how they relate to the decisions taken by leaders in educational institutions. Special emphasis is given to defining a personal philosophy of education and identification of the philosophies that permeate the different institutions represented by the participants in the class.

EDUC 715 SOCIAL, CULTURAL AND POLITICAL DIMENSIONS OF EDUCATIONAL ORGANIZATIONS

3 CREDITS

This course will examine the process of learning through the ages by critically examining cross-cultural research and developmental theories designed to describe and interpret the physical, social, emotional, intellectual and psychological processes involved. Emphasis will be placed on the range of individual, familial, environmental and cultural factors that may enhance or inhibit human growth and development, and on the critical role that human relationships play in the lifelong interactive processes of learning and growth. Through multifaceted inquiry utilizing self-reflection, case studies, theoretical analyses and child assessment and observation, participants will consider the implications for their work as educational leaders in approaching current challenge with students, parents, community, and teachers and in creating schools that will foster society change to support the healthy development of children and youth.

EDUC 716 CONTEMPORARY PROBLEMS AND TRENDS IN EDUCATION

3 CREDITS

The course deals with problems and issues that relate to the present and future of public and private education. Problems are identified in a forum that brings experiences and current methodology together to address problems that course participants face as educators. Long range and short-range problem-solving strategies directed toward increasing the scope of curriculum options and expanding the broad applicability of instructional resources are addressed in terms of current situational models.

EDUC 717 LEGAL ISSUES IN EDUCATION

3 CREDITS

The course centers on the discussion of a wide variety of legal issues which arise involving teachers, administrators, school board members, parents and students. Topics will include hiring, certification, supervision, evaluation, tenure, due process rights, discipline, child abuse and special education. Students will be expected to read and discuss a wide variety of court cases and primary source materials so as to extract important principles and practices, which will then be applied to hypothetical problems.

EDUC 718 ETHICS AND EDUCATION

3 CREDITS

This course examines ethical issues that impact effective relations between teachers and students. The methodology used includes case studies dealing with the teaching-learning process such as evaluation, diversity, integrity, plagiarism, technology and sociology. Other ethical issues discussed deal with school organization such as discrimination, sexual harassment, concepts of reward and punishment, teacher hiring and evaluation processes.

EDUC 720 CONTEMPORARY THEORIES OF CHILDHOOD DEVELOPMENT

3 CREDITS

The study of the complexity of child development through examining physical, and social theories, as well as empirical studies from conception to early years. The emphasis is on the development theories and the importance for the learning process in the child; there will be pertinent literature search, discussion and critique. topics also include the impact of culture and diversity on learning child ecology, and family and communication media.

**EDUC 721 PRESCHOOL/PRIMARY TEACHING IN THE 21ST CENTURY: TRENDS AND INNOVATIONS
3 CREDITS**

This course examines the mainstream and innovative thought in Child Education for the 21st Century. How are we thinking about teaching, how do we put it into action in order to prepare the students for the challenges to come and how can we translate all this into an efficient curriculum. There will be lectures in a seminar setting that will provide the doctoral candidate with a solid base to analyze the different and newer tendencies in the field. This setting will also allow the student to develop their own positions, to defend them as well as appreciate and utilize viewpoints different from their own.

**EDUC 723 ORGANIZATION AND GOVERNANCE IN HIGHER EDUCATION
3 CREDITS**

This course has been designed for doctoral students who work or intend to work in higher education institutions. Themes to be discussed and analyzed will be the organizational structure, and governance procedures used in higher education in Puerto Rico. To be discussed will be the duties and responsibilities of the different governing positions and bodies; and how the incumbents are appointed. The role of accrediting agencies will be examined Research activities related to both academic and administrative governance will be required.

**EDUC 724 STUDENT SERVICES IN HIGHER EDUCATION INSTITUTIONS
3 CREDITS**

The course focuses on the analysis of theories, origin and practices related to student services in higher education institutions. The theoretical background, roles and responsibilities of student services personnel, organizational structures and relevant issues of this field are some of the topics to be analyzed.

**EDUC 725 GLOBALIZATION AND INTERNATIONALIZATION: CHALLENGE FOR 21ST CENTURY EDUCATION
3 CREDITS**

The course explores the impact of globalization from an educational perspective and the main strategies used to promote internationalization. During this course students will be able to discuss the role of educational institutions in the development of a global society and engaged global citizens. Also, will study and analyze the factors that promotes globalization and compare different initiatives through diverse national and international reports.

**EDUC 800 LEADERSHIP AND ADMINISTRATION IN HIGHER EDUCATION
3 CREDITS**

This course, Leadership and Administration in Higher Education, will explore leadership in higher education and considerations related to the future status of higher education. The primary focus of the course is the study of the complexity of governance and structures in Higher Education. Contemporary issues affecting Higher Education will also be addressed. The examination of characteristics of successful leaders will occur through readings and personal interactions.

**EDUC 801 PROJECT MANAGEMENT IN EDUCATION
3 CREDITS**

The course deals with skills and techniques in the project management field. With this body of knowledge, students can help educational organizations meet their goals and expectations by using strategies to manage the process of planning, development and control of projects.

**EDUC 802 FINANCIAL AFFAIRS IN EDUCATIONAL SETTINGS
3 CREDITS**

This is a general course in school finance. It is divided into four main areas: context of school finance, strategic planning as the basis for budgeting, budget process, and financial management in education. The student will have the opportunity to view school finance as a process in which planning, budgeting and administration are integrated in order to achieve organizational goals.

**EDUC 803 EVALUATION OF INSTRUCTIONAL PROGRAMS: THEORY AND APPLICATION
3 CREDITS**

The course focuses on an examination of evaluation strategies, techniques and models applicable to instructional programs. It includes the study of the application of objectives to evaluation, development of evaluation designs, and systematic approaches to assessment, as well as problems of implementation and accountability. The course allows students to analyze and design appropriate strategies for evaluating curriculum. Emphasis is on applications in fieldwork settings.

EDUC 804 LEADERSHIP: MODELS AND STRATEGIES
3 CREDITS

The course focuses on the development and practice of identified leadership skills. It includes comprehensive study of the theoretical basis for leadership, analysis of leadership and management processes, exploration of individual assets and liabilities of leaders, and the examination of leadership in groups.

EDUC 805 INSTRUCTIONAL LEADERSHIP
3 CREDITS

This course focuses on leadership for the improvement of instruction. It covers current research on school and teaching effectiveness, instructional methodologies, staff development and school climate.

EDUC 806 LEADERSHIP AND ORGANIZATIONAL CHANGE
3 CREDITS

The course centers on the study and analysis of theories of change and the role of the educational leader in initiating, developing, managing, and balancing processes of change in educational institutions. Emphasis will be placed on developing leadership skills for crafting a vision, mission, and strategic plans for change, as well as for aligning the work group behind the vision.

EDUC 807 LEADERSHIP, COMMUNITY RELATIONS AND COLLABORATIVE ALLIANCES
3 CREDITS

This course addresses the identification and utilization of community resources and the creation of partnerships, community linkages and collaboration efforts to provide for best educational practices and opportunities for students. Special attention is focused on the role of school and community leaders in the development and improvement of networks.

EDUC 808 APPLICATIONS AND USE TECHNOLOGY EDUCATION
3 CREDITS

The course centers on the study of multiple desktop operating environments used in education and training. Students will learn operational procedures for computer operating systems to connect to file servers, library resources, lost systems, electronic mail and Internet resources.

EDUC 809 INSTRUCTIONAL SYSTEMS DESIGN
3 CREDITS

The course is an introduction to the principles of instructional design with emphasis on the role of learning technology-based tools. Topics discussed include instructional design concepts that are fundamental for educators, including school psychologists, curriculum designers, special education teachers, administrators, and counselors. Students are introduced to different models of instructional design for systematic planning of learning activities in which information is transferred to a learner. Students will complete a series of instructional design assignments using both traditional teaching tools and modern technology-based tools.

EDUC 810 TECHNOLOGY MEDIA IN EDUCATION
3 CREDITS

The course focuses on skills, knowledge, and hands-on experience needed to integrate educational technology into the learning environment. Emphasis is on the use of technologies to address different learning styles. Topics include the rapidly changing field of educational technology and its implications on the culture of the classroom and the roles of the teacher and the student. The development of skills necessary to make the student a competent user of computer and communications technologies will also be discussed.

EDUC 811 THEORY AND PRACTICE OF DISTANCE EDUCATION
3 CREDITS

The course centers on the study of the theory and practice of distance education and its application to the planning, development, utilization and evaluation of distance education systems in educational environments.

EDUC 812 TEACHING, LEARNING, AND COGNITION

3 CREDITS

The course deals with theoretical and empirical research on human learning and information processing. Emphasizes is on current perspectives on the nature of mind, brain-based learning, academic learning, and implications for teaching. Analysis will center on processes underlying cognition.

EDUC 813 TEACHING AND LEARNING MODELS AND STYLES

3 CREDITS

This course examines research findings related to effective teaching practices. Students analyze the instructional models and strategies of teaching and probe the theories and research applicable to the different models. They also consider how students' diverse learning styles can be affected by the dichotomy between the research of teaching and the practice of teaching.

EDUC 814 CURRICULUM THEORIES AND DESIGN

3 CREDITS

Discussion and analysis of theoretical assumptions underlying curriculum designs. To be discussed are decision making skills needed to determine a curriculum design, problems related to curriculum design, strategies for constructing, developing and implementing curriculum that is consistent with specific theoretical principals.

EDUC 815 CURRICULUM PLANNING AND DEVELOPMENT

3 CREDITS

The course centers on analyzing the influence of contemporary society and state departments of education on curriculum planning and development. Topics include the historical context in which curriculum is developed and modified; theories related to the purposes of education and curricular expectations; learning theories as related to curriculum development and evaluation; environmental factors as they influence curriculum planning, and the impact of technological innovations on curriculum development.

EDUC 816 CREATING LEARNING ENVIRONMENTS FOR DIVERSE POPULATIONS

3 CREDITS

The course focuses on an examination and discussion of the complexities of teaching. The powerful impact of classroom environment behavior and maturation upon learning will be discussed. The course examines topics such as student perceptions of the classroom and of what is required for anticipated learning to occur; ways teachers use to learn about their students; approaches to student motivation, and the concept of effective classroom instruction.

EDUC 817 CLASSROOM BEHAVIOR MANAGENT

3 CREDITS

The course deals with approaches to classroom management and motivational strategies that will enhance student behavior and performance. Topics include applied behavior analysis, behavior analysis techniques, criteria and procedures for selecting, defining and measuring behavior, and behavior modification. Technology as a tool for behavior management is discussed and applied.

EDUC 818 EARLY IDENTIFICATION OF HIGH-RISK STUDENTS

3 CREDITS

This course delineates at-risk behaviors of youth of today, including substance abuse, teen pregnancy, and delinquency, violence, and youth suicide. Data on the five at-risk categories, treatment approaches and prevention strategies that focus on the family, the school and the individuals are presented. Legal issues and concerns for human service professionals are also to be examine.

EDUC 819 LANGUAGE DEVELOPMENT ISSUES IN PUBLIC AND PRIVATE SCHOOLS IN PUERTO RICO

3 CREDITS

The course deals with issues related to the teaching and learning of Spanish and English in Puerto Rico's public and private schools. The course centers on analytic examination of education paradigms, language teaching methodologies, policies, and practices, as compared to bilingual education models in the United States and in other parts of the world. The course will also examine language teacher education and teacher training, in addition to the sociopolitical climate for language teaching on the island.

EDUC 820 TEACHING IN MULTICULTURAL ENVIROMENTS

3 CREDITS

The course deals with issues related to paradigms of the teaching and learning of Spanish, language teaching methodologies, policies, and practices, as well as English teaching in Puerto Rico's public and private schools. The course examines education analytically, as compared to bilingual education models in the United States and other parts of the world. The course will also examine language teacher education and teacher training, in addition to the sociopolitical climate for language teaching on the island.

**EDUC 821 ISSUES IN WRITING ENGLISH AS A SECOND LANGUAGE
3 CREDITS**

Discussion and analysis of theoretical assumptions and research literature in the processes of ESL writing. The nature of writing, as well as the linguistic and cognitive problems faced by ESL writers, are examined in this course. Teaching implications and research issues in ESL writing are also discussed.

**EDUC 822 ELECTRONIC DATABASES AND INFORMATION SERVICES
3 CREDITS**

The course focuses on development and use of online, eBooks and CD-ROMS information services. The study of available databases in different fields is included. Emphasis is placed on strategies for the use of the thesaurus as a research tool. It includes Boolean search strategies and online database topics. Topics covered also include conducting online and CD-ROMS searches, client interview, developing, promoting and evaluating online services, as well as current trends.

**EDUC 823 ADVANCED ORGANIZATION OF BIBLIOGRAPHIC RESOURCES
3 CREDITS**

Study of information resources organization in automated environments. Different classifications system and cataloging processes will be studied and analyzed using automated library systems and electronics resources. Emphasis will be given to workshops using computerized systems in information centers.

**EDUC 824 SEMINAR: SPECIAL TOPICS IN LIBRARY AND INFORMATION SERVICES
3 CREDITS**

Discussion of advanced topics trends and problems in library and Information services. Students will be required to investigate selected topics related to their field and the education in Puerto Rico.

**EDUC 825 ANTHROPOLOGICAL AND CULTURAL CONCEPTS IN THE CURRICULUM OF PUERTO RICO
3 CREDITS**

Study and analysis of the most outstanding themes of cultural anthropology, folk arts and their relationship with the elementary and secondary school curriculum in Puerto Rico. Emphasis will be given to themes related to culture, religion, religious beliefs, myths, time and space, and the occurrence of these themes in folk arts of Puerto Rico.

**EDUC 826 EDUCATIONAL RESEARCH ON THE TEACHING OF POPULAR ARTS AND FINE ARTS
3 CREDITS**

The course is designed to provide doctoral students tools to develop research projects in themes related to the use of folk and fine arts in teaching other subjects, such as ethnomusicology, new discoveries of the effects of teaching arts on cognitive learning, folk arts as teaching strategies, the aesthetic and educational quality of artistic expressions, implications of high technology for teaching arts, and others. The student will design and complete a research paper related to one of the areas discussed in the class.

**EDUC 827 ARTISTIC AND CULTURAL EXPRESSION
3 CREDITS**

Study of one or more cultures of the Caribbean and/ or Latin America from the perspective of popular arts and their effect on the education of each country studied. A one week or longer trip to one of the countries selected will be organized to share experiences with teachers, students and artisans. Cultural and educational materials from Puerto Rico will be shared with the host country. A web of communication with other cultures and educational systems will be established. Upon returning, a conference will be organized to share experiences and knowledge with the students on campus. Each student will be responsible for trip expenses, unless as a group they have been able to raise funds to pay for the trip. Students who are not able to make the trip, will develop a virtual trip/investigation to be presented at the conference held by the group.

**EDUC 828 SEMINAR AND PRACTICUM IN HIGHER EDUCATION CURRICULUM AND TEACHING
3 CREDITS**

This course offers the opportunity to put knowledge, skills and professional skills into practice in educational and / or community settings. The theories, models and designs used for the teaching and / or administration of educational programs and projects are applied. It develops, in a practice setting, a project that depends on the priorities and needs of the same. Among the teacher's quasi-administrative tasks are: developing a new program, project or course, evaluating existing programs or courses, offering training workshops, writing a proposal for external funds, etc. The criteria of confidentiality and teamwork skills are applied to prepare the doctoral student for future professional experiences.

EDUC 901 RESEARCH METHODS IN EDUCATION

3 CREDITS

Basic concepts, methods, and problems in educational research are considered in this course, such as discovering the periodicals in one's fields, steps in the research process, developing research questions, design of instruments, methods of data collection and analysis, interpreting results, and writing research reports.

EDUC 902 STATISTICAL METHODS IN EDUCATION

3 CREDITS

The course is designed to equip doctoral students with the essential statistical concepts for developing statistical designs in their own research. In addition to the fundamental principles of descriptive and inferential statistics, students will learn to use computers to compute data and to interpret computer-generated results produced by statistical software (SPSS). Course topics include measurements of central tendency, variability, relative position, and correlation; sampling and probability distributions; tests of significance; t-tests; analysis of variance; chi-square tests; and regression analysis. Analysis of data with SPSS is emphasized.

EDUC 903 QUALITATIVE RESEARCH

3 CREDITS

This course focuses on the principles, theories, structure and processes of qualitative research. Different research methods such as focus groups, case studies, ethnographical and phenomenological studies are analyzed. In depth discussion of techniques for collecting and analyzing data for qualitative research is emphasized.

EDUC 904 QUANTITATIVE RESEARCH

3 CREDITS

The course focuses on the structure and processes of quantitative research in education. Concepts of probability, cause and effect, internal and external validity, sampling techniques, data gathering and analysis and methodology for quantitative research are discussed in this course. Topics related to computerized applications for data analysis and ethical considerations are also discussed.

EDUC 905 DISSERTATION I

3 CREDITS

The first of three required courses of dissertation writing are designed to aid the student in producing a sound proposal that will include the review of the literature. The proposal will then be submitted to the dissertation committee, who must notify the doctoral candidate and the Faculty of the School of Education, in writing, that the proposal has been accepted.

EDUC 906 DISSERTATION II

3 CREDITS

The second of three required courses of dissertation writing is designed to aid the student in producing an introduction, a review of the literature, a conceptual framework that will justify his/her investigation and a description of the methodology for the dissertation. Students should have started the collection of data for the investigation proposed. It is completed with the successful completion of the first three chapters of the dissertation, with the approval of the candidate's dissertation committee.

EDUC 985 COMPREHENSIVE TEST

0 CREDITS

The focus and content of the comprehensive exam is intended to assist students (Teaching specialization) in knowledge integration and evaluating their general training in the subject. The comprehensive exam emphasizes the knowledge of theories and procedures applied to different philosophical aspects that have defined the subject under the study (Test Innovations, Inc., 2007).

EDUC 986 COMPREHENSIVE TEST

0 CREDITS

The focus and content of the comprehensive exam is intended to assist students (Physical Education specialization) in knowledge integration and evaluating their general training in the subject. The comprehensive exam emphasizes the knowledge of theories and procedures applied to different philosophical aspects that have defined the subject under the study (Test Innovations, Inc.,2007).

**EDUC 1440 PRACTICUM
3 CREDITS**

The Pre-school practice course for Preschool teacher assistant is the most important clinical experience of the program. The course offers the student the opportunity to apply knowledge, skills and attitudes, acquired through their development in our program, in a real educational environment assuming the role of assistant teacher under the supervision of a highly trained staff. The student will practice in an educational preschool in the country that meets the requirements established and regulated by the government. The practice will be from Monday to Thursday for three hours a day until the amount of (100) contact hours is met.

**EDUG 525 FOUNDATIONS OF EDUCATION
3 CREDITS**

The course provides the integration of the foundations of education within a curricular framework: historical, sociological, psychological, philosophical and political-legal. It provides a comprehensive body of knowledge on the various foundations of education and significant contemporary issues, while incorporating relevant interdisciplinary perspectives.

**EDUG 531 STATISTICS APPLIED TO EDUCATION
3 CREDITS**

A study and practice of the basic statistics techniques used in educational research. Emphasis on the measures of central tendency and dispersal, analysis of regression, correlations, association of variables, test of hypothesis, sampling, design of research methods and analysis of variance. Use of computerized programs for the statistical analysis.

**EDUG 600 CURRICULUM THEORY
3 CREDITS**

Exploration of the theoretic models and their social and philosophical contexts. Analysis of the curricular discourse in the framework of the diverse epistemological views that are dominant. Application of a theoretic model to the curriculum analysis.

**EDUG 601 CURRICULUM DESIGN AND DEVELOPMENT
3 CREDITS**

Study of the curriculum theory, curriculum design models and curriculum development for educational systems. Curriculum design models include: disciplines centered curriculum, student centered curriculum, and problems centered curriculum. Comparison between the traditional models with the new vision of curriculum from the point of view of Eugenio María de Hostos, Paulo Freire and others. Emphasis in research analysis and curriculum design adapted to student's needs. Practice in the curriculum design models.

**EDUG 615 CURRICULUM EVALUATION
3 CREDITS**

Study of traditional curriculum evaluation models and their authors or proponents: Tyler, Provus, Stakes, Stufflebeam, Eisner, Scriven, Metfessel & Michael, Alkin, Hammond, Weinstein & Fantini, Carl Roger and Accreditation. Comparison within models in: structure, characteristics, advantages, disadvantages, philosophy and their theory. Comparison between traditional models and modern curriculum trends. Practice evaluating a curriculum or program.

**EDUG 680 RESEARCH PROJECT
3 CREDITS**

Development of a research in the area of the student's specialization. The project will be based on a previously developed proposal. The candidate will use computerized technology and show evidence of adequately mastering communication and research skills. It's required meetings with the assigned professor to develop the project. The course is scheduled for 15 weeks.

**EDVI 448 CLINICAL EXPERIENCE (VOCATIONAL INDUSTRIAL EDUCATION)
3 CREDITS**

The course offers a learning opportunity focusing on observation, reflection and integrating the theory to the practicum in the specialty area of education. It proposes to the student's diverse learning and teaching dimensions under the tutoring of an experienced teacher. The course promotes that the students reflect and experiment with the teaching process along with the newest strategies and methodologies regarding curriculum, planning, evaluation, assessment, research, and fundamental specialization areas. Required time is 100 hours distributed in 85 hours in an educational center or school and 15 hours in the seminar.

EDVI 449 CLINICAL EXPERIENCE (VOCATIONAL INDUSTRIAL EDUCATION)
3 CREDITS

The course offers a learning opportunity focusing on observation, reflection and integrating the theory to the practicum in the specialty area of education. It proposes to the student's diverse learning and teaching dimensions under the tutoring of an experienced teacher. The course promotes that the students reflect and experiment with the teaching process along with the newest strategies and methodologies regarding curriculum, planning, evaluation, assessment, research, and fundamental specialization areas. Required time is 100 hours distributed in 85 hours in an educational center or school and 15 hours in the seminar.

EDVI 465 FOUNDATIONS OF VOCATIONAL INDUSTRIAL EDUCATION
3 CREDITS

This course examines vocational education, the different laws that regulate the development of vocational education, progress indicators, professional development opportunities and goals and objectives of occupational education. The course includes the development of an action plan to improve teacher's leadership potential based on current legislation.

EDVI 466 METHODOLOGY AND CURRICULUM IN VOCATIONAL INDUSTRIAL EDUCATION
3 CREDITS

This course includes basic processes needed to analyze competencies and skills that students taking vocational courses should develop. Special methods for occupational analysis as well as the foundations of systems and curricular models for vocational education based in the development of skills are studied. Emphasis is placed in the use of official documents that vocational teachers should be familiar with. Alternatives for the integration and adaptation of the curriculum to the work place are studied. Different alternatives to develop measurable objectives based on the standard industrial curriculum and skills required in the occupational field are examined.

EDVI 467 EVALUATION OF VOC INDUSTRIAL EDUCATION
3 CREDITS

Study of techniques and skills used to implement the processes of assessment and evaluation based on competence, standards of excellence and a log of skills required of vocational students in an occupational setting. Models of scientific instruments to measure the results of the teaching and learning processes will be developed. The student taking this course will be able to try out the tests and other evaluation instruments s/he has developed with selected student populations in order to measure the reliability of the instruments developed.

EDVI 468 DEVELOPMENT OF EDUCATIONAL RESOURCES APPLIED TO VOCATIONAL INDUSTRIAL EDUCATION
3 CREDITS

This course has been structured to provide the student with the competencies and skills needed to develop, select, evaluate and utilize the appropriate educational resources to conduct a vocational course based on industrial education. It includes techniques to ascertain quality control of products and services to evidence a high sense of responsibility, and to demonstrate knowledge of roles and pride of the work of an occupational educator. It provides alternatives for the production and development of educational resources that will allow the student to perform with excellence.

EDVI 469 HEALTH, HYGIENE AND SAFETY IN OCCUPATIONAL EDUCATION
3 CREDITS

This course will examine concepts related to the promotion of safety, health and hygiene in the vocational workshop. It is structured so that the student will be able to recognize the principal measures of safety and prevention required, and to be applied when developing curricula for the different occupational areas. The student will establish the difference between an accident and an incident and will demonstrate that safety is a personal commitment, so that s/he will not be submitted to any unnecessary risks in the vocational workshop. Study of laws and regulations that define work related accidents and provide means for prevention and protection of both students and teachers in the vocational workshop. The students will define methods and techniques for accident prevention in industry and will select some of them to use in a research project.

**EDVI 470 STUDENTS ORGANIZATIONS
3 CREDITS**

Study of the principles and strategies used in the development of goals, objectives, functions, purposes and value of student organizations within vocational education programs. The curricular integration, operation and evaluation of student organizations within the vocational program will be studied. Educational strategies will be established to interpret the role of the counselor of student organizations, the professional development program and the process for the organization of boards of directors for local chapters. The plan for leadership activities will be incorporated to educational competencies to be developed in the vocational workshop.

**EDVI 472 ORGANIZATION, SUPERVISION AND ADMINISTRATION OF VOCATIONAL WORKSHOP
3 CREDITS**

Discussion and demonstration of functional styles used for the organization, supervision and administration of equipment, tools and other educational materials used in the development of the vocational education program. The application of competencies developed in the course will be evaluated by means of the organization and presentation of a scale model of a workshop for student's area of expertise.

**EDVI 473 LABOR RELATION IMPLICATIONS IN INDUSTRIAL EDUCATION
3 CREDITS**

This course is based on the approved legislation that promotes syndication of workers in Puerto Rico. The student must examine different examples of the organization of trade unions in the public sector. Through critical analysis, the student will recognize and understand current legislation and the rights of employers and employees. The Laws, Regulations and other binding agreements as well as the recently created law of Careers in Teaching (Law 158 of 1999) and the syndication of teachers are discussed. A relation of positive and procedural aspects of Law 45 of 1998 (Syndication of Public Employees), and its implication on the syndication of public employees will be discussed. The recently created law for Careers in Teaching (Law 158 of 1999), and the syndication of teachers is discussed.

**EMDR 101 INTRODUCTION TO EMERGENCY MANAGEMENT, MITIGATION AND PREPAREDNESS
3 CREDITS**

Accidents and emergency situations have plagued man since the beginning of history and will undoubtedly occur during our conceivable future. Armed with knowledge and skills for managing such occurrences can lessen their impacts on society. This course presents the theories, principles, and approaches to emergency management. The philosophy of Comprehensive Emergency Management will be discussed with the four attendant steps of current FEMA's strategic model. Legal issues involving emergency management will be presented.

**EMDR 102 INTRODUCTION TO THE UNIFIED COMMAND SYSTEM
3 CREDITS**

This course introduces the Incident Command System (ICS), and provides the foundation for higher level ICS training. The course content describes the history, features and principles, and organizational structure of the Incident Command System. It also explains the relationship between ICS and the National Incident Management System (NIMS). ICS orientation is intended for personnel assigned to an incident or event who have a minimum requirement for understanding ICS. This course will review the ICS organization, the basic terminology, and common responsibilities. It will provide enough information about the ICS to enable the student to work in a support role at an incident or event, or to support an incident from an off-site location.

**EMDR 201 EMERGENCY MANAGEMENT PLANNING
3 CREDITS**

This course introduces the basic policies, concepts, and procedures of planning and addresses the various federal and state assistance programs. Emphasis is placed on the coordination of damage assessment, preparing documentation, and recovery procedures. Students will be introduced to the emergency management planning process, planning standards, planning techniques, and the steps in the development of a basic emergency management plan, special events contingency planning, debris management plan, and its functional annexes. This course is designed for emergency management personnel who are involved in developing an effective emergency planning system.

EMDR 203 OCCUPATIONAL HEALTH AND SAFETY REGULATIONS

3 CREDITS

This course offers the student with the rationale of providing an occupationally safe and healthy work environment for employees. These skills are needed to be able to work effectively in the area of human resources and employee development as well as industrial relations since law has provided workers with specific safety and health rights.

EMDR 206 INTRODUCTION TO DISASTER MANAGEMENT, RESPONSE AND RECOVERY

3 CREDITS

This course provides an overview of hazards theory, emergency management fundamentals and the science of natural and man-made hazards. Both natural and technological hazards are studied with the perspective of response and recovery focus. Some of the topics include response and recovery to earthquakes, tsunamis, volcanoes, floods, wildfires, terrorism, and hurricanes. An analysis of past disasters will be presented along with their impacts on policy formation leading up to the current FEMA all-hazards approach. The role, duties, and importance of the Emergency Manager will be discussed throughout the semester.

EMDR 245 INTRODUCTION TO TERRORISM, NATIONAL SECURITY AND WEAPONS OF DESTRUCTION

3 CREDITS

This course introduces the issue of weapons development proliferation, and non-proliferation around the world. We will examine the basic technologies and motivations, and impact of the development of nuclear, chemical, and biological weapons and ballistic missiles on the international security. Will discuss the various international strategies to counter weapons proliferation - treaties, multilateral conventions and informal arrangements. Examine the challenges of weapons proliferation - such as domestic safety, regional stability and security, and transnational terrorism. This will be done through national and regional case studies - where we will discuss actual and potential US and international strategies/response to each case.

EMDR 300 DESIGN, EVALUATION AND DEVELOPMENT OF EXERCISES

3 CREDITS

This course establishes the fundamentals elements of an emergency exercise program that must be taken into consideration when developing, evaluating, and designing them in controlled spaces. It also provides students a broad view of different management simulation modalities, activities, scope, and benefits. In addition, students will develop an annual plan that will contain the essential elements to comply with the Homeland Security Exercise and Evaluation Program (HSEEP).

ENED 105 INTRODUCTION TO THE TESL

3 CREDITS

The course centers on the study of the theories, methodologies and techniques for teaching English as a second language. Students will reflect upon the principles, foundations, and research of TESL. They will conduct demonstrations of techniques based on the theories and principles studies. They will also reflect on the diversity of their developing teaching styles and how they meet the needs of English Learners.

ENED 204 CHILDREN'S LITERATURE IN THE ESL CLASSROOM

3 CREDITS

This course studies and analyzes different genres for children from ancient folklore to modern works. It entails methods, strategies, and techniques for the teaching of reading in English as a Second Language. Emphasis is given to children's literature to teach and assess reading with the balanced literacy approach. Research projects will be developed through the responsible use of technology.

ENED 205 ADOLESCENT LITERATURE IN THE ESL CLASSROOM

3 CREDITS

This course is an overview of the history and current trends in Young Adult Literature. It includes methods, strategies, materials, and assessment for the use of age appropriate readings. Emphasis is on the balanced literacy approach. Research projects will be developed through the responsible use of technology.

**ENED 320 TEACHING READING AND WRITING IN THE ES CLASSROOM
3 CREDITS**

This course emphasizes methods for teaching reading and writing in a second language (English). The balanced literacy approach, as well as, new emerging techniques are studied and utilized. Assessment strategies for reading and writing are discussed in detail. Additionally, group discussions, simulations, the use of technology, and case studies will be part of the course.

**ENED 350 INTRODUCTION TO MULTICULTURAL EDUCATION
3 CREDITS**

This course investigates key questions about the meaning of multicultural education and how to understand and respond to the issues and challenges involved for learners, educators, and education stakeholders. Students will reflect on definitions of power and privilege, critique understandings of difference, and examine the multi-faceted ways in which multicultural education can be enacted in pedagogy, curriculum, and educational organizations. They will also examine the intersections between race, class, gender, sexuality, language, and citizenship status and try to assess their impact on teaching and learning. The course will consist of multiple opportunities for critical self-reflection and to engage with other learners in analyzing and raising questions about the topics discussed.

**ENED 365 ESL CURRICULUM: METHODS, MATERIALS, AND ASSESSMENT IN THE ESL CLASSROOM
3 CREDITS**

This course includes the application of teaching-learning theories and instructional models in the process of planning and developing educational and assessment tools in the ESL classroom. It also entails an evaluation of instructional materials available and the techniques for the development and adaptation of existing supplementary materials. The relation of academic testing and language skills is emphasized with special focus on the ongoing assessment of the development of language competencies.

**ENED 403 TEACHING ORAL COMMUNICATION IN ESL
3 CREDITS**

Oral communication strategies for English learners with emphasis on the development of authentic language use. Study available oral skills assessments and techniques to increase oral proficiency. Teaching strategies will include assessing, diagnosing and the use of "real" communication situations. As part of the course, students will be asked to visit a classroom and listen to oral interactions among students as well as the study of student's pieces and simulation activities. Research projects will be developed through the responsible use of technology.

**ENED 437 CLINICAL EXPERIENCE TESL K-12
3 CREDITS**

The course offers a learning opportunity focusing on observation, reflection, and the integration of the theory to practice in the teaching of English as a second language. It allows students to experience diverse learning and teaching dimensions under the tutoring of an experienced teacher. This field experience allows the teacher- candidate to reflect on the teaching process along the newest strategies and methodologies regarding the curriculum, planning, evaluation, assessment, research, and specialization fundamental areas. Required time is 100 hours distributed in 85 hours in an educational center or school and 15 hours in the seminar.

**ENED 438 PRACTICUM AND SEMINAR TESL K-12
3 CREDITS**

English as a second language education teacher candidate. It is the field experience where the teacher candidate assumes the responsibilities to take charge of the tasks performed by the teacher in a real school environment. It constitutes the means to apply the different dimensions of teaching and learning. During the practicum the teacher-candidate is presented with scenarios in which they can practice the theories and principles acquired throughout their courses by promoting the physical, social, emotional, and intellectual development of their students. The course also includes a seminar of 1 hour a week for discussion, analysis, and evaluation of the responsibilities, and situations arising in the classroom in order to enrich and complement the practicum experience. The required time is of 250 hours in an educational center or school.

ENGC 146 CONVERSATIONAL ENGLISH

3 CREDITS

This course provides intensive speaking and listening practice in everyday situations in order to strengthen and increase fluency and accuracy. Topics of general interest relative to aspects of the process of communicating, such as verbal and nonverbal communication, are discussed. Oral presentations, role-playing, and group discussion are used. Research activities will be developed through the integration of technology by individual, pair or group work. This course includes laboratory experiences to aid in improving pronunciation.

ENGL 230 INTRODUCTION TO LITERARY GENRES

3 CREDITS

Introduction to literature through the study of the different literary genres. Emphasis is placed on reading and analysis of an extensive variety of authors and types of literature. Intensive reading course. Provides for response writing and discussion as teaching and learning techniques. Research projects will be developed through the responsible use of technology. This course is required for teacher candidates in the TESL program.

ENGL 310 ENGLISH PHONETICS

3 CREDITS

This course studies the phonetic system of the English language and the identification of the organs used in the production of sounds. The International Phonetic Alphabet (IPA) is used in discussing the consonant and vowel system. Techniques and methods used to correct deficiencies and develop competencies in pronunciation are an essential part of this course. This course is required for teacher candidates in the TESL program. (Not an independent study course.)

ENGL 245 ENGLISH GRAMMAR

3 CREDITS

This course is an in-depth study of English grammar with emphasis on syntactic functions, parts of speech, clause patterns and punctuation. Designed for English teachers. The course will be developed through practical exercises and research in order to strengthen the students' competencies. This course is required for teacher candidates in the TESL program.

ENGL 247 INTRODUCTION TO LINGUISTICS

3 CREDITS

This course offers basic linguistic theories and approaches and their effects on the thought processes. It emphasizes fundamental phonological, morphological, syntactic, and semantic concepts, and their application with second language learners. Research projects will be developed through the responsible use of technology. This course is required for teacher candidates in the TESL program.

ENGL 250 FUNDAMENTALS OF PUBLIC SPEAKING

3 CREDITS

This is a course exclusively designed to intensively develop listening and speaking skills. Participants will enhance public speaking engaging in activities enabling them to comprehend and critically analyze information from a myriad of topics related to current events of social situations. The latter is developed through a series of performance tasks that will enable students to strengthen and increase oral fluency and accuracy. Participants will achieve these skills through oral presentations, speeches, role-playing, group discussions, and debates. Research activities will be developed through the integration of technology in individual, pair and/or group work.

ENGL 275 WRITING FOR THE PROFESSIONAL WORLD

3 CREDITS

The course strengthens English writing competencies, grammar principles, and technical vocabulary in the workplace scenario. Principles of professional writing, rhetorical elements and strategies, verbal and nonverbal processes, as well as cultural differences are discussed. Emphasis on formal, informal, internal, and external professional communication is given. Students are required to submit an array of documents to suit different field-related purposes using an adequate writing style. The importance of technological resources and applications to support professional communications is emphasized. Collaboration and teamwork are encouraged.

ENGL 331 ORAL COMMUNICATION

3 CREDITS

This course deals with the theory and practice of public speaking. It emphasizes the importance of nonverbal communication (body language, eye contact, attire) and verbal techniques (pronunciation, intonation, volume, and rate). Effective interpersonal and intercultural communication is also discussed. Students will practice delivering a variety of speeches, which include self-introduction, personal experiences, informative and persuasive speeches in an organized and coherent manner. Some speeches require the use of visual aids and technology.

**ENGS 152 FUNDAMENTALS OF SPEAKING, READING, AND WRITING ENGLISH I
3 CREDITS**

This competency-focused course develops and strengthens students' listening, speaking, reading, and writing proficiency in English through an integrated language arts approach. Students will engage in oral communication competencies to fit the purpose and context of diverse situations. Reading comprehension competencies focus on the analysis of fiction and non-fiction texts from a global perspective to produce different types of paragraphs and short essays expressing diverse points of view. This course involves the responsible use of technology and information skills to generate new knowledge.

**ENGS 152I FUNDAMENTALS OF SPEAKING, READING, AND WRITING ENGLISH I Intensive
3 CREDITS**

This competency-focused course develops and strengthens students' listening, speaking, reading, and writing proficiency in English through an integrated language arts approach. Students will engage in oral communication competencies to fit the purpose and context of diverse situations. Reading comprehension competencies focus on the analysis of fiction and non-fiction texts from a global perspective to produce different types of paragraphs and short essays expressing diverse points of view. This course involves the responsible use of technology and information skills to generate new knowledge. Students will actively participate in language laboratory activities as a course requirement.

**ENGS 152IL LABORATORY OF FUNDAMENTALS OF SPEAKING, READING, AND WRITING ENGLISH I
0 CREDITS**

This competency-focused course develops and strengthens students' listening, speaking, reading, and writing proficiency in English through an integrated language arts approach. Students will engage in oral communication competencies to fit the purpose and context of diverse situations. Reading comprehension competencies focus on the analysis of fiction and non-fiction texts from a global perspective to produce different types of paragraphs and short essays expressing diverse points of view. This course involves the responsible use of technology and information skills to generate new knowledge. Students will actively participate in language laboratory activities as a course requirement.

**ENGS 153 FUNDAMENTALS OF SPEAKING, READING, AND WRITING ENGLISH II
3 CREDITS**

This competency-focused course integrates different rhetorical discourses in a variety of local and international topics in order to generate new knowledge. Students will demonstrate the use of appropriate oral communication competencies in verbal and nonverbal interactions to fit the purpose and context of diverse situations. Reading comprehension competencies will focus on the analysis of fiction and non-fiction texts in order to generate ideas to compose different types of essays. Students apply the writing process and adequate language usage for academic writing on diverse topics. This course requires students to develop a basic research paper on a variety of issues from a global perspective and encourages the responsible use of technology and information skills to generate new knowledge.

**ESHP 101 INTRODUCTION TO EXERCISE SCIENCES
3 CREDITS**

Introduction to the study of: the industry of the exercise and health promotion. Examines the various programs of physical efficiency for the health promotion in the Government and private sectors, in Puerto Rico and United States, and like these define different roles professionals of this industry and aspects of leadership and ethical professional in health promotion and physical efficiency. Introduction to the study of: the industry of the exercise and health promotion. Examines the various programs of physical efficiency for the health promotion in the Government and private sectors, in Puerto Rico and United States, and like these define different roles professionals of this industry and aspects of leadership and ethical professional in health promotion and physical efficiency.

ESHP 201 ANATOMY AND KINESIOLOGY

3 CREDITS

Introduction to the study of fundamental concepts and principles of human anatomy and kinesiology applied to the design and prescription of physical exercise programs for the promotion of health.

ESHP 202 EXERCISE PHYSIOLOGY

3 CREDITS

Introduction to the study of: concepts and principles of human physiology as fundamentals to understand effect of exercise on the body and health promotion.

ESHP 203 DESIGN AND PRESCRIPTION OF EXERCISE

3 CREDITS

Evaluation of guides, standards, protocols and current standards for the prescription and the development of programs of exercises, as they recommend professional groups in this field (American College of Sports Medicine, American Kinesiology Association).

ESHP 204 EXERCISES WITH SPECIAL POPULATION

3 CREDITS

Assessment of standards, protocols and current standards recommended by professional groups for the development of programs of exercises with people who show special conditions or who require medical supervision (American College of Sports Medicine, American Kinesiology Association).

ESHP 300 PSYCHOLOGICAL FOUNDATION OF EXERCISE

3 CREDITS

Introduction to the study of: physical exercise, the experience of exercise and its effect on emotional, mental health and quality of life of the participant. Emphasis on the subjective aspects and the psychological constructs that affect, motivation to participate or deserting programs and exercise routines.

ESHP 301 MANAGING AND TEACHING EXERCISE CLASSES

3 CREDITS

Theory and practice of teaching fitness classes as a personal trainer and group exercise instructor.

ESHP 302 PRACTICE AS A PERSONAL TRAINER

3 CREDITS

Supervised professional experience where the student is assigned to a program of physical efficiency for which assumes the role of personal trainer or instructor of exercise classes.

ESHP 303 MANAGEMENT OF PHYSICAL EFFICIENCY PROGRAMS

3 CREDITS

Study of management essential aspects in the administration of programs of physical efficiency and health; recruitment, supervision and evaluation of employees, customer's management, documentation, management of risks and safety of employees and customers, the operation of the equipment and facilities and budget management.

ESHP 304 EVALUATION OF PHYSICAL EFFICIENCY PROGRAMS

3 CREDITS

Study of models used to evaluate physical activity and physical efficiency programs: evaluation of achievement of objectives, evaluation for satisfaction and cost-effectiveness. Emphasis on the development of instruments and techniques for data collection, data analysis and the writing of the evaluation report.

ESHP 305 PRACTICUM IN THE ADMINISTRATION OF PHYSICAL EFFICIENCY PROGRAMS

6 CREDITS

Professional supervised experience where the student is involved in the management and monitoring a physical efficiency program.

ETIC 010 ETHICAL FOUNDATIONS

3 CREDITS

The course in Fundamentals of Ethics studies the nature of moral philosophy as well as the principal Ethics theories in order to provide students with the necessary knowledge and skills to be successful at the personal and professional levels. The course analyzes the principles of ethics and applies them to contemporary social problems dealing with social consciousness, values and human rights. In addition, it will provide students with the necessary tools to achieve their academic goals, develop good critical thinking, and attain basic learning skills.

**FOPE 800 PHILOSOPHY, FREE TIME, QUALITY OF LIFE AND PHYSICAL EDUCATION
3 CREDITS**

Philosophical analysis of physical education as a profession, its practices, the empirical basis that sustain them, and its range in the promotion of healthy and physically active lifestyles within the scope of reality of the beginning of the 21st century. Evaluation of the concept and the professional structure of physical education related to the development of healthy lifestyles and its components, the promotion of constructive use of leisure, the formation of a recreation behavior, leisure's problems and its implications for quality of life, and the development of programs and research that contribute to the development of the profession.

**FOPE 801 HISTORICAL AND EMPIRICAL ANALYSIS OF SCHOOL AND HIGHER EDUCATION PHYSICAL EDUCATION
3 CREDITS**

Evaluation of historical documentation, professional trends and research related to the development of physical education in Puerto Rico. The historical account will be an emphasis on school and University physical education in public and private sectors. There will be a review of research, published documents, theses and dissertations related to the history and development of physical education at school and University. In this way will be observed the different philosophical and research trends of physical education in Puerto Rico.

**FOPE 802 MULTIDISCIPLINARY ANALYSIS OF PHYSICAL ACTIVITY IN SOCIETY
3 CREDITS**

Analysis of the theoretical and empirical state of tools used by physical educators to train their students; the game, recreation, sport and physical fitness. Analyses the theories, research and biological, sociological, psychological, anthropological, educational and philosophical positions that are important in order to interpret the role of the game, recreation, sport and physical activity in the formation and development of the individual and their impact on the quality of personal and social life.

**FORS 730 FORENSIC INVESTIGATION AND IDENTIFICATION
3 CREDITS**

The course deals with different methods and techniques used to identify and analyze physical evidence located at the crime scene. The following subjects will be discussed: elements of the crime scene and physical evidence, such as hair, fibers, paint, drugs, fires and explosives, fingerprints, DNA, firearms, and documents.

**FORS 735 INVESTIGATION AND COLLECTION OF EVIDENCE AT THE CRIME SCENE
3 CREDITS**

The course focuses on responsibilities of criminal investigators to protect the crime scene, process and gather the evidence, and any other duty necessary in order to achieve the successful criminal prosecution of the accused.

**FORS 740 FORENSIC PHOTOGRAPHY AND FORENSIC SKETCH
3 CREDITS**

The course deals with photography techniques control of negatives, design and assembly of an index of photographs, among other topics. In reference to drawings, the student will be taught how to develop seven forensic drawing techniques in which a crime scene will be illustrated with measurements and distance between objects.

**FORS 745 EXPERT WITNESS IN COURT
3 CREDITS**

The course centers on the important role of the forensic investigator as an expert witness with the responsibility of working toward solving crimes. The student will learn and practice techniques related to testifying in court and responding to questions presented by the defense attorney and prosecutor. A court exercise will provide the student with practice.

**FORS 750 EXAMINATION OF QUESTIONED DOCUMENTS
3 CREDITS**

The course focuses on the study and analysis of the theory and principles of handwriting and hand printing, duplicating processes, paper manufacture and fiber analysis, studies of different types of paper and methods of examining questionable documents.

**FORS 760 FORENSIC PSYCHOLOGY
3 CREDITS**

The course deals with theory and practical strategies which will clarify the psychological conditions involved in the different judicial and mediation processes. It includes instruction of how to organize information in a scientific manner, thus validating the results from investigations performed within the juridical scenario.

**FPSY 880 PSYCHOLOGY AND LAW: CRIMINAL
3 CREDITS**

This course will address the skills and competencies necessary for effective legal collaboration and expert testimony in the area of criminal law. The substantive areas of criminal law to be examined are: pretrial issues (competence to stand trial, competence to plead, right to bail); trial issues (affirmative defenses of criminal responsibility, temporary insanity, diminished responsibility, duress); pre-sentencing issues (mitigating and attenuating factors at the time of sentencing, competence to be sentenced); and, death penalty issues (Atkins hearings and intellectual disability, competence to be executed, mitigation factors). Psycho-legal controversies will be addressed in criminal cases of child abuse and maltreatment, domestic violence, substance abuse, and sexually violent predators.

**FPSY 886 PSYCHOLOGY AND LAW: CIVIL
3 CREDITS**

This course will address the skills and competencies necessary for effective legal collaboration and expert testimony in the area of civil and family law. The substantive areas of civil law to be examined are: involuntary treatment, civil commitment, assessment of competence for legal guardianship, personal injury (tort), and, sexual harassment and hostile environment in the work place. The substantive areas of family law to be examined are: child custody, parental rights, visitation, adoption, child maltreatment. The substantive areas of juvenile law are: waiver of jurisdiction, emancipation, rights of minors to consent to treatment.

**FPSY 889 FORENSIC MENTAL HEALTH ASSESSMENT
4 CREDITS**

This course will address the advanced skills and competency needs of students that are required for assessments performed in legal referrals. The historical development of FMHA will be discussed including the formulation of specialty guidelines and clinical procedures responsive to legal directives. The FMHA course will train students in the selection, administration, correction and analysis of psychological tests most used in forensic referrals. The FMHA will provide training in interviewing techniques; clinical observation; and, integration of documents and third-party data into clinical case conceptualization. Students will be trained in the model of personality analysis of Kellerman and Burry, used by graduate clinical training programs since 1981.

**FPSY 891 PSYCHOLOGY AND LAW: EXPERT TESTIMONY
4 CREDITS**

This course will address the skills and competencies necessary for effective legal collaboration and expert testimony. Students will perform a forensic mental health assessment in collaboration with a legal aid clinic, district attorney's office, or court referrals. The assessment findings will be presented as expert testimony in a moot court in the classroom. Should the case go to trial, the student will be expected to present the assessment findings in court.

**FREN 101 BASIC FRENCH
3 CREDITS**

This course is aimed at students who have no prior knowledge of the French language. Its purpose is for the student to become familiar with the French culture and language through reading, writing, speaking and listening.

**FASW 670 FAMILY THERAPY I
3 CREDITS**

This course aims to provide students with knowledge about the historical trajectory and theoretical foundations of family therapy. Allows the critical analysis of the models of family therapy used in family interventions, as well as the application of the postulates and techniques of each model.

FASW 671 FAMILY THERAPY II

3 CREDITS

This course is the continuation of the Theoretical Frameworks and Models of Family Therapy 1 and aims to continue the analysis of family therapy models based on the systemic theoretical framework. It will focus on the application of the postulates and techniques of each model according to the family context.

FASW 672 INTERVENTION WITH DIVERSE COUPLES

3 CREDITS

The course provides knowledge on the theoretical and practical fundaments of professional intervention with diversity of partners. Focuses on the critical analysis of strategies and recommended intervening techniques with biological, social, cultural and relational factors that impact relationships. It emphasizes interpersonal skills and knowledge of human behavior and social environment necessary to establish an effective working relationship with the participants of their services.

FASW 673 INTERVENTION WITH CHILDREN AND ADOLESCENTS

3 CREDITS

This course provides the students with a knowledge base, theories, models, techniques and specialized strategies required for the evaluation and intervention with children and adolescents in situations of risk and complex processes that are conflicting. Emphasis will be given to intervention with psychosocial problems, developmental and traumatic experiences, according to professional ethical principles.

FASW 674 INTERVENTION WITH THE ELDERLY ADULTS AND THEIR FAMILY

3 CREDITS

This course provides students with the knowledge base on the theoretical foundations, skills and models of professional intervention with older adults. Emphasis will be given to the critical analysis of sociodemographic, biopsychosocial and spiritual aspects related to the adult population, as well as social policies and their impact on the family, based on the commitment to diversity and ethical professional differences.

FASW 675 EVALUATION OF THE PROFESSIONAL PRACTICE

3 CREDITS

This course allows the application of specialized theoretical-methodological knowledge for the critical evaluation of based practice professional intervention. It allows the application of the principles and the model of the practice based on evidence as well as the scientific methodology to evaluate the effectiveness of the interventions. Emphasizes the use of quantitative and qualitative instruments, framed on the ethical principles of the profession.

FASW 682 PRACTICUM II: SOCIAL WORK FAMILIES PRACTICUM

3 CREDITS

Practice III is the last practice course of the curriculum of Social Work with Families Specialty. It provides the opportunity for the application of specialized theoretical and methodological knowledge and advanced skills in the intervention process with couples and families with children, adolescents and / or older adults in various agencies or organizations. Emphasizes the different use of models for the evaluation of the effectiveness of the practice. Requires 300 hours of practice.

FASW 683 PRACTICUM III: SOCIAL WORK FAMILIES PRACTICUM

3 CREDITS

Practice IV is the last practice course of the curriculum of Social Work with Families Specialty. It provides the opportunity for the application of specialized theoretical and methodological knowledge and advanced skills in the intervention process with couples and families with children, adolescents and / or older adults in various agencies or organizations. Emphasizes the different use of models for the evaluation of the effectiveness of the practice. Requires 250 hours of practice.

FASW 690 COMPREHENSIVE EXAM FOR SOCIAL WORK WITH FAMILIES

0 CREDITS

Objective exam, which evaluates the conceptual knowledge acquired both in the general material related to the field of study, as well as the specific one in the specialty of Social Work with Families.

FASW 691 COMPREHENSIVE EXAM FOR SOCIAL WORK WITH FAMILIES

0 CREDITS

Exam aimed at a critical application of the methodology and the specific theory of the specialty of the master's in Social Work with Family.

FSWO 600 FUNDAMENTALS OF FORENSIC SOCIAL WORK

3 CREDITS

Study of the origin and development of Forensic Social Work in the context of the administration of justice. Emphasis will be given to the analysis of the functions of the Social Work Professionals in various scenarios and to the critical-comparative analysis of the different theoretical approaches and their application to forensic practice. The epistemological foundations and the theories applicable to the practice of Forensic Social Work will be studied.

FSWO 610 LEGAL ASPECTS AND JURISPRUDENCE IN FORENSIC SOCIAL WORK

3 CREDITS

The study and analysis of the legal aspects of jurisprudence in the intervention of the Forensic Social Worker. Appreciation of the components of criminal law, the substantive and procedural aspects of family law applicable to the practice of social work.

FSWO 612 FORENSIC SOCIAL EVALUATION

3 CREDITS

This course is based on the application of scientific methodology and critical thinking in forensic evaluation. Presents the use of differentiated types of social forensic evaluation, instruments, rating scales and assessment tools in the forensic evaluation process.

FSWO 625 DRAFTING OF REPORTS AND EXPERT TESTIMONY

3 CREDITS

Application of scientific methodology, critical thinking and evidence-based practice in drafting expert's report. Theoretical and legal study of expert testimonial Witnesses in Puerto Rico's courts and its implications for Forensic Social Work.

FSWO 630 APPLICATION OF THE DIAGNOSTIC CRITERIA FOR MENTAL DISORDERS

3 CREDITS

Study of the descriptive and dynamic aspects of mental disorders and its implications in the Social Work practice.

FSWO 635 FORENSIC APPROACH TO SUBSTANCE ABUSE

3 CREDITS

Study of clinical and social manifestations of substance abuse, the legal consequences and forensic scenarios of treatment and rehabilitation. Analysis of the prevention and treatment services.

FSWO 642 PSYCHOSOCIAL AND LEGAL ASPECTS OF VIOLENCE IN THE FAMILY

3 CREDITS

Analysis of the psycho-social and legal aspects of violence within the family: etiology, epidemiology, and evaluation of jurisprudence and related laws.

FSWO 651 PRACTICUM II: FORENSIC SOCIAL WORK PRACTICE

3 CREDITS

First forensic supervised practice experience in an agency or not government organization. Allows analysis of the philosophy, values and organizational policies and performance of the roles of professional social work in the forensic interdisciplinary agency team or organization. Required 300 hours of practice

FSWO 652 PRACTICUM III: FORENSIC SOCIAL WORK PRACTICE

3 CREDITS

Continuation of the forensic supervised practice experience (FSWO 650). Demonstration of legal specialized knowledge in ethical, legal and case law Application of jurisprudence of the skills in the drafting of social reports and the process of expert testimony. Required 300 hours of practice

FSWO 661 FORENSIC SOCIAL WORK COMPREHENSIVE EXAM I

0 CREDITS

Objective exam, which evaluates the conceptual knowledge acquired both in the general material related to the field of study, as well as the specific one in the specialty of Forensic Social Work.

FSWO 662 FORENSIC SOCIAL WORK COMPREHENSIVE EXAM II

0 CREDITS

Exam aimed at a critical application of the methodology and the specific theory of the specialty of the master's in Forensic Social Work.

GEOG 201 PHYSICAL GEOGRAPHY

3 CREDITS

The course deals with principles of geography and their application to the environment, climate, soil, vegetation and natural resources.

GEOG 202 HUMAN GEOGRAPHY

3 CREDITS

The course is an introduction to human and cultural geography. Topics include variation of human traits, diversity of economic systems, and population changes.

GEOG 205 GLOBAL COMMUNITIES RESOURCES

3 CREDITS

The course is an introduction to human problems in the contemporary world. Physical geography and different theories related to this phenomenon are considered. Implications of problems related to the economic and political development of Puerto Rican society will also be discussed.

GEOG 225 GEOGRAPHY OF PUERTO RICO

3 CREDITS

The course centers on physical, biotic, and human aspects of Puerto Rico, its regions and its environment.

HIGS 101 INTRODUCTION TO THE STUDY OF HISTORY

3 CREDITS

The course is an introduction to the study of historical and cultural activities. It promotes the understanding of the importance, meaning, and pleasure of the study of History, as well as knowledge about the process of its writing. It enables the university student to appreciate the many lessons that can be learned from History and responds to the question, Why history? In turn, it exposes the student to think critically and use communication as an epistemic tool in the profession or in the approach to historical events.

HIGS 201 PUERTO RICO HISTORY CULTURE

3 CREDITS

The course analyses the contemporary historical development of Puerto Rico, from the end of the 19th century, to the beginning of the 21st century. It studies the economic, social, political, cultural processes, and characteristic resistances of the development of an awareness of our contemporaneity. It contextualizes Puerto Rican cultural production in its diversity, expressions and legacy. The course is focused on the development of the critical thinking, ethics, diversity, and General Education competencies, at their basic and developmental level.

HIST 221 ANCIENT AND MEDIEVAL HISTORY

3 CREDITS

This course begins with an analysis of the key concepts of the discipline of history (pre-historic and historic) covering the study of ancient civilizations (Mesopotamia, Egypt, India and China), studies Greek and Rome, up to the Medieval period that culminates with the fall of the Byzantine Empire.

HIST 230 THE RENAISSANCE, THE REFORMATION, AND THE RISE OF THE MODERN STATE

3 CREDITS

This course studies the history of Europe between the XV and XVI centuries. The political, social and economic panorama at the start of this period is presented. The Renaissance as a cultural movement is reviewed. The colonization of America as a central event in the European economy of that period is presented, and the Protestant and Catholic Reformations are analyzed. Lastly, the history of Europe in the XVII century and the establishment of the State and its importance in the modern and contemporary age are treated. Here the student will obtain a general and panoramic vision of the historical origin of the West.

HIST 232 CONTEMPORARY WORLD PROBLEMS

3 CREDITS

The course centers on the problems of the contemporary world and the consequences that these entail as seen in the context current events. Events occurring throughout the 20th and 21st centuries are discussed. The Cold War, colonialism, neocolonialism and globalization are discussed.

**HIST 251 HISTORY OF PUERTO RICO I
3 CREDITS**

Study of the Puerto Rican history from its pre-Columbian origins to the 19th century. Emphasizes the development of the national identity up to the end of the Century.

**HIST 252 HISTORY OF PUERTO RICO II
3 CREDITS**

Study of the Puerto Rican history from the final years of the XIX Century until the XXI. Focuses on the 20th Century events following the North American invasion.

**HIST 261 LATIN AMERICAN HISTORY I
3 CREDITS**

The course centers on the historical evolution of the countries that form Latin America from Pre-Columbian culture to the XVIII century; the important geographical elements that influenced this development; economic, social, cultural, and religious life of the colonies from the XV to XVIII centuries; the ideas of the illustration, the reforms that took place in the colonies, and the consequences of these reforms.

**HIST 271 HISTORY OF THE UNITED STATES OF AMERICA I
3 CREDITS**

Study of the political, social, economic and cultural development of the United States form the colonial period to XVIII Century.

**HIST 272 HISTORY OF THE UNITED STATES OF AMERICA II
3 CREDITS**

The development of the nation from the Reconstruction to the present is studied. The evolution of the nation's political, social and economic institutions and its society's distinctive traits are emphasized. The transformation of The United States into a world power, its contributing factors, the formation of an urban industrial and capitalist society and its foreign policy throughout the centuries, including its relationship to Puerto Rico, are examined.

**HIST 273 HISTORY OF UNITED STATES OF AMERICA
3 CREDITS**

Studies the development of the American nation from the beginning of its society to the present. It emphasizes the evolution of political, social, and economic institutions, and the distinctive traits of its society.

**HIST 703 CULTURAL HISTORY TOPICS
3 CREDITS**

This course studies topics such as popular culture, elite culture, power, resistance, Postcolonial Studies, European imperialism, among others. It emphasizes the concept of culture as a branch of History. It spotlights the study of culture according to different important historiographical schools that study contemporary society. It also examines cultural history according to the perspective of Postcolonial Studies.

**HUGS 101 WORLD CULTURE I
3 CREDITS**

The course is a critical study of the cultural evolution of humanity from its beginnings to the development of cities and urban life with attention to the ancient cities, especially those of the West. It studies aspects of culture from a transdisciplinary approach. The course is focused on the development, at a basic level, of the competences of critical thinking, ethics and diversity, and integrates the responsible management of technology and information technology for the search and use of information.

**HUGS 102 WORLD CULTURE II
3 CREDITS**

The course is a critical study of the cultural evolution of humanity from Middle Ages to modern time with attention to western cultural products. It studies aspects of culture from a transdisciplinary approach. The course is focused on the development of critical thinking skills, ethics and diversity and integrates the responsible management of technology and information technology for the search and use of information.

IFOR 205 BASIC CRIMINAL INVESTIGATION

3 CREDITS

Introductory study of the basic techniques in criminal investigation, types of investigation, processes, investigation structure, collection and interpretation of information and facts reconstruction.

IFOR 210 FORENSIC PHOTOGRAPHY AND CRIME SCENE PLANIMETRY

3 CREDITS

The course will provide method analysis and photography techniques from a legal perspective. The study of photography as a graphic objective of the condition in which the crime scene is developed. Study of the crime scene with the purpose of establishing conditions for the evidence found. Study of the diagram or sketch that is elaborated in the crime scene. The course also provides an establishment of specific crime motives where the results become favorable to solve criminal cases.

IFOR 215 FUNDAMENTAL PRINCIPLES OF CRIME SCENE EVIDENCE COLLECTION AND PROCESSING

3 CREDITS

Study of the fundamental principles, processes and techniques used to lift the evidence at the scene of the crime. Study of information related to blood stains, fluid, other parts of the body, as well as another kind of evidence found at the scene of the crime and its interpretation. Study of reconstruction of the crime scene and search patterns.

IFOR 220 FORENSIC INVESTIGATION OF TRAFFIC ACCIDENTS

3 CREDITS

Forensic investigation of the determinants in the scene of a traffic accident damage of vehicles, manual measurement systems and dynamics of vehicle engine for administrative and legal purposes.

IFOR 225 INTERVIEW TECHNIQUES AND COURT TESTIMONY

3 CREDITS

Study and analysis of interview and interrogation as a scientific methods technique of forensic investigation for preparing and presenting testimony in court cases as a forensic expert in court.

IFOR 230 INTRODUCTION TO FORENSIC DACTYLOSCOPY

3 CREDITS

Study of the development of fingerprinting in the field of forensic science and its purpose in criminal investigation, using the fingerprint as infallible means of identification of a suspect in the crime scene. The laboratory practice prepares students with the knowledge and skills necessary for the recognition, development, identification and fingerprint processing at the crime scene, in full compliance with the provisions of due process of law in our legal system.

IFOR 235 CYBER CRIMES INVESTIGATION

3 CREDITS

Introductory study to prepare students in the identification and investigations of cybercrimes using a scientific research methodology, by emphasizing the protection, acquisition and management of digital evidence. Discussion of the ethical basic hackers and social engineering principles.

IFOR 240 SCIENTIFIC STUDY OF THE CRIME SCENE

3 CREDITS

Scientific study of the methodology in collecting and processing all those signs (evidence) generated in and out of the crime scene. Scientific practical and theoretical study of the crime scene for the purpose of reconstructing it and collecting information and evidence that will be used to establish, based on the forensic methodology, who, how, where, when and why of a crime.

IFOR 255 SURVEILLANCE AND TRACKING: TECHNICAL AND ETHICAL ASPECTS

3 CREDITS

Study of techniques, strategies, processes and analysis groups to collect evidence from different crime scenes by surveillance when observing authors and events. Application of scientific techniques and discussion of ethical aspects in a forensic and legal investigation.

IFOR 275 INTEGRATION SEMINAR IN FORENSIC INVESTIGATION

3 CREDITS

The seminar provides an opportunity for students to integrate and apply knowledge, methods, principles and techniques of forensic investigation in a simulated practicum scenario.

**INGS 201 INTRODUCTION TO INFORMATION, RESEARCH, AND WRITING SKILLS
3 CREDITS**

This course is aimed at the analysis of the basic principles of research, and the development of information and writing skills. Its focus is on the basic methodology of how to carry out research on a topic of interest, identify reliable sources after conducting a systematic search for information, and encourage the use of information in an effective legal and ethical manner through the development of written works with clarity and grammatical correctness. The course pursues the development of critical thinking skills, research and information skills, and effective communication by integrating the responsible use of technology and information. It also requires collaborative work and the development of literature review.

**INTG 500 RESEARCH METHODOLOGY
3 CREDITS**

Integrated course that studies the nature of research in the behavioral sciences and its various qualitative and quantitative methodologies. Emphasis is placed on planning, implementation, analysis of data and evaluation of field research.

**ITAD 106 INTRODUCTION TO INFANTS AND TODDLERS EDUCATION
3 CREDITS**

First professional course in the program sequence of the professional preparation for infants and toddler education level. The purpose of the course is to provide the educator with the opportunity to conceptualize goals and evaluate his/her strengths and weaknesses, in the light of the relevant skills to professional training of early education. It will focus on the observation and analysis of the early childhood setting, as well as the teaching and learning processes. The course involves 15 hours of clinical experience in infant and toddler centers.

**ITAD 173 CHILD DEVELOPMENT I: COGNITIVE, PHYSICAL AND MOTOR ASPECTS
3 CREDITS**

Study of the scientific and psychological foundations that describe growth and development in early childhood and their implications for the teacher and school. It discusses the changes that occur in human beings from the moment of conception and throughout the different stages of life from a physical, cognitive, psychomotor and psychological perspective.

**ITAD 174 CHILD DEVELOPMENT II: SOCIAL AND EMOTIONAL ASPECTS
3 CREDITS**

Study of the scientific and psychological foundations that describe growth and development in early childhood and their implications for the teacher and school. It discusses the changes that occur in human beings from the moment of conception and throughout the different stages of life from a social and emotional perspective.

**ITAD 222 SECOND LANGUAGE DEVELOPMENT IN INFANTS AND TODDLERS
3 CREDITS**

The course discusses the development of two languages in infants and toddlers. Students will get acquainted with theories and models that explain the acquisition of two languages in a diverse cultural setting. Students will investigate and reflect upon the child environmental factors that affect their acquisition of a second language.

**ITAD 225 METHODOLOGY FOR THE DESIGN OF DEVELOPMENTAL ENVIRONMENTS FOR INFANTS AND TODDLERS
3 CREDITS**

The course discusses the role of the early childhood educational professionals in the development of creative learning environments. It will emphasize the importance of integration and application of theories that support appropriate practices in the design of learning environments. Research investigations of infants and toddlers learning environment design will be analyzed. Field experiences will be facilitated to provide the opportunity to observe and reflect upon practice in a real setting.

**ITAD 302 HEALTH, SAFETY, HYGIENE AND NUTRITION: SIGNIFICANT AXES IN EARLY INTERVENTION
3 CREDITS**

The course is intended to train infants and toddlers educational professionals with the required competences regarding topics in health, security, hygiene and nutrition components of applicable to early child intervention. The course facilitates an integrated discussion of those topics to achieve children wellbeing.

ITAD 308 FAMILY AND THE COMMUNITY: BRIDGES FOR THE FORMATION OF INFANTS AND TODDLERS

3 CREDITS

The course examines the role of family and community in the physical, mental, emotional and intellectual development of the infant and toddler from birth to age three. The strengths and weaknesses, resources and needs of the family and the community regarding the development of children of preschool and primary grades are identified. The course offers alternatives for the coordination and organization of social, cultural and recreational activities that contribute to the formation of children in this age group, both in educational settings and in the community.

ITAD 339 INCLUSION PRACTICES IN INFANTS AND TODDLER DEVELOPMENT PROGRAMS

3 CREDITS

The course analyzes the needs and nature of infants and toddlers regarding appropriate inclusion practices in early childhood developmental programs. It is based on the use of criteria that determines high risk factors during evaluation and diagnosis of children with special needs. The course emphasizes in the acquisition of skills to identify those students that will require a referral to services from the special education program.

ITAD 355 OBSERVATION TECHNIQUES FOR THE ASSESSMENT OF INFANTS AND TODDLERS

3 CREDITS

Evaluation process in young children is a continuous one where observation is used intentionally to know about each child and make decisions about how to help them in their development and learning. This course attempts to analyze the different types of monitoring and assessment techniques recommended to work with children 0-3 years. It will give emphasis to the development of objective observations to achieve the validity and reliability of the assessment or evaluation process.

ITAD 363 CURRICULUM FOR INFANTS AND TODDLERS

3 CREDITS

Study of the theories related to the development of various specialized curricula for the development of infants and toddlers. Organization, models, curriculum design and concepts that conform these curricula will be discussed. The course will provide the study and analysis of curricular content in the context of the integral development of the child. The intentional teacher concept that facilitates the curriculum for infants and toddlers will be studied.

ITAD 401 CLINICAL EXPERIENCES SEMINAR

3 CREDITS

ITAD 401 is the first clinical experiences requirement in associate degree program. It includes fifteen hours campus-based seminar and 30 clinical experiences hours of direct observation and active participation in at least two different school scenarios.

ITAD 403 CREATION AND MANAGEMENT OF ENVIRONMENTS FOR INFANTS AND TODDLERS

3 CREDITS

This course presents the policies and regulations governing the establishment and development of an educational center for infants and toddlers. It analyzes the knowledge and skills needed for planning, administration and coordination of these programs. During the following course issues will be discussed: factors to consider when opening a center for infants and toddlers, the laws governing the opening of a center for infants and toddlers, the spaces needed inside and outside the center, and the materials and suitable equipment; as well as administrative aspects to consider when evaluating the physical infrastructure and personnel of the center.

ITAD 440 PRACTICE IN ENVIRONMENTS FOR THE DEVELOPMENT OF TODDLERS

3 CREDITS

Practicum course for students majoring in the infant and toddler education major. Clinical experience in which the student applies the knowledge, skills and attitudes acquired in previous courses. The student assumes the responsibility of leading the learning process of a group of toddlers.

ITAD 441 PRACTICE IN INFANT DEVELOPMENT ENVIRONMENTS

3 CREDITS

Practicum course for students majoring in the infant and toddler education major. Clinical experience in which the student applies the knowledge, skills and attitudes acquired in previous courses. The student assumes the responsibility of leading the learning process of a group of infants.

**ITAL 101 BASIC ITALIAN
3 CREDITS**

This course aims to familiarize and guide students in their first contact with the Italian language and culture. It will teach the students basic skills that will allow them to communicate effectively when facing a conversation in Italian. The course also focuses on teaching basic pronunciation and intonation of the Italian language; acquisition and use of a basic vocabulary and everyday use; knowledge of the basic rules of Italian grammar essential for a good command of the language; and a first contact with Italian general culture in fields such as cinema, art, architecture, theater, literature and others.

**LITE 804 LITERATURE OF THE PUERTO RICAN DIASPORA
3 CREDITS**

This course examines the different periods of the literary production of Puerto Ricans in the United States from the beginning of the 20th century to the present. A variety of literary genres with topics such as colonization, migration, identity, social class, race, language, gender, displacement, nation, and hybridity will be studied. The course analyzes the literature about the migratory experience written by Puerto Ricans on the island and on the mainland during different historical periods, and how the literature of the diaspora represents a challenge to the colonial and national canon of Puerto Rico. From a cultural studies perspective, literary and discursive postcolonial and subaltern theories pertinent to the analysis of the texts are studied.

**LITE 903 WRITING THE CARIBBEAN: RECURRING THEMES IN CONTEMPORARY CARIBBEAN LITERATURE
3 CREDITS**

The purpose of this course is to analyze the recurring themes of contemporary Caribbean literature. It studies topics such as plantation, migration, identity, transculturation, slavery, and others. The literary complexities and their cultural production in general will be analyzed, which characterizes the nations of that cultural space.

**LITE 905 BLURRING BOUNDARIES BETWEEN FICTION AND HISTORY: THE NEW HISTORICAL NOVEL IN THE CARIBBEAN
3 CREDITS**

The course will focus on the analysis of key concepts, identified by the critique (Menton, Aínsa, Pons) of the rewriting of history, intertextuality, metafiction, parody. It is about defining how these discursive strategies reformulate the notion of truth and problematize the metarelatos, converting the new historical novel into one of the main literary manifestations of postmodernity.

**MACS 500 MODERNISM POST-MODERN CULTURE
3 CREDITS**

Analytical account of the canons of modern philosophy, and the challenges raised by the philosophy of postmodern culture. The course will present and contrast the ideas and values of both currents through the examination of their respective icons. There will be analyzed how, from 1990, the agendas of the postmodernism and the cultural studies interbred allowing an enrichment of both intellectual and cultural movements.

**MACS 505 INTRODUCTION TO CULTURAL STUDIES
3 CREDITS**

Analysis of Cultural Studies and the interpretation of cultural production (literature and art) as a text in the study of society. It explains the new paradigms and ideologies of modern and postmodern discourse in the context created by the postcolonial, multicultural and humanists' studies of cultural criticism. It examines the relationship of key concepts such as: identity, Diaspora, gender, popular culture, diversity and globalization; relation between knowledge, language and power within the construction of cultural discourse.

**MACS 520 THEORY AND PRACTICE OF POSTCOLONIAL STUDIES
3 CREDITS**

Analysis of the discourses generated in the formerly colonized Third World. It discusses the discourses, original or derivative, of national affirmation in the former colonies. It explores the theorists; the new models of postcolonial history and the discourses of domination and hegemony. It studies the role of nationalism after the Algerian war to the present, tricontinental and the future of the Postcolonial Studies as a method of analysis for the Twenty First Century.

**MACS 600 CULTURAL PERSPECTIVES AND THE MASS MEDIA
3 CREDITS**

The courses analyze culture as a concept in mass media communications from different perspectives. It's a historical reflection on the development on the multiple perspectives and theories in mass media communications. It analyzes media as cultural industries and power entities. It promotes a critical and interdisciplinary analysis of mass media in the Puerto Rican social reality.

**MACS 625 ETHNICITY AND RACE: ISSUES
3 CREDITS**

The course explores the categories of Ethnicity and Race and its historical relationship. It will promote and engage the active participation of Graduate Students in the clarification and understanding of controversial issues related both to Ethnicity and Race. A goal to be achieved will be to contribute to the process of the construction Ethnic identity and to the role attributed to race in that context.

**MACS 630 OPEN SEMINAR FOR CULTURAL STUDIES
3 CREDITS**

An open space for seminars on special topics in Literature and Cultural Studies, created by the program's faculty or other invited academics and intellectuals, from Puerto Rico or abroad. The seminars will be thematically in line with the areas of research of the program.

**MACS 640 RESEARCH SEMINAR
3 CREDITS**

This is an advanced writing seminar that continues examining the different investigation modes in Cultural Studies. It equips the student for academic writing and research that focus on publishing. The student develops analytical and critical thinking skills in order to produce coherent and ethical scholarly papers. In addition, the seminar includes the technical aspects for effective academic writing and publication.

**MACS 675 RESEARCH METHODS
3 CREDITS**

Interdisciplinary experience that emphasizes historical and cultural aspects from a Qualitative perspective. A general exposition about the qualitative research in the modern scientific world. The paradigmatic bases of the quantitative and qualitative approaches will be contrasted and differentiated. Students will be related with different qualitative designs within Cultural Studies.

**MAGS 120 INTRODUCTION TO ALGEBRA
3 CREDITS**

This course develops introductory concepts of algebra such as, the study of rational numbers, reasoning, proportion, percentages, algebraic expressions, linear equations, uneven linear, and polynomial concepts. It emphasizes problem solving applied to daily life situations and other areas of knowledge. The course also focuses on the development of quantitative reasoning competence and it integrates the responsible use of technology and information. In addition to the three (3) weekly conference hours required, the student must attend three (3) weekly laboratory hours.

**MAGS 120I INTRODUCTION TO ALGEBRA (INTENSIVE)
3 CREDITS**

This course develops introductory concepts of algebra such as, the study of rational numbers, reasoning, proportion, percentages, algebraic expressions, linear equations, uneven linear, and polynomial concepts. It emphasizes problem solving applied to daily life situations and other areas of knowledge. The course also focuses on the development of quantitative reasoning competence and it integrates the responsible use of technology and information. In addition to the three (3) weekly conference hours required, the student must attend three (3) weekly laboratory hours.

**MAGS 120L INTRODUCTION TO ALGEBRA LABORATORY
0 CREDITS**

This course develops introductory concepts of algebra such as, the study of rational numbers, reasoning, proportion, percentages, algebraic expressions, linear equations, uneven linear, and polynomial concepts. It emphasizes problem solving applied to daily life situations and other areas of knowledge. The course also focuses on the development of quantitative reasoning competence and it integrates the responsible use of technology and information. In addition to the three (3) weekly conference hours required, the student must attend three (3) weekly laboratory hours.

**MEPE 800 QUANTITATIVE EVALUATION
3 CREDITS**

This course covers the logistics of the design of the evaluation for problem solving or a variety of situations from a positivist paradigm. Topics include experimental design, quasi-experimental measurement, validity, reliability, performance measures, assessment program within the educational framework of physical education programs. In addition, issues relate to quantitative evaluation will be address. Based on that, the student will conduct their own quantitative evaluation

**MEPE 801 QUALITATIVE EVALUATION
3 CREDITS**

The course applies qualitative methods to develop evaluation. The assessment can be use for planning, program design, teaching strategies, program evaluation, monitoring, etc. The student will put into practice the theory through qualitative evaluation in a variety of environments.

**MEPE 802 CONSTRUCTION OF EVALUATION INSTRUMENTS
3 CREDITS**

The course of construction of assessment instruments is aimed to improve the knowledge of available tools in sciences applied to physical education and recreation. The topics selected for this course has to do with: (a) the construction of education, evaluation, research, standardized, and diagnostic tests; (b) test administration; (c) data management; (d) data interpretation and application; (e) translation of evaluationresearch instruments; and (f) interpretation of the evaluation results.

**MEPE 803 VALIDATION OF ASSESSMENT AND MEASUREMENT INSTRUMENTS
3 CREDITS**

The course of instruments validation on evaluation and measurement takes the students through the process of validating cognitive, affective and psychomotor tests. The student will learn how to determine the levels of reliability and validity in a variety of measurement instruments and their needs.

**MHSA 604 HUMAN SERVICES ADMINISTRATION: ORGANIZATIONS, POLICES AND ALTERNATIVES
3 CREDITS**

The course centers on discussion, analysis and application of administrative procedures in the human services programs. It includes the study of the organization, policies, and alternative for community development

**MHSA 608 LEADERSHIP AND COMMUNITY DEVELOPMENT
3 CREDITS**

This course further develops in organizational leadership particularly those aspects that relate to community context. The course centers on the student as a manager or leader to involve service organizations with the community. The methodology in the course includes workshop to develop skills in exercising effective leadership. The course includes the study of community work and community intervention models. It includes the study and application of problem-solving techniques leadership development and the mobilization of inter-organizational resources.

**MHSA 612 SEMINAR: PROGRAM DESIGN IN HUMAN SERVICES
3 CREDITS**

The course centers on discussion, analysis and application of models, theories and scopes for program design. It includes the study of structural and programmatic designs of human services organizations.

**MHSA 622 GRANT WRITING AND FUNDRAISING
3 CREDITS**

The course deals with models, tehcniques and strategies for fundraising and grantwriting. Students will revise guides, model types, techniques and strategies for planning, application for grants writing and fundraising. Study of funds sources and the administrator's role in the planning and implementation of strategies for fundraising, voluntarism and public relations for the organizations in the third sector. Students will write a propososal for a service program.

**MHSA 652 SEMINAR: CONTEMPORARY ISSUES IN HUMAN SERVICES MANAGEMENT
3 CREDITS**

The course deals with contemporary issues in human services management. It includes an analysis of tendencies and alternatives for enriching the administration of human services.

MHSA 653 GENERAL PRINCIPLES OF COUNSELING

3 CREDITS

Counseling as a helping profession and its historical development will be studied. It will be related with other helping careers. Its work setting and roles will be analyzed. Different theoretical approaches, techniques and therapeutics strategies will be considered. A counseling program and its services as well as its ethical standard will be presented and analyze.

MHSA 654 LEGAL ASPECTS IN HUMAN SERVICES ADMINISTRATION

3 CREDITS

The course focuses on an analysis of the legal aspects, bylaws, and ethical principles in human services administration.

MHSA 655 COUNSELING TECHNIQUES AND THE HELP PROCESS

3 CREDITS

The aim of this course is to analyze from a conceptual and practical level the individual helping relationship. The necessary skills, knowledge and attitudes of an effective helping process will be analyzed. The ethical and professional point of view as well as its implication to the practice of counseling will be considered and discussed.

MHSA 656 GRANTS MANAGEMENT

3 CREDITS

The course covers theories, models, scope, and techniques for effective and efficient grants administration.

MHSA 658 INTERGOVERNMENTAL RELATIONS

3 CREDITS

The course deals with an analysis and discussion of the theoretical, constitutional, political and fiscal aspects of the intergovernmental relationships among state, federal and local governments.

MHSA 668 HUMAN BEHAVIOR IN ORGANIZATIONS

3 CREDITS

The course deals with an analysis of the systematic relationship between human behavior, organizational objectives and clientele services. An analysis of the psychosocial system in organizations is also included.

MHSA 672 LABOR LAW

3 CREDITS

The course centers on analysis of the constitutional principles, laws, regulations, and judicial decisions that protect public employees in Puerto Rico.

MHSA 674 HUMAN DEVELOPMENT

3 CREDITS

The course deals with theories of human development. It includes an analysis of the relationship among physical, intellectual, and social influences on all stages of human development.

MHSA 676 Total Quality Management in Human Services Organizations

3 CREDITS

The course centers on the application of the Total Quality Management theory in human services organizations. It includes study of the principles of teamwork, decentralized management, labor commitment, and quality manager

MSAA 701 BASIC FUNDAMENTALS OF ART ADMINISTRATION

3 CREDITS

Overview of Arts Management. Discussion of theoretical, philosophical and pragmatic principles in the organizational financial and planning processes in nonprofit organization. Study of basic principles in marketing, advertisement, public relations, human resources, finding funds, writing proposal and fundraising.

MSAA 709 REPRESENTATIONAL ARTS ADMINISTRATION

3 CREDITS

This course will embrace important areas of performing arts management which includes different aspects such as: organization, planning, production, and representation. More than provide a general knowledge of the performing arts management and the possibility of representation This course intent to provides a practical training for the future professionals in the area of performing arts management. To achieve that, the students must have a broad knowledge related to: styles, spectacles types and general culture of the scene. Emphasizing possible production models including organizations of different productions, festivals, concepts, musical spectacles, dance, theater, and popular expressions. From an administrative point of view, it will discuss basic elements of the arts in the area of education to study new possibilities of performing arts.

**MSAA 710 MUSEUM AND VISUAL ARTS CENTER ADMINISTRATION
3 CREDITS**

Overview of the Museums and visual arts centers analyzing theoretical, ethical and practice principles with the purpose of professionals to be managers, directors or coordinators of museums and arts centers. Different phases of operation of contemporary museums will be studied.

**MSED 100 INTRODUCTION TO SPORTS SCIENCES
3 CREDITS**

Analysis of the sciences applied to the study of sport as a social, economic and pedagogical phenomenon: historical, philosophical, social and economic foundations of sport and the issues it generates. Evaluation of sport as an instrument of social, economic and pedagogical development and the programmatic and public policy implications that this entails.

**MSED 102 SPORTS MANAGEMENT
3 CREDITS**

Evaluation of the principles, practices and labor competencies that define contemporary sports management: the conceptualization, organization, implementation, supervision and evaluation of sports events and tournaments.

**MSED 210 SPORTS COACHING
3 CREDITS**

Study of the fundamentals of coaching and its application to sports leadership: coaching philosophies, coach behavior, work structures and programs for individual sports and team sports, coaching models, mentoring and the coach as an educator, physical development of the athlete, the psychological development of the athlete, coaching with female athletes, coaching with athletes with disabilities, and coaching with children.

**MSED 306 TEACHING SOCIAL RESPONSIBILITY THROUG SPORTS
3 CREDITS**

Analysis and application of contemporary models and practices of teaching social responsibility through sport, the impact of this on the personal-social development of the participant and its implications for the development of programs in recreation, physical education and science of the exercise.

**MSPA 500 THEORY, PRACTICE AND CHANGE IN THE ADMINISTRATION OF PUBLIC POLICY
3 CREDITS**

The course covers modern age theories and ideologies which guide and shape the development, administration, and evaluation of public policy. This course focuses on understanding the concepts of individualism, collectivity, and community development espoused by behavioral philosophers and scientists. It includes an analysis of the conceptual requirements of planning, as well as its methods and applications. The course also promotes a critical analysis of the various models which translate public policy and its application to specific approaches and concrete actions.

**MSPA 505 COMPUTER EDUCATION FOR PUBLIC ADMINISTRATORS
3 CREDITS**

The course covers basic knowledge in the use of computers (computer literacy Three basic areas are developed: (1) the ability to use the technological innovations, (2) the ability to incorporate the technological innovations into particular area of interest and (3) the ability to implement strategies and policies geared to the improvement of the administration team.

**MSPA 510 RESEACH TECHNIQUES AND QUANTITATIVE METHODS APPLIED TO PUBLIC
ADMINISTRATION
3 CREDITS**

The course deals with concepts in research methodology and statistics which are applicable to the public affairs program. A multidisciplinary approach appropriate for the public affairs professions will be presented. The course will also develop in students the capacity for objective decision making with a minimum of prejudice and subjectivity. Practical elements of methodology and applied statistics will be emphasized.

**MSPA 520 ADMINISTRATIVE LAW AND ETHICS
3 CREDITS**

Students become familiar with the set of legal norms and regulations concerning the various organizations, institutions, and public agencies, as well as with the criminal justice system, the ordinances of services legally pertaining to these agencies, and the relations between these agencies and the individuals receiving those services. It includes the dispositions which govern administrative processes, as well as ethical models in public administration.

**MSPA 530 PLANNING AND EVALUATION: THEORIES, METHODS AND TECHNIQUES
3 CREDITS**

This course prepares students to face administration problems, to find possible solutions, and to evaluate results once a particular alternative is implemented. It presents a broad view of the various planning theories in order for students to enter into the process of implementation and evaluation.

**MSPA 540 SEMINAR: HUMAN RESOURCES DEVELOPMENT, PLANNING AND EVALUATION
3 CREDITS**

The course will cover the following areas: (1) concepts and theories on communication, leadership, human motivation, perception, emotions, personality, mental health and the decision-making process; (2) principles of organization and administration in Puerto Rico; (3) analysis of the components which comprise the administration of human resources, such as recruitment and selection of personnel, job classification and evaluation, retribution systems, human resources evaluation, personnel training, retirement, motivation, and human relations in public administration, as well as patterns of individual and group associations in the organizational scene.

**MSPA 550 FISCAL RESOURCES MANAGEMENT
3 CREDITS**

The course centers on the study of the administration and formulation of fiscal policy in the public sector and in nonprofit organizations. It includes an analysis and evaluation of concepts, theories, models, scope, and strategies in the budgetary process.

**MSPA 710 RESEARCH SEMINAR
3 CREDITS**

The seminar offers students the opportunity to carry out an investigation integrating the knowledge obtained through the analysis of administrative systems and their contingent functions and how they affect public and private institutions. Students will analyze planning, organizational, and design activities and the decision-making process in the organization.

**MSPA 720 PRACTICUM IN PUBLIC AFFAIRS
3 CREDITS**

Supervised Practicum in administrative functions in a public or non-profit organization. Students will complete 130 service hours in the application of knowledge, theories, values, methods, and administrative skills in the organization.

**MSPA 725 KNOWLEDGE INTEGRATION SEMINAR
3 CREDITS**

In this course, students integrate theories, methods, techniques and models applicable to public administration, conflict mediation, human services, and juridical and forensic sciences. The course includes the analysis of the contemporary trends in the administration of public affairs.

**MUSI 103 UNIVERSITY CHORAL ENSEMBLE
0 CREDITS**

The course prepares students for the interpretation of chamber choral music as part of the Ana G. Méndez University, Gurabo Campus. The course includes the rehearsal and performance of academic works from the universal choral repertoire, as well as popular and folkloric music. The skills are developed by means of weekly rehearsals and intensive workshops in score sight-reading and vocal technique for choral ensembles. Moreover, as part of the educational experience the chorus presents concerts and participates in institutional activities, as well as other cultural events.

PCIS 800 ANTHROPOLOGICAL AND ARCHAEOLOGICAL ANALYSIS OF THE ABORIGINAL SOCIETIES OF THE INSULAR CARIBBEAN

3 CREDITS

Historical-anthropological research seminar. It presents a correlation between cultural history and the four branches of anthropology. This includes cultural anthropology, archaeology, physical or biological anthropology, and linguistic anthropology. The combination of these systems of theory, methodology and analysis, intend to present the process of migration, adaptation, changes, and creation of cultural models in the new living spaces. The chronological period covers from 10,000 years before Christ or 12,000 years before the present, in the geographical framework of the island arcs of the Greater and Lesser Antilles. The course offers a vision that analyzes the social and cultural relations of geography, and natural resources, politics, economy, kinship systems, religious systems, art, architecture, literature, science, and technology, as well as leisure and gastronomy.

PCIS 804 PUERTO RICO AND THE CARIBBEAN: FROM PRE-COLONIALITY TO WORLD WAR II (1945)

3 CREDITS

Graduate course that integrates the study, discussion, and research, regarding the History of Puerto Rico and the Caribbean Region. The geographical, geo-political and geocultural definitions of Caribbean are addressed, as well as its methodological problems, geographic and geopolitical contexts, as economic, political, sociological, and ideologic aspects. Other academic considerations will be used to explain the region's precolonial, modern, and contemporary history. It will begin with a general overview of its general history, and the relations established through the imposition of European colonial political and economic spheres of influence, usually in continuous confrontation throughout the region. Besides the already mentioned, Puerto Rico's relation to the region, under two colonial systems: the United States early interests in the region, before and after 1898, as well as French, British and Dutch colonial interests. The regions history will be considered until the Second World War.

PCIS 808 IDENTITY AND CULTURAL ROOTS

3 CREDITS

Historical-anthropological research seminar. It presents a correlation between cultural history and the four branches of Anthropology. This includes cultural anthropology, archaeology, physical or biological anthropology, and linguistic anthropology. The combination of these systems of theory, methodology and analysis, are interesting to present the process of migration, adaptation, changes and creation of cultural models in the new living spaces for Hispanic colonizers and African slaves. The course offers a vision that analyzes the social and cultural relations of geography and natural resources, politics, economy, kinship systems, religious systems, art, architecture, as well as entertainment and gastronomy. It covers the period from the 16th to the 19th centuries in the geographical framework of the Greater Antilles, Cuba, the Dominican Republic and Puerto Rico.

PCIS 812 CONTEMPORARY PUERTO RICAN AND CARIBBEAN LITERATURE COMPENDIUM (XX AND XXI CENTURIES)

3 CREDITS

This course studies and analyzes Puerto Rican and Caribbean literature from the beginning of the 20th century to the present 21st century, as well as literary movements, trends, and major groups. Various literary genres are used (short story, novel, poetry, dramatic works, essays, epistles, among others), to develop in the student a research capacity addressing trends and ideological, philosophical, psychoanalytic, sociological, stylistic, cultural issues. and semiotics that are revealed in the various texts that will be studied. Competences: research, written and oral communication and reading comprehension.

PCIS 816 CONTEMPORARY HISTORY OF PUERTO RICO AND THE CARIBBEAN: FROM THE COLD WAR TO LATE NEOLIBERALISM

3 CREDITS

Seminar on historiographical research, study of methodology and critical theory, applied to the Contemporary History of Puerto Rico and the Insular Caribbean and the Basin or Greater Caribbean, considered in the context of the historical period from 1945 to 2020. It offers a geographical, geopolitical, socio -Antillean and regional economic and geo-cultural vision. It considers, in an interdisciplinary way, the transformations of its peoples from the consequences of the Second World War and the rise of the Cold War in the Caribbean to the period of late globalization and neoliberalism in the first decades of the 21st century.

PCIS 818 UNITED STATES AND THE CARIBBEAN: EXPANSIONISM, INTERVENTIONISM, AND HEGEMONY IN THE 19TH AND 20TH CENTURIES

3 CREDITS

Seminar on historiographical research, study of methodology and critical theory, applied to the history of the United States, the Insular Caribbean and the Basin or Greater Caribbean, considered in the context of the historical period of the 19th and 20th centuries. It offers an international, hemispheric, Antillean and regional geographical, geopolitical, socio-economic, and geo-cultural vision. It considers in an interdisciplinary way the transformations that have occurred since its War of Independence, which began the era of the Atlantic Revolutions; continued expansion to the "West"; the Spanish expulsion from the Florida's; the purchase of the "Louisiana Territory"; the expansionist War against Mexico: the possession of Hawaii and the entry to the ports of Japan and China.

PCIS 820 WOMEN, RACE AND CLASS IN THE CARIBBEAN AND LATIN AMERICA SPANISH

3 CREDITS

This course aims to analyze the depth and differences of gender inequalities in different regions of Latin America and the Caribbean, while associating this perspective of study with those of ethnicity-race and social class. To meet this goal, it will be necessary to study different investigations and reports from state and international organizations which examine the contemporary reality of women in these regions. The course will be oriented towards offering multiple perspectives with explanations and analyses of gender inequality, which is one of the most persistent problems in both regions, and the socio-economic and political implications for women of different ethnic groups, races, and social classes.

PCIS 822 GENDER AND SOCIETY IN CONTEMPORARY PUERTO RICO

3 CREDITS

This course seeks to understand and unravel the construction of gender in the Puerto Rican cultural context of the 20th and 21st centuries. Various social science investigations and methodologies will be used to accomplish this. The course will be aimed at exploring and reevaluating the experiences of Puerto Rican women during the processes of social-economic change and education reforms. Additionally, it will analyze the concrete forms of their participation in private/public spheres, education, politics, and issues related to reproductive rights. At the end of the course, the student must identify the challenges Puerto Rican women have faced in overcoming, from their diversity, the discrimination caused by the patriarchal gender structure.

PCIS 824 ART AND CULTURE OF THE CONTEMPORARY CARIBBEAN

3 CREDITS

A panoramic study of the visual arts in Puerto Rico in its context with the Caribbean. Artistic production in Puerto Rico in the 20th and 21st centuries is analyzed by analyzing the local and Caribbean cultural context. The relationship of themes and problems that Puerto Rican artists address and how they dialogue with Caribbean artistic production, especially from Cuba, Haiti and the Dominican Republic, will be explored. Both a chronological and thematic perspective will be addressed.

PCIS 828 LAW, COLONIALISM AND DECOLONIZATION IN PUERTO RICO AND THE CARIBBEAN, 20TH AND 21ST CENTURIES

3 CREDITS

The geopolitical region of the Caribbean has long been a stage of dominance and conflict among hegemonic powerhouses of Europe and North America. The histories of Puerto Rico, the Antilles and the Caribbean basin have withstood the impact of conquest and colonization by Spain, France, Great Britain and the US, from the 15th century and into the present day. This dominance has been made possible through the right of law of ruling empires and their institutions over and among occupied territories and peoples. While the history of colonial domination is long, so is the history of decolonial resistance. In the aftermath of World War II, decolonial movements and processes have challenged long-standing forms of colonial domination. This course will explore expressions of law as colonial rule, its corresponding metropolitan imposition, but also the counter-hegemonic resistance among peoples of the region, the more formal efforts of decolonization and the rise of new nations along the twentieth century. The course will also consider present-day movements and challenges to imperial domination today.

PCIS 832 CONTEMPORARY POETRY OF THE HISPANIC CARIBBEAN

3 CREDITS

This course will offer students a panoramic view of some most important and influential currents in contemporary poetry in Puerto Rico, Cuba, and the Dominican Republic. To do so, it will focus on the work of eight to ten of the leading poets of each country, and their respective diasporas. As such, the course will apply an interdisciplinary approach, mining the conceptual registers of literary theory, sociology, post-colonial theory, among others.

PCIS 833 FOUNDATIONS OF THE ANTILLEAN SHORT STORY: JUAN BOSCH, ALEJO CARPENTIER Y EMILIO S. BELAVAL

3 CREDITS

Study of the life and storytelling work of three great founding figures of the Antillean narrative of the twentieth century: the Dominican Juan Bosch, the Puerto Rican Emilio S. Belaval and the Cuban Alejo Carpentier. Their conceptions of the storytelling genre will be studied; the relationships between his texts and their social, economic, literary and cultural contexts, as well as his narrative techniques and his achievements as storytellers.

PCIS 836 ANTILLEAN ART EXPRESSIONS: COMPARATIVE STUDY

3 CREDITS

A comparative study of the artistic expressions of Puerto Rico, the Dominican Republic and Cuba. The course will analyze the works, artistic movements and artists of these countries to understand their differences and similarities in the development of their contemporary history. The relationship of themes and problems that the artists of the region address and the legacy of the workshops, training schools and important exhibitions will be explored. Both a chronological and thematic perspective will be addressed.

PCIS 840 GENDER AND SEXUALITY IN LATIN AMERICA AND THE CARIBBEAN: A HISTORICAL PERSPECTIVE

3 CREDITS

This is a course that explores the historical development of Latin America and the Caribbean from the precolonial period until the final stages of its national formation through the lens of gender and sexuality. It emphasizes the study of women from different ethnic-racial groups and social classes, but also incorporates the analysis of masculinity. It is based on the premise that, even though gender and sexuality policies have been marginalized from traditional historiographical discussion, they were fundamental for the construction of policies, economic structures, and the cultural practices that were integrated with colonial and postcolonial contexts of Latin America and the Caribbean.

PCIS 850 RESEARCH METHODOLOGY IN INTERDISCIPLINARY STUDIES

3 CREDITS

This course provides a structured approach to research in Interdisciplinary Studies. It establishes the concepts, processes, designs and techniques most used in this type of research. Discussions will range from the identification and contextualization of the research topic (e.g., literature review, historical background, theoretical approaches, objectives), to the process by which the research will be carried out (e.g., research ethics; discussion, comparison, and application of quantitative and qualitative designs; sampling; preparation of instruments; data and information collection). The course facilitates the development of fundamental knowledge and skills for the design of interdisciplinary research.

PCIS 860 DOCTORAL THESIS SEMINAR

3 CREDITS

This course provides a forum to discuss issues related to the conducting of a thesis project. Topics covered will include institutional policies regarding research; mentoring relationships; time management; planning a research project; and the discussion of recently published work in interdisciplinary research (e.g., contents, strengths, weaknesses, designs, theories, data interpretation). Students will use this forum to develop or refine their research proposal.

PCIS 864 COMPREHENSIVE EXAM

0 CREDITS

The fundamental objective of the degree exam of the doctoral program is to verify the knowledge acquired and the student's ability to apply it to specific problems. It is also proposed to corroborate the understanding of events, their relationship, their meanings, and their multidisciplinary link. This knowledge requires a comprehensive understanding of the issues of Puerto Rico, the Caribbean and Latin America. Finally, it will allow knowing the student's capacity for written expression, requiring responses written clearly, appropriately, and coherently.

PCIS 868 DOCTORAL DISSERTATION

3 CREDITS

Candidate students for the Doctoral Degree in Philosophy in Puerto Rican and Caribbean Studies, specializing in Archaeology, History of Puerto Rico and the Caribbean, Puerto Rican and Caribbean Literature or Puerto Rican and Caribbean Studies, must present their theses, with which will demonstrate having reached an appropriate knowledge of research techniques, writing and conceptual frameworks applied to problems whose theses represent contributions to their understanding. The doctoral thesis will be defended before a dissertation panel.

PERT 102 MASSAGE TECHNIQUES

3 CREDITS

This class will have a theory and practical sessions. The students will learn about the concept and history related to massage. Each concept will teach the effects of massage, the benefits, indication and contraindication, the importance of the student and client posture in each massage technique. Also, the class will discuss the use of material and equipment that is needed in each modality.

PERT 103 MULTIPLE EXERCISE PROGRAMS IN PHYSICAL TRAINING

3 CREDITS

The course exposes the student to different alternate modes of training to stimulate the different physiological systems of the human body. These exercises stimulate adaptations of the cardiovascular and musculoskeletal systems, in an effective and varied way, to these exercises.

PERT 104 MANAGEMENT STRATEG FOR THE PERSONAL TRAINER

3 CREDITS

This course is intended to develop skills and knowledge necessary to develop a personal training business. Basics you should know the personal trainer, personal qualifications for successful practice as a personal trainer, mission and development work plan, how to develop an effective program of exercises appropriate and individualized.

PERT 105 ADVANCED EVALUATION AND MANAGEMENT OF ATHLETIC INJURIES

3 CREDITS

This course consists of theory and practice of the procedures and techniques of evaluation, assessment and value of acute and chronic athletic injuries of the human body (upper and lower extremities). Non-traumatic pathologies will be studied, as well as mechanical injuries, muscular skeletal and dermatological disorders.

PERT 106 DESIGN OF CARDIOVASCULAR AND STRENGTH TRAINING PROGRAMS

3 CREDITS

This course is designed to teach students to develop, implement and evaluate training programs on strength and resistant training, the student will learn to create strategies and plan the physical loads through various systems of modern strength and resistant training. The student will have a theoretical and practical training which will develop plans to achieve an improvement in athletic performance for both collective and individual sports.

PERT 107 SPECIAL POPULATION EXERCISE PROGRAMS DESIGN

3 CREDITS

The class will discuss the exercise prescription and health promotion for especial population and will use the guidelines by the American College of Sports Medicine (ACSM) and the National Strength and Conditioning Association (NSCA). The students will also learn about chronic conditions that require especial and individualize attention.

PERT 108 ANALYSIS OF CURRENT ISSUES ABOUT PERSONAL TRAINING

3 CREDITS

The course analyzes various personal training issues facing Puerto Rico and the world today. Focus is placed on the analysis and discussion of contemporary issues related to health, physical fitness, and training, and their impact in methods of personal training.

PERT 109 CLINICAL PRACTICE IN PERSONAL TRAINING

3 CREDITS

This course offers the student a practical experience, which integrates with theoretical courses under the direct supervision of a professional. These experiences will take place during the normal working hours of the wellness center of the university. The student will have active participation in the center performing personal fitness duties for the university's community. The student will also have active participation in administrative and organizational areas in personal fitness.

PETR 101 FUNDAMENTALS OF RESEARCH IN SPORTS AND PERSONAL TRAINING

3 CREDITS

The course is based on presentation, analysis and discussion of contemporary issues in the field of sports and personal training. It includes the discussion of recent publications, proposals, and research projects by students, professors, and guests. Research methods for the discovery of resources, knowledge and data related to the development of a research proposal in the field of sports and personal training will be presented. Quantitative and qualitative research concepts, designs and analysis will be studied and applied. In quantitative research, emphasis is placed on experimental, quasi-experimental, correlation, and surveys. In qualitative research, concepts, designs, and field research analysis are studied. The procedures for the application of basic statistical methods, information search, use of library resources and evaluation procedures will be streamlined. evaluación.

**PETR 102 PSYCHOLOGICAL FOUNDATIONS IN SPORTS AND PERSONAL TRAINING
3 CREDITS**

The course is based on understanding the relationship between psychological states, physiological (arousal) and physical performance. You will understand terms related to the psychological concepts of interest such as arousal, anxiety, attention, ideal performance state, emotional stimulation, motivation, the center of attention and confidence. You will know the relevant terms of psychological areas of interest, such as anxiety, attention, the ideal state for performance, perceived competence, visualization and goal setting. Knowing these psychological concepts will help to be able to determine their impact on physical performance. You will learn about different ways of manipulating exercise programs, such as part practice versus whole practice, random practice, and variable practice, as well as how to apply these programs to facilitate learning and skill acquisition. You will understand the different types of instructions and feedback, as well as their application in the framework of training and competition. A motivational program will be designed based on the principles of goal setting and comment on the intervention strategies designed for the psychological and physiological control of activation.

**PETR 105 SPORTS STRENGTH CONDITIONING AND SPORTS AND PERSONAL TRAINING ASSISTANCE
TECHNIQUES
3 CREDITS**

The course studies the athletic strength and physical condition in the development of sporting performance. It includes scientific discussion of the human body structure and the process of how to generate strength to obtain high level on sports performance and good health.

**PETR 201 DESING OF FLEXIBILITY PROGRAMS IN SPORT AND PERSONAL TRAINING
3 CREDITS**

This course is based on understanding the basic terminology of warm-up, stretching, and flexibility. The components and benefits of a pre-exercise warm-up will be described and identified. You will structure warm-ups that are effective and examine the factors that influence flexibility. You will use flexibility exercises that take advantage of proprioceptive neuromuscular facilitation. Select and apply appropriate static and dynamic stretching methods. It will define the most effective types of flexibility training. He will prescribe stretches for the major muscle groups. It will describe three (3) stretches that use proprioceptive neuromuscular facilitation and explain the mechanism that produces muscle inhibition, which facilitates stretching.

**PETR 202 MEASUREMENT, EVALUATION AND PRESCRIPTION OF EXERCISE IN SPORTS AND PERSONAL
TRAINING
3 CREDITS**

The course relies on the study of methods and techniques of evaluation in the exercise's prescription. Students perform the corresponded testing and design the necessary recommendations according to the interpretation of the results. Emphasis is given to anthropometrics basis of the human body structure dimension and how to analyze the components of a program design accordingly.

**PETR 205 GYM ADMINISTRATION AND LEGAL ASPECTS IN SPORTS AND PERSONAL PHYSICAL ACTIVITY
3 CREDITS**

Analysis of administrative concepts applied to the organization of the clients, group of athletes in an effective way in order to assure the best training environment. This course study the Personal Trainer roles as an administrator and responsibilities in resistance training and conditioning activities including, sports, aspects such as budgeting, marketing, financing, organizational structure of their facility, legal aspects, facility operations, maintenance, and crime prevention.

**PETR 206 INJURY PREVENTION AND FIRST AID
3 CREDITS**

This course is design to promote knowledge about the principle and techniques to offer help in emergency situations and their specific procedures. Emphasis will be given to attend respiratory emergencies, cardiac conditions, bleeding, injuries, cuts, fractures, intoxication, poisoning, burns, bites, drowning, among others.

**PETR 207 METHODOLOGY IN THE PERIODIZATION OF PHYSICAL TRAINING
3 CREDITS**

Examine the foundations of physical conditioning methodology in the process of training planning analysis. During the course the Personal Trainer will be able to identify physical conditions stress that may predispose the client to injuries. It emphasizes the coordination and proper use of training load and intensity to establish a conditioning program to meet the individual's specific needs. One semester.

**PETR 208 CARDIOVASCULAR TRAINING IN SPORTS AND PERSONAL TRAINING
3 CREDITS**

The course is based on the study of scientific concepts of cardiovascular, muscular, and flexibility training. Concepts of physical fitness, cardiovascular endurance, strength and muscular resistance, and flexibility will be discussed. Different types of training, benefits, energy systems, exercise prescriptions, variations, and different training progressions will be analyzed. Students will be expose to active and passive exercise programs.

**PETR 210 TRAINING IN SPECIAL POPULATIONS IN SPORTS AND PERSONAL TRAINING
3 CREDITS**

This course is based on understanding the basic terminology to be able to work physical exercises safely and effectively in different special populations. They will design a specific physical exercise program for different special populations. They will understand how personal trainers could offer exercises to different special populations to improve their quality of life. General recommendations will be made to work with pregnant people, the injured, children and adolescents in puberty, the elderly, spina bifida, diabetes, heart disease, cancer, arthritis, hypertension, obesity, kidney disease, osteoporosis, among others. It will explain why adaptations to weight training may vary between different special populations.

**PETR 410 PERSONAL TRAINER PRACTICUM
3 CREDITS**

The course allows the Personal Trainer students to use the acquired competencies during their academic preparation. This course is the mean in which the students apply the theory discussed through the last five years into practice. It should be the ideal environment to promote innovation and creativity in the development of educational experiences fomenting the future professional Personal Training according with the necessities they encounter. The required hours are 250 in an adequate training center.

**PHED 100 HISTORY AND PHILOSOPHY OF SPORTS AND PERSONAL AND PHYSICAL EDUCATION
3 CREDITS**

The course deals with the analysis and evaluation of the various historical-philosophical frameworks of sports and personal Physical Education. The origin and evolution of sports and personal Physical Education is discussed, emphasizing the philosophical models of the movement's education and its trajectory towards changes in the philosophical models of academic and sports competition. It requires mastery of various skills such as: verbal and non-verbal communication, reflective and integrative, knowledgeable about the human being, integration of technology among others. Readings and analysis of the historical teaching theories will be carried out to compare them with the present and in this way develop the ability to solve problems.

**PHED 101 ORIGIN, HISTORY AND FUNDAMENTALS OF PHYSICAL EDUCATION
3 CREDITS**

The course covers the history, objectives, and principles of physical education. Contemporary issues of physical education in different societies and cultures are also studied.

**PHED 102 ANATOMY AND KINESIOLOGY APPLIED TO PHYSICAL EDUCATION K-12
3 CREDITS**

The course deals with the study of the human body throughout its systemic anatomy. It also concerns with joints movement, muscular- skeletal actions, and biomechanics with emphasis on the basic principles of the exercise physiology. The course requires some practical sessions.

**PHED 205 EXERCISE PHYSIOLOGY APPLIED TO PHYSICAL EDUCATION K-12
3 CREDITS**

The course is a study of the principles of administration and supervision of Physical Education programs, books, group dynamics techniques and organization of the different activities of the school.

PHED 207 GAMES AND SPORTS

3 CREDITS

Involves student teachers with group games and sports for physical development and the fostering of desirable attitudes in sports; materials and techniques leading to physical, aesthetic, and healthy recreation. Includes games and activities for children with disabilities.

PHED 210 INDIVIDUAL WELL-BEING AND INTEGRAL HEALTH

3 CREDITS

The course covers the theory and practice of the components of wellness and physical fitness lifestyles. Medical records and health risk profiles are developed, and physical fitness levels are established. Students are exposed to information, activities, techniques and strategies to obtain and maintain acceptable levels of physical fitness that allow an effective life. Lifelong sports, weight control, stress management, and nutritional theories will be discussed.

PHED 217 ADAPTED PHYSICAL FITNESS

3 CREDITS

This course is based on teaching modification of physical fitness to fit the particular needs of special students. Emphasis in the programs designs for students with special needs. It relates the students with cause and effects of the physical conditions of the human body as a manner of planning motor sensoria's activities to develop their skills. The course promotes important legal discussion in the decisions making of academic and social matters.

PHED 220 ANATOMY AND PHYSIOLOGY

3 CREDITS

The course includes the study of gross human anatomy and the physiological changes in different body systems during physical activity. Joint movements and muscle actions are studied, as well as basic mechanical principles applied to body movements in different sports.

PHED 222 FIRST AID AND SWIMMING

3 CREDITS

The course covers the theory, methodology and practice of swimming and first aid. Swimming styles, such as freestyle, backstroke, and breaststroke, are emphasized. Survival modalities such as back and side sliding are practiced as well. Basic techniques of first aid, in accordance with American Red Cross guidelines, are discussed and practiced.

PHED 240 HEALTH, SAFETY AND WELL-BEING IN PHYSICAL EDUCATION

3 CREDITS

The course relies on the analysis of children and youth health and welfare models and the way to apply these models to the instructional design of physical education. It deals with the design and execution of the physical fitness aptitude for elementary and secondary students. It exhibits responsible personal and social behavior that respects self and others in physical activities, environment, stress management, drugs and alcohol use and abuse and exercise. The course promotes the use of "American College of Sports Medicine" (ACSM), American Red Cross and "National Association of Athletic Trainers" (NATA) standards, among others.

PHED 301 ANATOMY AND PHYSIOLOGY IN PHYSICAL EDUCATION

3 CREDITS

In the following course, you will study the fundamental concepts of human anatomy and physiology for physical education teachers. It emphasizes the structure-function relationship of all systems in the human body with clear understanding of how these systems integrate to achieve homeostasis. Pathological conditions, diagnosis, testing and treatment will also be discussed to enhance understanding of normal body functions. Basic principles of cellular biology and biochemistry as well as the following systems: integumentary, skeletal, muscular, and nervous (including special organs and senses), and endocrine. Notion of the basic systems: circulatory, respiratory, immune, digestive and reproductive.

PHED 302 INDIVIDUAL SPORTS IN PHYSICAL EDUCATION K-12

3 CREDITS

Students will study the history, rules, techniques, and teaching methodology of tennis, as well as track and field. Rules for scoring track and field events and tennis are discussed.

PHED 303 TEAMS SPORTS IN PHYSICAL EDUCATION K-12

3 CREDITS

The course centers on the theory and practice of team sports such as volleyball, basketball, softball, baseball, and soccer. Historical evaluations of the sports are emphasized, as are its foundations, rules, techniques, tactics, and physical conditioning. Roles of the referees and officials are discussed.

PHED 310 THEORY AND PRACTICE IN PHYSICAL EDUCATION K-12

3 CREDITS

Theory and practices on teaching physical education in grades k-12. Analysis of theories and its applications. Emphasis in using play and games as instruments to archive development, motor abilities, physical fitness and emotionally and cognitively well-being.

PHED 330 ADAPTED PHYSICAL EDUCATION K-12

3 CREDITS

Students will study a variety of educational opportunities that allow maximum development of the individual's capacity. Special attention is given to techniques which enable children with physical and mental disabilities to participate in physical activities within the limitations of their capacities.

PHED 335 CURRICUL DESIGN IN PHYSICAL EDUCATION K-12

3 CREDITS

The course is based on the evaluation and analysis of theories and curriculum models of physical education. It qualifies the student to implement, modify, and to design curricula that deal with various educational needs, fiscal situations and physical facilities. The course is based on the constructivist paradigm in which the teacher becomes a facilitator within the teaching-learning process. The students are encouraged to use the computer as a valuable tool.

PHED 355 EVALUATION AND RESEARCH IN PHYSICAL EDUCATION

3 CREDITS

Throughout the course students gain knowledge about different techniques and methods in measurement, assessment, evaluation and investigation processes, in relation to relevant objectives in Physical Education. Data from tests are statistically evaluated by students, who are also initiated in basic research methodology.

PHED 400 K-12 PHYSICAL EDUCATION PLANNING AND METHODOLOGY

3 CREDITS

The course covers theory, methodology, practice, and curricular models of the learning process in Physical Education. Theories, curriculum types, models, designs, and concepts are analyzed and evaluated. The course emphasizes the development of skills to integrate essential pedagogical knowledge, such as a comprehensive planned individual system, classroom management, performance analysis, assessment and evaluation. The constructivist paradigm is applied during the course. Computers and their applications are used as tools in the course.

PHED 415 PHYSICAL EDUCATION ADMINISTRATION K-12

3 CREDITS

The course centers on principles related to the administration, organization and supervision of physical education programs k-12. It emphasizes the ability to optimize teaching environments that promote learning and applying theories of administration.

PHED 420 EVALUATION AND MEASUREMENT OF PHYSICAL EDUCATION K12

3 CREDITS

Throughout the course students gain knowledge about different techniques and methods in measurement, assessment, evaluation and investigation processes, in relation to relevant objectives in Physical Education. Data from tests are statistically evaluated by students, who are also initiated in basic research methodology.

PHED 425 CLINICAL EXPERIENCE IN PHYSICAL EDUCATION K-12

3 CREDITS

The course offers a learning opportunity focusing in observation, reflection and integrating the theory to the practicum in physical education k-12. It proposes to the student's diverse learning and teaching dimensions under the tutoring of an experience teacher. The course promotes that the students in a reflective way go through live scenery experimenting the teaching process along the newest strategies and methodologies regarding the curriculum, planning, evaluation, assessment, research, and specialization fundamental areas. Required time is 100 hours distributed in 85 hours in an educational center or school and 15 hours in seminar.

PHED 450 PRACTICUM AND SEMINAR IN PHYSICAL EDUCATION K-12
6 CREDITS

The course offers students practical experience in an educational setting which represents a broad diversity of social aspects. Practice is offered over an extended period, wherein the student assumes the responsibility of teaching in a school setting under supervision of qualified personnel.

PHED 500 EVALUATION AND CARE OF ATHLETIC INJURIES
3 CREDITS

The course deals with the theory and practice of procedures and techniques of evaluation, assessment and value of acute and chronic athletic injuries in the lower extremities. Non-traumatic pathology will be studied, as well as mechanical injury, muscular, skeletal and dermatological disorders.

PHED 501 ADVANCED EXERCISE PHYSIOLOGY I
3 CREDITS

The course focuses on the study of mechanisms involved in the physiological and biochemical response to exercise.

PHED 502 PSYCHOLOGY APPLIED TO SPORTS
3 CREDITS

The course centers on the study of psychology applied to the sports setting from a bio-psychosocial approach. Basic definitions and concepts of psychology are discussed at different levels. Socio-political implications of sports will be discussed, as well as the benefits of sports integration.

PHED 503 THEORY AND METHODOLOGY OF SPORTS TRAINING
3 CREDITS

The course centers on the analysis, interpretation, and application of data obtained from athletic performance during competition.

PHED 504 SPORTS LAW AND PHYSICAL EDUCATION
3 CREDITS

The course deals with important topics in sports law. The course will focus on legal aspects of education, sport training, health promotion and sports coaching. Analysis of articles and legal cases will be emphasized.

PHED 505 LEISURE TIME AND PHYSICAL EDUCATION
3 CREDITS

Study of the human behavior in his/her leisure time. The development of recreational human behavior, and the problems related to the use of human leisure time and its implications for the physical education program.

PHED 506 TEACHING METHODOLOGY FOR ELEMENTARY PHYSICAL EDUCATION
3 CREDITS

Theoretical and practical study of the acquisition, improvement and domain of movement skills used in the teaching of physical education at the elementary level. Study of different teaching techniques used to promote the learning of movement skills at the primary level aimed to promote the integral development of the child. It emphasizes the pedagogical theoretical bases and research and its implication to the movement world of the child in his/her early school years.

PHED 507 TEACHING METHODOLOGY FOR SECONDARY PHYSICAL EDUCATION
3 CREDITS

This course provides the student the opportunity to explore the effectiveness the teaching of physical educational objectives, observation and analysis of instruction, and the study of strategies and research particular to this field. Although, the course is designed to explore and increase the pedagogical content knowledge of the secondary level as a "biunivocal" relationship between the teacher and the student.

PHED 508 ANALYSIS AND INTERPRETATION OF DATA IN SPORT AND PERFORMANCE

3 CREDITS

The course prepares the candidate to analyze, interpret and apply data obtained in real sports situations and to analyze the individual's sports performance from a research perspective.

PHED 509 CURRICULUM DEVELOPMENT IN PHYSICAL EDUCATION FOR ELEMENTARY SCHOOLS

3 CREDITS

Study the philosophies, principles and tendencies of curricular designs for the acquisition, improvement and domain of movement skills used in the teaching of physical education at the elementary level. Students will study and apply the different curriculum development theories from the elementary level curriculum. Emphasis on the theoretical foundations employed by the Department of Education of Puerto Rico to develop Physical Education programs at the elementary level.

PHED 510 CURRICULUM DEVELOPMENT IN SECONDARY PHYSICAL EDUCATION

3 CREDITS

Emphasis on the basic factors to be considered when developing or revising an established or new physical education curriculum at the secondary level. Students will study the different theory applications and methodologies in order to create a dynamic curriculum that responds to the need's modern society.

PHED 511 ASSESSMENT AND EVALUATION OF HEALTH FITNESS PARAMETERS

3 CREDITS

The course centers on the analysis of validity, reliability and objectivity as they relate to measurement techniques in health promotion programs. The primary focus is on assessment instruments used to determine health risks, as well as on understanding epidemiological and evaluation concepts in health and fitness.

PHED 512 PRINCIPLES AND FOUNDATIONS OF ADAPTED PHYSICAL EDUCATION

3 CREDITS

The course focuses on the introduction and development of critical skills necessary for effective planning, marketing and managing of strategic activities related to health promotion programs.

PHED 513 METHODS AND TECHNIQUES OF PROGRAMMING AND TEACHING IN ADAPTED PHYSICAL EDUCATION

3 CREDITS

Discussion of methods and techniques for measurement, evaluation and assessment in the teaching of Adapted Physical Education. Includes the application of statistical data analysis and principles for evaluation purposes.

PHED 514 METHODS AND TECHNIQUES IN RECREATIONAL THERAPY

3 CREDITS

Study of current practices related to methods and techniques of intervention in recreation therapy, including evaluation, diagnostic, prescription, and programming of recreation activities with therapeutic value.

PHED 515 ASSESSMENT, MEASUREMENT, AND EVALUATION IN PHYSICAL EDUCATION

3 CREDITS

Study of assessment, measurement and evaluation in education. Examines the impact and application of Psychology into the Physical Education Field.

PHED 516 ASSESSMENT, MEASUREMENT AND EVALUATION IN ADAPTED PHYSICAL EDUCATION

3 CREDITS

Discussion of methods and techniques for measurement, evaluation and assessment in the teaching of Adapted Physical Education. Includes the application of statistical data analysis and principles for evaluation purposes.

PHED 524 RESEARCH SEMINAR

3 CREDITS

Study and discussion of the contents, strength, weakness, validity and reliability of recent research published in the physical education field. Students will scrutinize the content (information) of the recent research in their particular study field, its assumptions, research methodologies, data interpretation, techniques and presentation styles. The analysis will be used as a reference for the refinement of the research proposal developed in the research methods course.

PHED 525 STATISTICS FOR SOCIAL AND PEDAGOGICAL EVALUATION AND RESEARCH

3 CREDITS

Exploration and analysis of controversies and trends in the physical education. Emphasis on the analysis of trends, dynamics and social, political and economic issues, legislation and its impact on the development of physical education in Puerto Rico.

**PHED 526 BIOMECHANICAL AND METROLOGICAL ASPECTS OF PHYSICAL EXERCISE
3 CREDITS**

The course focuses on qualitative and quantitative analysis of data of human movement during exercise processes. Analysis of mechanical and biological causes of movement under different conditions will be emphasized.

**PHED 527 PHYSIOLOGY OF EXERCISE II
3 CREDITS**

The course deals with the study of the mechanisms that act upon the physiological and biomechanical responses to exercise and their relationship.

**PHED 528 SPORTS PSYCHOLOGY OF TRAINING AND COMPETITION
3 CREDITS**

The course focuses on analyzing psychological factors that affect positive outcomes in competitive sports. Topics include psychological preparation of athletes before a competition, the role of the coach and other professionals related to the training process, and the competition itself.

**PHED 529 NUTRITION FOR HEALTH FITNESS
3 CREDITS**

The course deals with the role of nutrition in maintaining health and physical fitness. Topics include dietary guidelines, the role of carbohydrates, fats and protein in a healthy diet, and special needs for overweight individuals, children and athletes. Current research studies will be discussed.

**PHED 530 CRITICAL ISSUES IN HEALTH FITNESS MANAGEMENT
3 CREDITS**

This is a graduate seminar that comprises both formal and informal instructional elements. The professor, together with the class members, will select the key topical issues to be discussed. Additionally, expert guest speakers will be invited to share their knowledge on particular topics.

**PHED 531 STRATEGIC PLANNING HEALTH PROMOTION
3 CREDITS**

Analysis of the physiological, psychological and sociological principles of adapted physical education. Study of appropriate practices and principles from a historical, social and ecological perspective.

**PHED 532 ADMINISTRATION ISSUES IN ATHLETIC TRAINING
3 CREDITS**

The course deals with administrative and organizational processes of the athletic training profession. Candidates will analyze and discuss administrative, legal, financial and organizational issues. Emphasis will also be given to medical legal aspects of athletic training.

**PHED 533 SPORTS INJURIES REHABILITATION
3 CREDITS**

The course centers on analysis, discussion and research of topics related to the rehabilitation of athletic injuries. Emphasis will be given to recent studies and rehabilitation techniques in the athletic training field. The course includes a laboratory practice.

**PHED 534 ATHLETIC TRAINING PRACTICUM
3 CREDITS**

This is an academic experience that integrates theoretical knowledge with actual practice under the direct supervision of a graduate athletic trainer. It includes practice in the prevention and treatment of acute and chronic athletic injuries as well as active participation in administrative and organizational areas of athletic training programs.

**PHED 535 EVALUATION AND CARE OF ATHLETIC INJURIES
3 CREDITS**

The course focuses on theory and practice of identification, evaluation, and treatment of acute and chronic athletic injuries of the upper extremity. Topics include non-traumatic pathology, mechanisms of injuries, muscle-skeletal and dermatological disorders, mechanical principles of physical activities that cause trauma, and injuries due to overuse. The course includes laboratory practice.

**PHED 600 PRACTICUM OF PHYSICAL EDUCATION IN ELEMENTARY SCHOOL
3 CREDITS**

Students will be assigned as “practice teachers” at elementary schools from the public system of Puerto Rico. During the part of term period, the student will instruct a group of elementary school students. Also, a cooperative teacher will advise the student through his/her experience in the school.

**PHED 601 PRACTICUM OF PHYSICAL EDUCATION IN SECONDARY SCHOOL
3 CREDITS**

The course provides the student with the opportunity to plan, develop and implement the curriculum of physical education at the secondary level. Also, it gives the student the opportunity to observe, infer, participate and criticize the effectiveness of the strategies. It also gives the student the opportunity to share experiences with other student participants.

**PHED 602 PRACTICUM OF PHYSICAL EDUCATION IN ADULT LEVEL
3 CREDITS**

Students will be assigned to agencies, institutions or universities which develop physical education programs for adults. Students will be exposed to real supervised field experiences in which they can instruct, implant, direct, investigate or evaluate programs or activities related with adult physical education programs.

**PHED 603 PRACTICUM IN ADAPTED PHYSICAL EDUCATION
3 CREDITS**

Student-teachers/resource-persons teach adapted physical education in community schools, hospitals, organizations, and agencies that work with individuals with special needs two hours per day, five days a week, during a semester until completion of a 90-hour practicum//internship supervised by UAGM practicum faculty. Includes seminars, meetings, field experiences, and activities inherent to teaching.

**PHIL 103 PRINCIPLES OF REASONING
3 CREDITS**

Presents methods and principles of knowledge and reasoning. Introduces fundamentals of modern logic and its application. Emphasis given to the development of analytical skills useful for effective problem solving.

**PHIL 201 INTRODUCTION TO PHILOSOPHY
3 CREDITS**

This course studies the nature and development of western philosophical thought and its principal themes and problems. The course will examine the following philosophical periods: the classical, the medieval, the modern and the contemporary. Also, some philosophical psychology works will be examined, in addition, to texts authored by Puerto Rican philosophers.

**PHIL 116 INTERVENTIONS WITH SPECIAL POPULATIONS
3 CREDITS**

Study of theoretical and practical aspects of the intervention with special populations by security officers, protection and correctional agents. Such as: minors, elderly, victims of domestic violence, ethnic groups and alcoholics and people with health conditions mental.

**PJPS 120 MEDIATION AND INTERVENTION
3 CREDITS**

Mediation promotes communication and understanding between the parties to the conflict by offering alternatives of dialogue to the parties involved. This course includes concepts on conflict resolution, relevant legislation, communication skills and aspects of Intervention in situations related to the working environment and the work of justice professionals.

**PJPS 240 FIREARMS USE HANDLING
3 CREDITS**

This course is aimed at the study and management of firearms, from their definition, types, nomenclature and components, structure, safety and even their effects. The student will learn the types of firearms and how these firearms are distinguished. In the same way you will know about the importance of responsible use of this type of weapons and the appropriate equipment to be used.

**PJPS 300 TACTICAL PLANNING
3 CREDITS**

Study about the elaboration of the operational and strategic plans aimed at determining the essential resources needed to execute security plans as well as the effective use of such resources by the security agencies. Efficient assignment of specific tasks to particular operational units and individuals. Determine the specific tasks and responsibilities of the people assigned to the execution of plans. Estudio sobre la elaboración de planes operacionales y estratégicos de seguridad.

**POSC 203 INTRODUCTION TO THE STUDY OF POLITICAL SCIENCES
3 CREDITS**

Analysis of the modern state and its structure and citizen participation: Political decision making in contemporary societies.

**POSC 253 POLITICAL SYSTEM OF PUERTO RICO
3 CREDITS**

Study of the political institutions of Puerto Rico from 1870 to the present. Legal and political evolution from the Carta Autonómica to the legislation establishing the elected governorship and the Commonwealth will be discussed.

**POSC 373 POLITICAL SYSTEM OF UNITED STATES
3 CREDITS**

The course covers the evolution of the federal government, its structure, procedures and functions. Emphasis will be placed on organization, as well as on separation of powers in the legislative, executive and judicial branches.

**POSC 380 CONSTITUTIONAL LAW
3 CREDITS**

Study of the principles, figures, and foundations of the Constitution of Puerto Rico and the Constitution of the United States of America. Emphasis is placed on the study of the Bill of Rights, and the privileges and immunities included in both constitutions.

**POSC 387 LAW AND SOCIETY
3 CREDITS**

Study and analysis of principles and doctrines of law and its relationship with the development of the society from a contemporary and comprehensive vision. Emphasis will be based on the analysis of theories, models and juridical and sociological approaches.

**POSC 390 INTERNATIONAL POLITICAL SYSTEM
3 CREDITS**

Study and discussion of the political systems from an international perspective and the contemporary political ideologies. Emphasis on the study of political behavior, political participation, governance and international relations.

**PRCS 610 INTRODUCTION TO GENDER STUDIES
3 CREDITS**

It introduces gender studies in an interdisciplinary manner. It explores key concepts and definitions in gender studies such as the construction of gender identities and sexuality, its ideologies, policies and representations. The course uses biological, theoretical, and historical perspective concepts in order to analyze the construction of gender and sexual identities.

**PROD 205 AUDIOVISUAL PRODUCTION I
3 CREDITS**

Introductory and theoretic study of the administrative and production processes of film, video and multimedia. Study of the human resources of production from the point of view of a producer and the processes of pre-production, production and postproduction. Elaboration of the responsibilities and tasks of producer from the conception of the production design, final projection and distribution of an audiovisual object. Study of the languages of audiovisual production.

**PROD 300 FILM DIRECTION I
3 CREDITS**

Theoretic study of actor's direction, its visualization and their relation to the film script and its analysis. Discussion of the strategies for the management of the relation between and film actor/actress and the film director. Study of the mechanisms for the creation of the visual identity of a film and its characterization through the use of gestures and internal or external actor/actress resources, from culture or history. Study of the direction of a creative team.

**PROD 303 ADVANCED PRODUCT AND DIRECTION FOR AUDIOVISUAL MEDIA II
3 CREDITS**

Advanced and practical study of the administrative and production aspects of audiovisual media communications. Advanced elaboration of the responsibilities and tasks of a film producer from the conception of a production design up to the final projection and distribution of an audiovisual object. Study of the concept, idea and production designs related to independent and low budget film production.

**PROD 308 WRITING AND STYLE FOR AUDIOVISUAL COMMUNICATION
3 CREDITS**

Teaching of writing and style for the script used in cinematographic communication. Study of the structural dimension of script used in cinematographic communication in its classical, post-classical and experimental expressions. Presentation of the concept of poetics in relation to the script used in cinematographic communication and its structure. Study of the mechanism and practice of the script used in cinematographic communication through the means provided by the software for its writing which are standard in the world cinema industry. Study of the role of scriptwriter as a communications professional as part of a recognition of the impact of communications media in the development of a global world and the social and cultural development of cinema and audiovisual media.

**PROD 313 CINEMATOGRAPHY AND CAMERA OPERATION
3 CREDITS**

Introduction to the theory and practice of digital cinematography in the RAW format for the moving image camera. Study and application of the principal concepts of illumination, composition, depth of field, perspective and lenses for digital cinematography. Study of the concept of plane for thinking the moving image. Application and use of software for the creation of storyboards and for digital correction and colorization of the moving image in the RAW format. Study of the instrument of the technical script as part of the role and function of communication professionals within a global world. Study of the creative process as an independent endeavor of communication professionals.

**PROD 315 LIGHTING FOR AUDIOVISUAL MEDIA
3 CREDITS**

Study of lighting techniques and the instruments used for implementing them in film making. Study of colorization for film, video and multimedia in relation to the idea of communication and to its technical aspects so as the new technologies of the digital world. Study of the creative process as it relates to communicating with light and shadow as part of the role of the communications professional in a global and digital world.

**PROD 320 CAMERA DIRECTION: AESTHETICS OF THE IMAGE AND ITS VISUAL IDENTITY
3 CREDITS**

The course will analyze themes, situations, disputes and emerging problems in film, video and multimedia from different perspectives. It will further analyze film theory, the practice of audiovisual technologies, different types of film directors and films that are the basis for a broad understanding of film as a discipline of studies, as an art form and as a communications device. It will encourage the participation of professionals/specialists linked to film, video and multimedia. Realization of audiovisual works, (short films, commercials, documentaries or others).

**PROD 325 AUDIOVISUAL ART DIRECTION
3 CREDITS**

Study of art direction from the point of view of photographic direction. Study of the principles of art direction and their relation to cinematographic production design. Study of the collaborative aspects of art direction. Study of the principles of cinematographic art direction from the point of view of film production.

**PROD 333 EDITING PROCESS
3 CREDITS**

Study of the theory and practice of editing process of moving images. Discussion and application of the necessary skills for using FINAL CUT in the Apple platform and/or Premier of the ADOBE platform. Theoretical and practical study of editing design in film.

**PROD 350 SOUND PRODUCTION FOR AUDIOVISUAL MEDIA
3 CREDITS**

Study of audiovisual media communication sound design, editing and production. Practice of the use of sound technologies as the different booms, microphones and set or studio recorders. Study of the techniques of sound editing on set, TV and radio station.

**PROD 463 AUDIOVISUAL MEDIA PROJECT
3 CREDITS**

Creative audiovisual laboratory where students will spend their time in the realization of spot a video or a television add. The principles of visual and sound pre-production, production and post-production will organize the course. In it special effects guidelines and other digital terminations for audiovisual executions will be offered.

**PRPE 807 PRACTICUM I: TEACHING /MANAGEMENT OF MATTERS RELATED TO TEACHING IN
PHYSICAL EDUCATION**

3 CREDITS

Teaching or administrative experience on educational institutions (primary, secondary, college) to enable students develop professionally and contribute to the physical education through one or more of the following activities: (a) teach physical education, (b) involved in the development or implementation of curriculum/programs/guides /standard of physical education, (c) develop professional training of in service physical educators (d) participate, drafting or implementing external fund projects to contribute to the improvement of physical education, (e) develop or participate in innovative projects that contribute to strengthen / develop physical education. The educational level and type of practice experience will be determined based on the needs and professional interests of the doctoral student.

**PRPE 808 PRACTICUM II APPLIED RESEARCH IN PHYSICAL EDUCATION
3 CREDITS**

Participation in applied research developed in real educational settings (primary, secondary, university) that allows the student to create and contribute to the improvement of physical education in Puerto Rico. The student will be actively involved in applied research where he can contribute in aspects such as the following; (a) design and implement educational needs studies with physical education students, (b) design and implement studies of student interests for intramural programs, (c) construction and validation of instruments for appraisal projects of physical education, (d)) development of projects and assessment models of learning and research in the classroom in physical education, (e) studies of training needs and professional training of in-service physical educators, (d) research projects-assessment of the effectiveness of physical education programs, or (e) applied pedagogical research projects identified by the educational institution or physical education program where students perform their practice.

**PRPE 809 PRACTICUM I - BASIC RESEARCH IN PHYSICAL EDUCATION WITH QUALITATIVE AND
COMBINED METHODOLOGY I**

3 CREDITS

The course of practice I in research relates the student to the methodologies for planning, conducting, analyzing and documenting basic research using qualitative and combined methodologies. Emphasis is placed on the construction or use of conceptual frameworks and existing theoretical models of research related to the development of new knowledge in physical education in Puerto Rico.

**PRPE 810 PRACTICUM II - BASIC QUANTITATIVE RESEARCH IN PHYSICAL EDUCATION
3 CREDITS**

The course of practice II in research, assessment or evaluation relates the student to the methodologies for planning, conducting, analyzing and documenting basic research using quantitative methodologies. Emphasis is placed on the construction or use of conceptual frameworks and existing theoretical models of research related to the development of new knowledge in physical education in Puerto Rico.

**PSAF 120 FITNESS TRAINING AND WELLNESS
3 CREDITS**

This course is aimed at the effective development and understanding of physical training by students in relation to their specialty belonging to the ISEP Program. The student will learn to recognize which routine or training plan is most appropriate for him or her. You will also learn about the importance of Welfare or (Wellness) and how it will positively affect your performance in the field of public servant.

**PSAF 124 COMMUNITY POLICE AND ETHICS
3 CREDITS**

Study of the police ethics and of the human relations with the community. Focuses on description of the characteristics of the police system for community intervention, its relevance and applications in the current society. It also aims to develop a sense of commitment to community interventions, as well as prevention and proactive approaches to police work.

**PSAF 140 PENAL LAW IN PUBLIC SAFETY
3 CREDITS**

Study of the general principles of the penal code in Puerto Rico, the special penal laws, the criminal procedure rules and the evidence rules that apply in Puerto Rico. Establishes a foundation to the applicable norms to process criminal offenses by adults and minors, the special processes and regular norms.

**PSAF 143 INTRODUCTION TO FORENSIC INVESTIGATION
3 CREDITS**

Introductory course to the study of the procedures and techniques used in Forensic Investigation. It focuses on the important aspects of crime scene analysis from the forensic point of view. The principles and basic concepts used by forensic professionals are discussed. The students will have the opportunity to apply their knowledge with practical field forensic investigation exercises.

**PSAF 150 FORMS AND REPORTS
2 CREDITS**

This course provides future police officers the basic skills to complete and classify reports and forms used by the Puerto Rico Police Department in a correct, clear, concise manner.

**PSAF 160 CIVIL RIGHTS AND EQUAL PROTECTION
3 CREDITS**

This course presents the civil rights granted by the US and PR Constitutions and how the government agencies must guarantee equal protection for all, especially vulnerable populations, including, but not limited to, immigrants, people of color, the LGBT community, women.

**PSAF 201 FORENSIC PHOTOGRAPHY AND PLANIMETRY
3 CREDITS**

The course will provide method analysis and photography techniques from a legal perspective. The study of photography as a graphic objective of the condition in which the crime scene is developed. Study the crime scene with the purpose of establishing conditions for the evidence found. Study of the diagram or sketch that is elaborated in the crime scene. The course also provides an establishment of specific crime motives where the results become favorable to solve criminal cases.

**PSAF 204 FIRST AID AND BLOODBORNE PATHOGENS
2 CREDITS**

The First Aid course for Criminal Justice Officers seeks to instruct the student in the primary care of a medical emergency and include the occupation of public safety personnel as the first rescuer. The student will learn to provide their services in scenarios in which they will require knowledge and special skills on anatomy, basic physiology of the human body, vital signs, shock or fainting, burns, seizures, heart attack, among other emergencies and common emergencies. Through practical exercises, he is taught to manage emergencies of choking, asphyxia, hemorrhages and basic measures of cardiopulmonary resuscitation (CPR).

PSAF 208 USE OF FORCE AND DEFENSE TECHNIQUES

2 CREDITS

In this course students learn how to effectively defend themselves and against attacking aggressors who attempt to cause severe damage, while observing the principles of reasonable use of force. In the first part of the course, students will learn defense techniques against unarmed bodily assault. In the second part of the course students will learn how to defend themselves from aggressors armed with handguns or sharp-pointed weapons. In the third part of the course students will learn techniques to maintain control of their weapon against attackers who try to disarm them.

PSAF 210 ROPE RESCUE, BASIC KNOWLEDGE AND OPERATIONS

3 CREDITS

Participants will learn basic bail-out techniques in industries and in the community. The ICS (Incident Command System) will be applied to this scenario and will be trained in anchorage, knots, mooring and patient hauling. This course is derived from NFPA 1006 (Standard for Rescue Technician Professional Qualifications).

PSAF 211 TECHNICAL ROPE RESCUE

3 CREDITS

Participants will learn advanced techniques in Rope Rescue at more pronounced angles in the industrial setting and community. When the participant completes this course, he / she meets the requirements to be certified as a Professional Rescue Technician in accordance with NFPA 1006, Standard for Rescue Technician Professional Qualifications, Chapter 6.

PSAF 212 RESCUE IN CONFINED SPACES

3 CREDITS

This course is based on the standards of NFPA 1006 Standard for Technical Rescue Personnel Chapter 9 and OSHA (Permit-Required Confined Space for General Industry). Participants will acquire knowledge for incident response in confined spaces and qualify for NFPA 1006 Confined Space Professional Rescue Technician.

PSAF 213 RESCUE IN TRENCHES

3 CREDITS

This course is based on NFPA 1006 Standard for Technical Rescue Personnel and OSHA. Participants will acquire knowledge for the response to incidents in constructions and excavations, focused on Rescue in Trenches. Also included in this course is Incident Command System for Trench Rescue.

PSAF 215 EVIDENCE AND TESTIMONY IN COURT

3 CREDITS

Study of the rules for evidence and its application in criminal cases. Analysis of the techniques of presentation of evidence, testimony and case preparation in court. Study of the court decisions interpreting the rules of evidence.

PSAF 216 VEHICLE CRASH INVESTIGATION

2 CREDITS

This course will discuss the duties, responsibilities, and regulations of drivers mandated by Vehicles and Transit Law of Puerto Rico. Additionally, the student will learn how to apply and enforcement this law. Also, the student will understand the different determining factors and legal aspects of accidents in order to conduct traffic accident investigations.

PSAF 218 CORRECTIONAL MANAGEMENT SYSTEM

3 CREDITS

The study of the Correction System, including the purposes, structures of the victim and the inmate. In addition, the different theories and types of situations confronted daily in the correctional field will be studied. Contemporary theories of punishments, corrections and rehabilitation are included, as well as addressing the problems and situations that affect the corrections officer in the extensive field of the Correction System.

PSAF 219 INTRODUCTION TO CRIMINAL INTELLIGENCE

3 CREDITS

Introduction to the analysis and evaluation of search strategies, analysis and dissemination of information about criminal activity. The course presents the students with the purpose of the Criminal Intelligence: to satisfy the need of information of the security personnel in the prevention area, prosecution and judiciary. Criminal Intelligence is presented as advance knowledge achieved through information processing and emphasizes its timely dissemination to contribute to decision-making and to meet safety and welfare.

PSAF 221 WATER RESCUE

3 CREDITS

During this course participants will learn techniques and skills to perform rescues in scenes of structural collapse either by natural disaster or incidents of terrorism. This course, besides being created for the Associate Degree in Emergency Management, can be directed to Firefighters, Paramedics, Industries, Police, WMD Technicians and National Guard.

PSAF 222 RESCUE IN COLLAPSE STRUCTURES

3 CREDITS

During this course participants will learn techniques and skills to perform rescues in scenes of structural collapse either by natural disaster or incidents of terrorism. This course, besides being created for the Associate Degree in Emergency Management, can be directed to Firefighters, Paramedics, Industries, Police, WMD Technicians and National Guard.

PSAF 223 INTRODUCTION TO CRIME, FRAUD, AND CYBER CRIMES

3 CREDITS

In this course the student is presented with the term fraud, its definition in the current Penal Code, and the crimes in which the term fraud is applied in the Criminal Justice System. The course also studies the terms applicable to the inhabitants of Cyberspace. You will know how to search and trace evidence in computers and digital equipment. The course discusses the ways to identify, preserve, pack, and present digital evidence in a legal process and the due control to which it must be submitted for the preservation of the Chain of Evidence. It includes the study of Federal, state and international laws that apply to digital computer fraud.

PSAF 224 TRANSIT INTERVENTIONS AND VEHICLE OPERATION

3 CREDITS

The fundamental aspects traffic interventions, as well as of the operation of motor vehicles will be discussed when traveling on public roads in conditions of police intervention and prosecution and the regulations and policies that have been promulgated for their implementation and applicability. In addition, the student will know and identify the different tactics to drive on the roads of Puerto Rico making appropriate and legal use of the vehicles assigned to the community of law and order.

PSAF 225 INMATES TRANSPORT

2 CREDITS

The fundamental aspects of the operation of motor vehicles and transportation of inmates will be discussed when traveling on public roads. The regulations and policies established by the Department of Correction and Rehabilitation, the legal responsibility for the care of inmates during transport and the protocols for receipt and delivery of inmates. The course completes an analysis of all the factors or elements that intervene from the exit of the prison institution from which each inmate comes to his final destination.

PSAF 226 INMATES MANAGEMENT SUPERVISION

2 CREDITS

Introductory course on supervision techniques for inmates, as well as Criminal Guards and Correction employees. Emphasis will be placed on the specific development of communication methods necessary to work effectively in a correctional institution. The primary goals of the course are: the development of the ability to work in a potentially dangerous environment, the implementation and follow-up of direct orders, the recognition of the manipulation of offenders, methods of observation to be put into practice, knowledge and implementation of body language and how to solve daily work problems within a culturally distinct population.

PSAF 227 INTELLIGENCE, INTERVIEW AND INTERROGATION TECHNIQUES

3 CREDITS

This course prepares students to conduct interviews and interrogations according to the applicable laws and rules, in a manner that is both effective and respectful of the interviewee. Students will also review the ethical implications of the interviews and interrogations.

PSAF 228 POLICE PRINCIPLES

3 CREDITS

In this course, the systematic and theoretical study of the police is presented. Use as a frame of reference the History, mission and vision of the Puerto Rico Police Department. This course introduces students to the mentality of a public servant in law and order. Highlights the importance of assuming police values. Basic concepts about police patrol methods and techniques are presented. Models and strategies are proposed for the creation of patrols plans, for the prevention and response to the criminal incidence in Puerto Rico. The student will develop appreciation for the complexity and commitment of the public servant in law and order, as well as the ability to use mechanical restraints. Includes practice exercises.

PSAF 231 CONSTITUTIONAL LAW AND CORRECTION

2 CREDITS

Study of the constitutional rights in Puerto Rico as they apply to inmates. It explores in detail the practices and interventions used with inmates at the correctional facilities. Also studies the norms and procedures established at the correctional facilities in Puerto Rico after the Morales Feliciano case. It uses case studies and rulings. Students base their work both in the Constitution of Puerto Rico and the Constitution of the United States.

PSAF 232 INMATES GROWTH AND DEVELOPMENT

2 CREDITS

In the course, the history of correctional treatment, rehabilitation strategies, philosophies, ideologies and developments related to correctional, organizational and managerial policies and practices will be examined and analyzed. Students will critically focus on theoretical, practical and policy issues related to adult and juvenile offender treatment and rehabilitation programs.

PSAF 233 SEARCH AND RESCUE

3 CREDITS

The Search and Rescue course integrates both rope rescue and self-rescue techniques in jungle and rural environments. Students will apply a series of rope rescue techniques with jungle and rural modifications in order to develop the skills required for search and rescue. Additionally, students will spend a significant amount of time developing strategies to solve complex search and rescue problems.

PSAF 234 PROBATION, PAROLE AND COMMUNITY TREATMENT

2 CREDITS

Comprehensive study of the general principles of probation, parole and community treatment of convicts in Puerto Rico. work the requirements and effects of the probation. It also analyzes the structure of the Parole Board and its regulations. Explore the alternatives of community treatment for convicts and the importance of an effective social reintegration for the achievement of their rehabilitation.

PSAF 235 CRIMINAL PROCEDURES

3 CREDITS

This course takes the student to master the process to be faced by an accused of crime, discusses the constitutional guaranties that cover to all accused. The student is presented with all the stages of the criminal procedures from the preliminary investigation, the legal procedures and the court decisions at the first level. It also covers the trial, decision and procedures after the sentence is announced.

PSAF 236 USE OF FORCE AND LESS LETHAL WEAPONS

2 CREDITS

This course is aimed at the study and management of less lethal weapons, from their structure, components, terms to their effects. The student will learn to manage and use the types of less lethal weapons of greater use and demand at present and how they are distinguished from firearms. The mastery and skills needed to handle a less lethal weapon must be acquired under an effective theoretical-practical study model. They will also know the importance of the responsible use of weapons, less lethal weapons and the appropriate equipment to protect themselves and others.

PSAF 237 INTRODUCTION TO CRIMINALISTICS

3 CREDITS

The course presents the origin and development of forensic sciences, as well as the different types of evidence used in Criminal Investigation. Emphasis is placed on the importance of the preservation and handling of evidence in the judicial process. The definition and scope of forensic sciences are discussed. The study and application of the scientific method in criminal investigation, from an updated and directed approach towards specialized research in scientific-legal techniques.

**PSAF 238 POLICE PATROL AND SERVICE SITUATIONS
3 CREDITS**

Theory and practice of intervention techniques with compliant and non-compliant individuals and groups. Students develop their capacity for teamwork as well as for decision making in high-risk situations like armed suspects, suicide attempts, active shooters, and hostage situations, from the perspective of a police officer assigned to regular duties. Students practice safe entry to buildings and structures as well as arrest techniques.

**PSAF 239 INTRODUCTION TO SPECIAL CRIMINAL LAWS
3 CREDITS**

This course examines and analyzes special criminal laws, for example, legislation on minors, domestic violence and legislation on controlled substances and others. The latter will focus on public health perspectives to the controlled substances abuse problems. Also, the course will review the general principles of criminal law.

**PSAF 242 FORENSIC INVESTIGATION TECHNIQUES
3 CREDITS**

The study of the investigation techniques used in the forensic field. The will learn the set of methods used for the analysis of criminal behavior and the evidence left by the criminal on the scene. Emphasizes the process of collecting and packing evidence at the crime scene. Specifically, in the way in which the evidence related to DNA, ballistics, fingerprints, testimony, among others, is processed. The student will learn to correctly perform the process of documentation and preparation of the evidence to present in court.

**PSAF 250 SEXUAL CRIMES AND DOMESTIC VIOLENCE
3 CREDITS**

Provides the basis for an adequate response to all types of sexual offense incidents or domestics violence by the police officer. The police will learn to respond in a respectful, responsible, and sensitive manner. Maintaining the dignity and confidentiality of the alleged victim, securing equal protection to all populations. The officer will develop basic knowledge and skills needed to be able to offer adequate guidance and counsel, to attend specific needs in these situations. The officer will become able to identify the element of a sexual crime or domestics abuse, based on the investigation and the allegations of the victim.

**PSAF 290 STRATEGIC PLANNING
3 CREDITS**

This course guides students on the process of writing and implementing a strategic plan in a Public Safety organization. Explains the difference between a business plan, long-term planning, and a strategic plan. The course also explains how the plan will ensure an organization's success. It explains the importance of mandates– both formal and informal; how to write a mission and vision statement and why they are important for an organization; and it explains values and how they play a vital role in how decisions are made along with their guiding force within the institution.

**PSAF 315 APPLICATION OF PREPAREDNESS AND MITIGATION PLANS
2 CREDITS**

This course provides a comprehensive analysis of the various theories about emergency preparation and mitigation, as well as the alternatives, methods, principles and application of preparedness and mitigation plans to cover natural and man-made disasters.

**PSAF 330 ORGANIZED CRIME
3 CREDITS**

The student will be exposed to theories, concepts, case studies and issues relating to organized both in the USA and Puerto Rico. Organizational crimes are some of the most dangerous to society and range from the commonly known offenses of gambling and narcotics trafficking to the more subtle and sophisticated crimes of extortion, commercial bribery, and political corruption.

PSCL 711 PRACTICE I

1 CREDITS

The student will strengthen their professional process by learning communication techniques and perform, at various stages of the semester, self-assessment processes about their performance. The student will write a self-reflective analysis from an individual and targeted perspective in a standardized clinical supervised process. Also, the student will be prepared to apply the knowledge acquired in real-world situations of clinical practice under supervision. This process will emphasize the development of a reflection of feelings, the meaning of the process of growth, help and collaboration, as well as other techniques of individual intervention.

PSCL 712 PRACTICE II (A & B)

1 CREDITS

The student will continue to be strengthened in the practice of theoretical basics, knowledge, skills and therapeutic intervention strategies in clinical psychology. He/she will apply the knowledge acquired in real situations of the practice of psychology under clinical supervision. In this process, using case conceptualization, simulated clients and role play, continuity will be given to the application of clinical interview techniques, clinical observation, paraphrase, interview closures, document writing, clinical history, and professional communication, among others.

PSCL 713 PRACTICE III

1 CREDITS

The student will have supervised practical experiences aimed to the population of children, adolescents and adults by developing psychological intervention skills, including interviewing, psychodiagnosis, therapy and developing psychological treatment. It will emphasize on short psychotherapy models aimed to mental health prevention and promotion and socio-emotional adjustment. Clinical case conceptualization skills will be worked on and strengthened.

PSCL 714 PRACTICE IV (A & B)

1 CREDITS

The student will continue his/her process of acquiring supervised practical experiences and clinical practice aimed to the population of children, adolescents and adults focused on strengthening psychological intervention skills including interviewing, psychodiagnosis, preparation of the treatment plan and psychotherapy. It will emphasize on short psychotherapy models aimed at mental health prevention and promotion, and socio-emotional adjustment. In addition, the student will have the opportunity to make psychometric evaluations and write reports, as part of his/her clinical training. This supervised practice will include the most widely used tests in the discipline, some validated and standardized for Puerto Rico and others that are used in consensus by all universities and academic institutions that offer the professional degree of Psychology.

PSCL 720 APA SEMINAR

0 CREDITS

The purpose of this seminar is to train students on how to efficiently utilize the American Psychological Association's Publication Manual for their research, monographs, essays and their doctoral project. The seminar emphasizes on the writing style, general format, in-text citations, and reference list.

PSCL 750 THEORETICAL FOUNDATION OF HUMAN DEVELOPMENT THROUGH THE LIFE CYCLE

3 CREDITS

This course examines critically the fundamentals of the main theories and exponents of human development throughout the life cycle. Mainly, the stages of life of the human being are analyzed beginning with the beginnings of life, followed by early childhood, middle childhood, adolescence, emerging and early adulthood, middle adulthood, late adulthood and end-of-life management. In addition, theory and research related to human development throughout the life cycle will be discussed.

PSCL 751 ETHICAL BEHAVIOR IN THE PROFESSION OF PSYCHOLOGY

3 CREDITS

Examine critically from a sociohistorical perspective the application of an ethical system to the practice of psychology in Puerto Rico. Special attention will be paid to how the codes of ethics regulate Psychology and the meaning of the ethical principles related to the collective morale and the aspiration that all psychologists behave correctly. In addition, the laws that regulate the profession and the impact that these may have in the decision-making process in Psychology will be studied.

PSCL 752 THEORETICAL ASPECTS OF PERSONALITY

3 CREDITS

Study of personality in psychology. The course will examine the fundamental theoretical components of the area, including psychoanalytical, socio-humanistic, conductive and cognitive perspectives from a historical context that seeks to connect applied research and current theoretical discussions

PSCL 753 APPLIED BIOLOGICAL PSYCHOLOGY

3 CREDITS

The course examines the relationship between the physiological systems of an organism and behavior. The influences of modern biological perspectives on psychological analysis and explanations will be discussed, especially the advantages and limits of biological explanations of behavior. It discusses the research methods applicable to the brain and human anatomy.

PSCL 754 PSYCHOLOGY OF LEARNING AND MOTIVATION

3 CREDITS

The course examines the theories and principles that explain learning and cognition. The course will give a particular emphasis to the foundational premises of cognitive psychology, as well as the topics of the brain, cognition, sensation, perception, attention and learning.

PSCL 755 ADVANCED PSYCHOPATOLOGY I

3 CREDITS

Examination of the distinction between what is considered normal and abnormal behavior, with reference to social, economic and cultural criteria to define both concepts. The course will analyze mental disorders and evaluate the concepts that define the field, as well as the diagnosis and treatment of mental conditions from biophysical, intra-psychic, phenomenological, behavioral, socio-cultural, and integrative perspectives. Also, the course will study the different disease entities of the "Diagnostic and Statistical Manual of Mental Disorders (DSM-5).

PSCL 756 THEORIES IN ADVANCED SOCIAL PSYCHOLOGY

3 CREDITS

This course critically examines the main theoretical and methodological aspects that have emerged in Social Psychology from its birth as a discipline in the first decades of the 20th century to the present, taking as a focal point the scientific study directed at the way in which people construct thoughts influence and relate to each other. It aims to address the study approach - at the micro and macro level - of collective phenomena such as: interpersonal communication, attitudes, persuasion, conformity, social perception, attributions, cognitive processes in social perceptions, interpersonal attractions, affiliation and aggression and social change.

PSCL 757 HISTORY AND SYSTEM OF PSYCHOLOGY

3 CREDITS

This course will review the systems of psychological thinking from a historical perspective, as well as current trends and fields of study of psychology. The origin and evolution of psychology as a discipline is reviewed, emphasizing philosophical influences, schools of thought and the "three currents" in psychology, and interdisciplinary currents. The evolution of the theory of clinical psychology, practice and training throughout the twentieth century is taken into account, taking into account the emergence of new approaches and currents within psychology such as science, discipline and profession.

PSCL 759 STATISTICAL METHODS I

3 CREDITS

The purpose of this course is to train the student in theoretical knowledge, application and interpretation of descriptive statistics. Different methods and statistical models will be discussed in the field of psychology to be applied using statistical analysis computer programs.

PSCL 761 ADVANCED PSYCHOPATHOLOGY II

3 CREDITS

This course aims to expose students to the conceptual bases of clinical psychology and to the knowledge of the various typologies of personality pathologies. They will acquire a global and up-to-date perspective on the role of psychopathology in the field of clinical psychology, as well as the methodology required for the study of psychopathological alterations of the human being.

PSCL 762 STATISTICAL METHODS I

3 CREDITS

This course aims to train the student in the theoretical knowledge, application and interpretation of inferential statistics. Different statistical methods and models in the field of Psychology will be discussed to be applied using statistical analysis computer programs.

**PSCL 763 METHODOLOGICAL ASPECTS OF INTELLIGENCE ASSESSMENT AND MEASUREMENT
2 CREDITS**

Study of the principles of evaluation of individual differences and intelligence learning. Fundamental topics of psychological evaluation will be studied, such as their core concepts, their practical foundations, the available evidence and their critical questioning. Also, the historical, contemporary, sociocultural, ethical, legal, and professional considerations of the development and practice of intelligence psychometrics in Puerto Rico will be examined (includes hours of practice in Laboratory).

**PSCL 763L METHODOLOGICAL ASPECTS OF INTELLIGENCE ASSESSMENT AND MEASUREMENT LAB
1 CREDITS**

Study of the principles of evaluation of individual differences and intelligence learning. Fundamental topics of psychological evaluation will be studied, such as their core concepts, their practical foundations, the available evidence and their critical questioning. Also, the historical, contemporary, sociocultural, ethical, legal, and professional considerations of the development and practice of intelligence psychometrics in Puerto Rico will be examined (includes hours of practice in Laboratory).

**PSCL 764 THEORETICAL BASES IN TEST CONSTRUCTION
3 CREDITS**

The main purpose of this course is to train the graduate student in psychology with methods for the analysis and construction of items, to estimate reliability, validity and standardization of tests. The course offers a broad perspective of different techniques and instruments used in the field, as well as an overview of its historical development. The class will discuss some of the most commonly used psychological instruments, as well as analysis of the ethical and social controversies of psychological testing in Puerto Rico.

**PSCL 765 MULTICULTURAL ASPECTS AND DIVERSITY
3 CREDITS**

Analysis of the relationship between culture and the psyche. Historical, cultural, psychological and daily aspects of Puerto Rico will be studied. It involves the student in understanding the complexities of cultural variation in human experience and its relationship with Clinical Psychology.

**PSCL 766 METHODOLOGICAL ASPECTS OF PERSONALITY ASSESSMENT AND MEASUREMENT
2 CREDITS**

Study of the principles of evaluation of individual differences and of personality learning. Fundamental topics of psychological evaluation will be studied, such as their core concepts, their practical foundations, the available evidence, and their critical questioning. Also, the historical, contemporary, sociocultural, ethical, legal and professional considerations of development and practice of personality psychometry in Puerto Rico will be examined (includes hours of practice in Laboratory).

**PSCL 766L METHODOLOGICAL ASPECTS OF PERSONALITY ASSESSMENT AND MEASUREMENT LAB
1 CREDITS**

Study of the principles of evaluation of individual differences and of personality learning. Fundamental topics of psychological evaluation will be studied, such as their core concepts, their practical foundations, the available evidence, and their critical questioning. Also, the historical, contemporary, sociocultural, ethical, legal and professional considerations of development and practice of personality psychometry in Puerto Rico will be examined (includes hours of practice in Laboratory).

**PSCL 770 COMPREHENSIVE TEST (PART I)
0 CREDITS**

The student must take this test as a requirement to obtain the master's certificate and as a requirement of the program to be able to take the doctoral exams. this part includes core courses.

**PSCL 771 COMPREHENSIVE TEST (PART II)
0 CREDITS**

The student must take this test as a requirement to obtain the master's certificate and as a requirement of the program to be able to take the doctoral exams. This part is made up of the specialty courses that are specified.

PSCL 778 FOUNDATIONS OF THANATOLOGY

2 CREDITS

This course introduces the student to the discipline, science and profession of Thanatology, its characteristics, functions and its main role in managing the processes of dying, death and grief that human beings face throughout life.

PSCL 781 PUBLIC HEALTH AND MENTAL HEALTH INTERVENTIONS

2 CREDITS

The purpose of this course is to explore Public Health and Mental Health interventions. It aims to train the student about: 1) the applicability of procedures, techniques, strategies, interventions and treatments that promote a better quality of life; 2) assess the main social determinants that define health inequities and discriminate or limit people's services.

PSCL 782 FOUNDATIONS OF NEUROPSYCHOLOGY

2 CREDITS

The course provides a conceptual framework of the neural organization of the brain functioning and its correlation to human behavior. It will analyze the impact of physical and psychological trauma in the brain, the changes in functioning and how to delineate an individualized approach to neuropsychological assessment and treatment. Neuropsychological assessment techniques and tests will be reviewed. Clinical case examples and treatment plans will be studied.

PSCL 785 HEALTH PSYCHOLOGY

2 CREDITS

The Health Psychology course has been developed to introduce students to the fundamentals of the field of health psychology. Its main objective is to provide knowledge about the relationship between behavior and health. The student will learn the particular principles and concepts of this discipline, its methods of intervention and integration with the biological, psychological and social processes that adversely impact health. The course focuses on topics directly related to physical health from a behavioral perspective that offers students an essential approach to managing illness and promoting health from a psychological perspective.

PSCL 815 PRACTICE V

1 CREDITS

The student will continue his/her process of acquiring supervised practical experiences and clinical practices with cases of individual therapy, couples and/or family, with the goal of strengthening the development of parental skills, while expanding his or her experience in various clinical scenarios. The student will continue to strengthen the skills of psychometric, psychological evaluations and write reports as part of his/her clinical training. This supervised practice will include the most widely used tests in the discipline, some validated and standardized for Puerto Rico and others that are used in consensus by all universities and academic institutions that offer the professional degree of Psychology.

PSCL 816 PRACTICE VI (A & B)

1 CREDITS

The student will continue his/her process of acquiring supervised practical experiences and clinical practices, working with cases of individual therapy, couples, family and integrating all the processes acquired in the previous practices. Evidence-based models will be emphasized, within other models that promote the strengthening of mental health and socio-emotional adjustment. He/she will continue to apply knowledge in psychometric, psychological and reporting assessments as part of their clinical training. This supervised practice will include the most widely used tests in discipline, some validated and standardized for Puerto Rico and others that are used in consensus by all universities and academic institutions that offer the professional degree of Psychology.

PSCL 830 COMPREHENSIVE EXAMINATION (PART I)

0 CREDITS

The student must take this test as a graduation requirement. This part is made up of the specialty courses that are specified. The student must continue to enroll in the exam until passing it with a P grade and will have up to four opportunities to take the exam. It is important to note that the passing grade for the Pass (P) grade for the entire exam is 80%. Similarly, each part not approved and examined must be approved with 80%. Requirements: Having completed the core courses, specialty courses and the six practices.

PSCL 831 COMPREHENSIVE EXAMINATION (PART II)

0 CREDITS

The student must take this test as a graduation requirement. This part is made up of the specialty courses that are specified. The student must continue to enroll in the exam until passing it with a P grade and will have up to four opportunities to take the exam. It is important to note that the passing grade for the Pass (P) grade for the entire exam is 80%. Similarly, each part not approved and examined must be approved with 80%. Requirements: Having completed the core courses, specialty courses and the six practices.

PSCL 832 DOCTORAL INTERNSHIP (PART I)

2 CREDITS

The student will begin his professional internship training as a health service provider in a clinical setting (public or private) offering his services as a clinical psychology doctoral intern. The student will complete 1,000 hours. Requirements: Have completed the core, specialty, elective courses and the six practices. Have passed the doctoral exams.

PSCL 833 DOCTORAL INTERNSHIP (PART II)

2 CREDITS

The student will continue his professional internship training as a health service provider in a clinical setting (public or private) offering his services as a clinical psychology doctoral intern. The student will complete 1,000 hours. The student enrolled in Internship must complete all the clinical hours required to obtain the Approved (P) grade.

PSCL 834 DOCTORAL DISSERTATION (PART I)

2 CREDITS

During the PSCL 871 course, the student must have written Chapters I and II of their doctoral proposal. Therefore, for this first part of the Doctoral Dissertation, you will need to start one of two processes: 1) If you have obtained IRB approval, you will write Chapters III and IV; 2) If he has not been able to submit his doctoral proposal to the IRB, he must present it to said Committee to continue with the process. In this phase, the student must apply all the knowledge, skills and competencies acquired in their courses, as well as their internships and the APA seminar. investigation before your committee. The student may choose to do his doctoral work either a program design, a case study, a research project (quantitative, qualitative or mixed) among others. Requirements: Have completed the core, specialty and elective courses as well as all practices. You must also have passed the Doctoral Examination in its entirety.

PSCL 835 DOCTORAL DISSERTATION (PART II)

2 CREDITS

This course involves the final phase of the Doctoral Dissertation. The student must have collected and analyzed the data, present results, discussion, contributions, and limitations. Also, they will write a professional article and select, together with their Doctoral Dissertation Committee, a scientific journal to submit it. To meet this requirement, you must: 1) have orally presented your final degree project before the Committee, and 2) provide your committee with evidence that your article is in the process of peer review by the selected professional journal. That is, you must submit a copy of the email received by the professional journal. The student must continue to enroll in the Dissertation until it ends with a Pass (P) grade, for which they will have up to three years. If for any reason he cannot complete it within the stipulated period, he must present a work plan to the members of his committee. Once approved, it will be presented to the Director of the Graduate Program.

PSCL 858 CONSULTING AND SUPERVISION

3 CREDITS

This course is designed for the study of intervention models, process and practices of the area of psychological consulting applied to psychology. Emphasis is placed on the different stages of the consultation process. The roles and functions of the consultant in different contexts, such as schools, family and private industries, will be discussed. The particular ethical controversies will also be discussed. Fundamental issues such as the use of organizational resources to solve problems that affect children, adolescents, adults or families, methods, techniques and skills of psychological consulting will be addressed. Similarly, the students will be exposed to various supervision models and their applicability.

PSCL 860 GROUP THERAPY

3 CREDITS

This course is aimed at the incorporation and integration of group therapy as a therapeutic treatment of a group psychological nature, so that the participants (clients/patients) can improve their mental, emotional and psychological health, and therefore, their quality of life. Emphasis will be made on the use and benefit of therapy in a group setting, as this type of intervention provides a support network and offers the opportunity to meet other people experiencing various trauma.

**PSCL 867 PSYCHOLOGICAL INTERVENTIONS FOR TRAUMA FOCUSED CHILDREN AND ADOLESCENTS
3 CREDITS**

This course studies the psychological and emotional problems, as well as the behavioral disturbances and traumas that can appear in childhood and adolescence. Diagnosis, dynamics, and evaluation of adverse events are examined using social, clinical, and cultural examples. It involves the scientific comparison of the behavior during childhood and adolescence considered normal vs. abnormal, as well as the impact and effect of trauma on these stages. The student will learn a variety of therapeutic models so that children and adolescents can acquire the necessary tools to confront the problems that will arise during their daily lives.

**PSCL 869 PROGRAM DESIGN AND EVALUATION
3 CREDITS**

Study of the theoretical, methodological, procedural and practical foundations of the design and evaluation of programs in psychology as a profession. The main areas of program design and evaluation will be addressed, such as models, designs and evaluation; the stages of the design and evaluation process, and the information gathering techniques for both processes.

**PSCL 870 FAMILY PSYCHOTHERAPY
3 CREDITS**

This course emphasizes the psychotherapy of people who make up the family and who have been emotionally affected in any aspect of their life. The diagnosis, dynamics and evaluation of family events are examined while improving communication and family life.

**PSCL 871 RESEARCH METHODS
3 CREDITS**

In this course, the student will choose a topic or problem to investigate and will begin a thorough scientific literature review process. To do this, the student will select two members of his/her doctoral dissertation committee. The student may choose to do their research based on one of the existing methodologies (quantitative, qualitative or mixed).

**PSCL 872 PSYCHOPHARMACOLOGY
3 CREDITS**

The course aims to educate students in the area of clinical psychology about the importance of the use of psychopharmaceuticals in the treatment of patients with mental disorders. The expected results of the medication for certain conditions will be studied, but the adverse effects that patients who misuse them will also be brought to the discussion.

**PSCL 874 CLINICAL-FORENSIC ASSESSMENT IN FAMILY CASES AND EXPERT REPORTING
3 CREDITS**

This course prepares students for the redaction of forensic or expert reports specifically aimed at trauma in the family nucleus. It takes into consideration the forensic assessment of the impact on each member of the family component. It will expose the student to relate with the expert process and how to work with other professionals of this process such as lawyers, judges and prosecutors, among others. Finally, it emphasizes on civil, criminal and procedural law aimed at cases of families who have experienced some trauma.

**PSCL 875 CLINICAL-FORENSIC ASSESSMENT IN CHILD AND ADOLESCENT CASES AND EXPERT REPORTING
3 CREDITS**

This course prepares students for the evaluation of family cases considering the practical guidelines used for cases of some type of abuse or mistreatment in children and adolescents. The principles of forensic psychological evaluation and the distinction between clinical versus forensic intervention framework, will be emphasized. At the same time, it will highlight the importance of using an interview protocol and expert instruments and working with multidisciplinary teams and key professionals in this process.

**PSCL 877 FOUNDATIONS OF FORENSIC PSYCHOLOGY
2 CREDITS**

Study of the historical evolution of Forensic Psychology. It describes the main concepts and functions developed by the discipline, the obligations of Psychology professionals in the field of justice; the factors involved in a case, the concept of forensic expertise, the method and process of forensic expert in different contexts, the application of evaluation techniques and the analysis and relationship of results. Puerto Rico's laws that are key in family cases will be studied.

PSCL 879 INTERVENTIONS WITH GBTQ FAMILIES FOCUSED ON TRAUMA

2 CREDITS

This course provides students with essential knowledge, skills and attitudes to work with LGBTQ families from a diverse perspective. The learning is focused on the sensitivity needed in the health services professional, using the standards for work and intervention in the problems of homosexual and lesbian couples affected by some type of trauma. The standards applied to the intervention with the LGBTQ population and the laws of Puerto Rico that affect the community will be discussed.

PSCL 880 EVIDENCE-BASED PSYCHOLOGICAL TREATMENTS FOR FAMILIES WITH PROBLEMATIC DRUG AND ALCOHOL USE

2 CREDITS

This course will develop a clear articulation of the meaning of what it is to be a professional in the field of psychology with a specialty in addiction treatment. The competencies will be reviewed with special emphasis on the knowledge, skills and attitudes on which specialized psychotherapy is based on family care with problematic use of drugs and / or alcohol. Also, several theoretical models specialized in addictions will be discussed, in order to understand the complexity of this phenomenon.

PSCL 883 WRITING RESEARCH ARTICLES

2 CREDITS

The course will emphasize on the parts and fundamentals that are considered when writing and presenting a professional scientific article following certain rules of the APA format. The elements required for the presentation of an article such as the title, introduction, methodology, results, discussion and references will be discussed in depth.

PSCL 884 ANIMAL- ASSISTED THERAPY AIMED TO TRAUMA MANAGEMENT

2 CREDITS

This course aims to emphasize the benefits of using animal-assisted interventions in people who have suffered some type of trauma. Specifically, the student will learn about the human-animal relationship and how animal-assisted interventions can promote and sustain positive change in the patient. Its usefulness will be presented for children, adolescents, adults and / or families who have been victims of trauma or who suffer from any pathology. Special attention will be given to the treatment evidenced on patients with PTSD, and on survivors of emotional, physical and / or sexual abuse

PSYC 121 INTRODUCTION PSYCHOLOGY I

3 CREDITS

This course is an introduction to the scientific study of the fundamental principles that govern human behavior. The concepts and theories related to the development of Psychology as a science; the functioning of the nervous, sensory, motor, and endocrine systems, perception, learning and intelligence will be discussed.

PSYC 122 INTRODUCTION TO PSYCHOLOGY II

3 CREDITS

This course is the second part of the introduction to the scientific study of the fundamental principles that govern human behavior. The concepts and theories related to motivation, impulses, feelings and emotions, frustration and conflict, normal and abnormal behavior, among others, will be discussed.

PSYC 123 GENERAL PSYCHOLOGY

3 CREDITS

Condensed version of Psychology 121-122. Introduction to basic theories of human behavior and their relation to social progress and individual growth.

PSYC 205 PERSONAL GROWTH DEVELOPMENT

3 CREDITS

The course emphasizes the dynamics of human behavior, and techniques for effective interpersonal relations. Human activity and mechanisms for personal and social adjustment are analyzed in order to achieve understanding of oneself and others.

PSYC 210 SEXUAL PSYCHOLOGY

3 CREDITS

From a bio-psico-social standpoint, this course discusses the theories, concepts and approaches to human sexuality, sexual relations, sexual dysfunctions and education as parts of normal human growth and development. It pays special attention to sexual problems affecting contemporary society (particularly in the adolescent), including illness, sexual dysfunction and so-called sexual abuse and deviation.

PSYC 222 ADOLESCENT PSYCHOLOGY
3 CREDITS

Detailed study of the biological, cognitive, moral, emotional and social changes that takes place in the adolescence. Will discuss the context in those changes occur and impact family, school, community and how they affect behavior. In the present course will include the principal theories associated to with adolescence behavior, as discuss in the field of psychology. Throughout the course, will include group discussion, research, case analysis and use of technology.

PSYC 225 SOCIAL PSYCHOLOGY
3 CREDITS

Scientific study of social interactions in the development of personality from the perspectives of psychology and sociology, including relationships with others and with groups within the cultural environment. Emphasis is given to understanding the process of socialization, symbolism, social values, citizenship, behavioral dynamics, group interrelation and cultural context, as well as analysis of how conflicts arise in the workplace as a result of this interaction. Theoretical grounding will be the base for the discussion of readings, personal and workplace case analysis, problem solving, teamwork, and critical reflections. Responsible use of technology will be encouraged.

PSYC 226 DEVELOPMENTAL PSYCHOLOGY
3 CREDITS

In this course, human development is studied from conception to death, taking into account the psychological perspective. It emphasizes the interpersonal, cognitive, and motivational processes that arise in each stage. Throughout the course, the student will examine the different psychological topics that have been highlighted in the study of each stage. The most recent literature will be analyzed with reference to the findings of scientific research in the study of human development.

PSYC 228 PSYCHOLOGY OF DIVERSITY
3 CREDITS

Study of human and cultural diversity framed on behavioral sciences. Analysis of differences and similarities of the individual human behavior related to ethnic, genre, religion, age, physical condition, sexual orientation, differences on learning, types and levels of intelligence, language, and socioeconomic status, among others. Analysis of psychological, social, economic, and legal implications based on research related to the subject on diversity. The course will be conducted by the discussion of the subjects, research, case studies, case analysis, the responsible use of technology, and cooperative works.

PSYC 305 HUMAN RELATIONS AND PUBLIC SERVICE
3 CREDITS

The course deals with the complexity and the dynamics of human relationships. The variables that influence individual behavior in group situations will be studied. Topics include motivation, leadership, communication, resistance to change, and the importance of good human relations in public service.

PSYC 307 GROUP DYNAMICS
3 CREDITS

Group dynamics, cohesion, structure, emotional factors, leadership, and communication. The classroom situation is used as a laboratory for the concepts.

PSYC 321 PERSONALITY THEORIES
3 CREDITS

The concept of personality from the perspective of psychoanalytical, social, epistemological, existentialist and trait theories. Analysis of the philosophical basis of these theories, their application and relevance to the Puerto Rican personality.

PSYC 323 COMMUNITY PSYCHOLOGY
3 CREDITS

This course works with the historical development and definition of community psychology. It analysis of the theories, concepts and available relevant data related to this discipline. It also analysis the different types of research that deals with the discipline.

**PSYC 327 PSYCHOLOGY OF THE ELDERLY
3 CREDITS**

This course offers the student the opportunity to develop the necessary skills to critically evaluate the psychological theories related to the elderly population, recent research in the field, and their implications. The implications of sensory and perceptual changes, learning, memory, intelligence, personality, and motivation in the daily routines of the elderly will be examined. The course will be carried out through readings, discussions, and research in which the students can apply the acquired knowledge.

**PSYC 330 PRINCIPLES PSYC MEASUREMENT
3 CREDITS**

Methods and techniques for measuring adjustment, sociability, intelligence, attitudes, and emotional stability. Status of the projective techniques, questionnaires, rating scales, etc.

**PSYC 343 LEARNING THEORIES
3 CREDITS**

The purpose is the study of the nature and types of variables involved in the learning process. It also covers current issues in learning theory.

**PSYC 350 PRINCIPLES OF PSYCHOPATHOLOGY
3 CREDITS**

The course covers dynamics, diagnosis, and prediction of abnormal behavior. Neuroses, psychotic disorders and personality disturbances such as alcoholism, sexual deviation and others will be discussed. Psychotherapies used in the treatment of abnormal behavior will be analyzed.

**PSYC 353 PSYCHOLOGY AND CINEMA
3 CREDITS**

This course brings an approach to the origin and historic development of the cinematographic industry. It will present films and fragments of films from different countries around the world. On the other hand, it gets down to the study and critical analysis of films from different theoretical frames in psychology, recognizing cinema as a text of symbolic construction within a particular historical and cultural moment. Also, it deals with the influence that this artistic piece of work has in a social and cultural level and the significance, assimilation and repercussion that it has constructed in human beings at an individual and collective level.

**PSYC 355 INDUSTRIAL/ ORGANIZATIONAL PSYCHOLOGY
3 CREDITS**

The course deals with the application of psychological techniques to industry and business. Emphasis is on promotion and recruitment of personnel. Psychological factors that determine efficiency of industrial organizations will be discussed.

**PSYC 408 INTRODUCTION TO ANIMAL ASSISTED INTERVENTIONS
3 CREDITS**

This course is an introduction to the interventions for Animal Assisted Activities. The course will generate discussions and analysis about the mental, physical and emotional benefits of the interactions, their history and development relationships and interactions produced between humans and animals / pets. The course will emphasize the development of knowledge and education tools to insert and promote healthy human-animal relations and animal assisted interventions and activities in educational, health and social settings. Student must participate in at least two AAT or AAA.

**PSYC 409 INTRODUCTION TO HUMAN AND ANIMAL INTERACTION
3 CREDITS**

This course will introduce the main aspects of human animal interactions. Topics covered in this course will include human and non-human animal behaviors/interactions and their evolutionary process, the history of our bond and where we are now, history of animal rights and animal welfare including our current stand in Puerto Rico. During the course the similarities and differences between human and non-human animals giving special emphasis to learning, motivation, emotion, empathy, language, communication, cognition, behavior, morality and problem solving will be discussed. Also the link between cruelty to animals and violence toward humans will be introduced.

PSYC 411 EXPERIMENTAL PSYCHOLOGY

3 CREDITS

Introduction to the scientific study of behavior, with special emphasis on laboratory methods. Design of experiments, collection and analysis of data. Lectures will emphasize the results of scientific studies and their theoretical interpretation, with special attention to recent research findings in the field of psychology. Laboratory included.

PSYC 412 INTRODUCTION TO COUPLE AND FAMILIES DYNAMICS

3 CREDITS

This course is an introduction to the major theoretical constructs regarding couples and family dynamics. Frameworks of various couples and family counseling theorists will be discussed such as psychoanalytic, behavioral, experiential, strategic and structural models.

PSYC 415 COGNITIVE NEUROPSYCHOLOGY

3 CREDITS

This course will provide a survey of current research in cognitive neuroscience on language, memory and other higher cognitive functions. The course will cover a functional analysis of disorders in terms of cognitive theory and the relation between brain and behavior. The latter will be addressed through studies of lesion localization and neuroimaging of the intact brain.

PSYC 417 HEALTH PSYCHOLOGY

3 CREDITS

This course will examine the theoretical and research foundations of behavioral health and illness from a biopsychosocial perspective. Course topics will provide students with an understanding of Health Psychology as a specialty within psychology that addresses the role of behavioral factors in health and illness.

PSYC 418 INTRODUCTION TO ETHICAL THINKING

3 CREDITS

The course is an introduction to the ethical standards of the profession according to the regulations in Puerto Rico and at the federal level, both in the clinical and research fields, among others. The discussion of cases will be used to analyze the role of the psychologist to safeguard privacy and confidentiality, as well as respect for the dignity of people in different practice or research settings.

PSYC 420 EDUCATIONAL PSYCHOLOGY

3 CREDITS

This course is an introduction to the field of psychology that studies learning processes to understand individual differences in human beings in terms of their cognitive development, self-regulation, motivation, among other elements, to strengthen teaching methods at different educational levels. Research methods used in the field are discussed, including the evaluation, measurement, and assessment of learning.

PSYC 421 EXPERIMENTAL SOCIAL PSYCHOLOGY

3 CREDITS

A review of the methodology of social psychology, focusing on theoretical and experimental design in areas such as leadership, attitude, communication and others.

PSYC 423 PHYSIOLOGICAL PSYCHOLOGY

3 CREDITS

Physiological Psychology aims to offer a biological explanation of psychological processes. Physiological Psychology focuses on how the systems of the human body, especially the brain, analyzes stimuli and organizes responses (emotional, motivational and cognitive) in a dynamic environment. The course includes an introduction to the neuro-physiological bases of behavior: structure, functioning and neuro-chemistry of human models and their interaction with the processes of sensation, perception, motivation, emotion, learning, reproduction, and psychopathology. Theories and empirical findings related to physiological psychology will be examined.

PSYC 425 BEHAVIOR MODIFICATION

3 CREDITS

Critical analysis and application of the behavior modification principles derived from operant conditioning and social learning theories. Laboratory exercises will be conducted with the purpose of analyzing basic principles of behavior change.

PSYC 430 HISTORY AND SYSTEMS OF PSYCHOLOGY

3 CREDITS

Theories and Systems in Psychology. This course makes a comparative approach between different psychological theories, methods, concepts and techniques, emphasizing in their historical and most recent development.

PSYC 431 CRISIS INTERVENTION AND DISASTER MANAGEMENT

3 CREDITS

Students will be introduced to theories and models of crisis intervention for working with different populations, as well as critical issues regarding disaster management. The course will address topics such as stress management, coping, resiliency, and adjustment difficulties, as well as study related psychological disorders such as post-traumatic stress disorder.

PSYC 432 INTRODUCTION TO FORENSIC PSYCHOLOGY

3 CREDITS

This course is designed to introduce students to the interface of psychology and the law, with a specific focus on forensic psychology. Students will be introduced to the roles and responsibilities of a forensic psychologist including psychological assessments, expert testimony, offender treatment, and correctional psychology.

PSYC 450 PRACTICUM/INTEGRATION SEMINAR IN PSYCHOLOGY

3 CREDITS

Analysis of psychologists work and functions in diverse service settings; discussion of the psychologist's Code of Ethics and the most relevant laws involved in the rendering of psychological services; design and implementation of a community service activity.

PSYC 500 HUMAN GROWTH LIFESPAN DEVELOPMENT

3 CREDITS

General view of the philosophical, historical, sociological, biological and psychological foundation of human development through the life span. Introduction to the different developmental theories and the exponents; the different stages of human development physical, motor, moral, social, sexual and cognitive; changes during each stage will be analyzed and discussed.

PSYC 501 SOCIAL BASIC OF BEHAVIOR

3 CREDITS

This course is about the dynamic relationship between social psychology and ethnological foundations of personality development.

PSYC 502 APPLIED STATISTICS IN PSYCHOLOGY

3 CREDITS

Analysis and discussion of statistical methods and its applications to psychology.

PSYC 503 THEORIES OF PERSONALITY

3 CREDITS

Principal theories about personality formation and functioning. These theories will be critically analyzed in order to weigh its sociocultural relevance and implication in the practice of counseling psychology.

PSYC 504 PSYCHOPATHOLOGY

3 CREDITS

This course seeks the study of behavioral and personality disorders including in the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) and International Classification of Diseases (ICD). Considerable emphasis will be given to those disorders of higher prevalence in Puerto Rico. The analysis of different treatment models will be considered.

PSYC 505 COGNITIVE ASSESSMENT

4 CREDITS

Basic topics in psychological assessment such as: its historical development, basic statistical analysis, test construction, ethical standard evaluation as process and the role of computers. Different tests such as: Weschler Scales, Raven, Vineland, Bender, Beery, and Draw a Person will be used.

PSYC 507V INTRODUCTION OF PROFESSIONAL ISSUES IN PSYCHOLOGY SEMINAR

1 CREDIT

This seminar aims to help in the formation of professionals who are aware of their own values and have the capacity of respecting and for human diversity. The seminar will focus on the development of awareness of the self through the process of identifying the social and academic community of which they form part. Through the seminars it is expected that students become aware of two fundamental aspects of human experience: the interpersonal and intrapersonal reality. In interpersonal experience social and community dimension where emotional ties are built and communication skills are developed. In the intrapersonal experience the cognitive, emotional and somatic aspects in building a personal and professional identity will be worked on. Also, this course is intended to help student learn how to apply the basic rules of APA Style in writing term papers, research reports, and journal articles. The course follows the organization of the sixth edition of the Publication Manual, providing a comprehensive overview of elements of manuscript preparation.

PSYC 508 TEST CONSTRUCTION: THEORY AND APPLICATION

3 CREDITS

Discussion and analysis of major principles and concepts of test construction in psychological measurement. Methods for determining validity and reliability will be examined by performing class exercises. The content also includes the study of scaling methods such as Guttman, Thurstone, and Likert scales. Moreover, students will apply knowledge from the course to construct their own assessment instruments.

PSYC 510 MOTIVATION AND LEARNING

3 CREDITS

This course will focus on the different theories about learning, behavior modification and motivation. Students will analyze the development of these theories and how to apply this knowledge in their everyday practice in counseling psychology. Furthermore, it will expose students to the different theories about human motivation and the importance of this process in the behavior and modification and the effectiveness in counseling psychology. It will include the presentation of the moral development and its principal theories, focusing on the diverse moral stages of the different theories of the Puerto Rican society and the importance of moral development in the individuals and future psychologists.

PSYC 520 BIOLOGICAL BASIS OF BEHAVIOR

3 CREDITS

Structure and function of the nervous system. Considerable emphasis is placed on the relation between the organism - behavior and the higher cortical process.

PSYC 530 METHOD AND TECHNIQUES IN PSYCHOLOGICAL RESEARCH

3 CREDITS

Introduction to research methods for behavioral sciences. This course will provide an opportunity for students to learn basic concepts and statistical analysis for data processing. Emphasis is on scientific research as a way to improve the professional practice of psychologists. It also promotes a balanced emphasis between conducting and consuming research.

PSYC 550 PRACTICUM I

3 CREDITS

Didactic and experience approach, development of the skill related to the establishment of the therapeutic relationship (self-evaluation, control of feelings, attitudes a prejudice towards the client and behavior), and the initial interview.

PSYC 551 PRACTICUM II

3 CREDITS

Skills development in diagnostic, conceptualization and development of a psychological intervention plan.

PSYC 574 PRACTICUM III

1 CREDIT

This practicum provides for the acquisition of basic psychotherapeutic intervention skills for individual modality. The supervised practicum encourages the development of these skills during the therapeutic process.

PSYC 599 PRACTICUM IV

1 CREDIT

This practicum provides for the acquisition of basic psychotherapeutic intervention skills for individual modality. The supervised practicum encourages the development of these skills during the therapeutic process.

PSYC 704 PSYCHOPHARMACOLOGY

3 CREDITS

This course is designed to the study of the history and use of psychotropic drugs. Emphasis is given to understanding the uses of these drugs, their mechanism, side effects and the conditions under which they are used. Relationships between major DSM IV RT classifications and appropriate medications are presented.

PSYC 725 NEUROPSYCHOLOGICAL EVALUATION

3 CREDITS

This course includes different evaluation methods to assess the degree of damage to the central nervous system. It covers cognitive, behavioral and emotional functioning.

PSYC 730 PROJECTIVE PERSONALITY ASSESSMENT

4 CREDITS

This course will focus on the Rorschach Inkblot Test as a perceptual-cognitive, problem solving task for the assessment of personality. The RPAS) will be the approach emphasized for the test's administration, scoring and interpretation. The main objective of the course is that through practice, the student will be able to administer and interpret the Rorschach using RPAS system.

PSYC 801 ETHICS AND PROFESSIONAL STANDARDS

3 CREDITS

This course provides a critical examination of the codes of ethics and laws that regulate the practice of psychology in Puerto Rico. It also examines the APA Code of Ethics and the Guidelines for the Practice of Counseling and Clinical Psychology. A study of the local and federal laws that in some way protect and regulate the psychologist and the population served is also conducted.

PSYC 806 HISTORY AND SYSTEMS IN PSYCHOLOGY

3 CREDITS

Critical analysis of the historical development of psychology: philosophical and scientific antecedents and the systems that have impacted contemporary psychology; relationship between psychology theories and social events. Current status of psychology in Puerto Rico.

PSYC 810 ADVANCED PSYCHOPATHOLOGY

3 CREDITS

This course is about the identification, evaluation and the descriptive psychopathology of the personality disorders. The student will be able to compare different approaches to the diagnosis, understanding and treatment of personality disorders.

PSYC 815 COGNITIVE AND AFFECTIVE BASES OF BEHAVIOR

3 CREDITS

This course will focus on the principal theories and current research regarding the fields of cognition and emotions. Discussion of historical antecedents of the main theories and concepts, the most important investigations that have shaped both fields in the past and current knowledge of the multiple cognitive and affective processes. Each will be discussed from their biological, social and psychological perspective and will likewise, explore the clinical applications and implications of the findings in counseling psychology.

PSYC 820 OBJECTIVE PERSONALITY ASSESSMENT

3 CREDITS

This course focuses on the advanced study of the application of personality assessment procedures, such as the MMPI. Alternate methods for measuring human behavior are studied. Laboratory practice 30 hours is required.

PSYC 831 APA STYLE: ADVANCED

0 CREDITS

The APA Style Advance course is intended to help the students learn how to apply the rules of APA Style in writing term papers, research reports, and journal articles. The course follows the organization of the seven edition of the Publication Manual, providing a comprehensive overview of elements of manuscript and report preparation; preparation of CV; presentation skills; and getting started on Doctoral Project.

PSYC 840 DIVERSITY: CULTURE, ETHNICITY, GENDER AND RACE

3 CREDITS

This course is designed to analyze the impact of cultural differences in the practice of counseling psychology; the interactive effects of gender, race, and ethnicity. The cross-cultural counseling methods are studied.

PSYC 930 QUALITATIVE AND QUANTITATIVE METHODS AND STATISTICAL DESIGN

3 CREDITS

From a pragmatic point of view, this course is meant to give the graduate students an overview of the main types of scientific approaches used in psychological research: qualitative, quantitative and mixed. The main goal of the course is to provide students the necessary information about different paradigms used in the psychological field, as well as the descriptive statistical concepts needed to understand, mainly, in the quantitative approach.

PSYC 936 PROGRAM EVALUATION METHODS

3 CREDITS

This course emphasizes the acquisition of knowledge and skills in program evaluation methodology. Alternative evaluation approaches are surveyed with a focus on developing a management/decision-oriented evaluation plan. This seminar also serves as a practicum for the conceptualization and development of a doctoral research study that employs a program evaluation model.

PSYC 938 SUPERVISION AND COUNSULTATION

3 CREDITS

This course will present and analyze the major supervision models and their application to psychotherapy and diverse contexts; among them, educational/training settings. It will present the differences between the supervisor and consultant role. Most common consultation settings for psychologists such as schools and organizations will be presented and discussed. Some of the contemporary strategies and techniques, such as coaching and mediation will be presented and practiced.

RECR 205 COMMERCIAL TOURISM RECREATION

3 CREDITS

This course focuses on the purpose and function of the leisure delivery system in the commercial setting. Development and operation of commercial goods and service-oriented businesses as well small businesses management will receive considerable attention.

REED 105 PHILOSOPHICAL AND HISTORICAL FOUNDATIONS OF RECREATION

3 CREDITS

Exploration of concepts, assumptions, philosophies and history of programs in recreation and sports education. Study of concepts of recreation, leisure and play.

REED 106 RECREATION GOVERNMENTAL

3 CREDITS

The study of recreation as the instrument for human development and social changes for communities with social disadvantages.

REED 107 THERAPEUTIC RECREATION

3 CREDITS

The study of recreation as an instrument for the rehabilitation and human development with special populations with disabilities.

REED 108 COMMERCIAL RECREATION, TOURISM AND ENTREPRENEURSHIP

3 CREDITS

The study of recreation in the private and commercial sector, as a product for profit consumer.

REED 110 FIRST AID

3 CREDITS

Study of the most common accidents, injuries and first aid in the practice of sports and other recreational physical activities. The course is designed to train the recreation professional who has to work in the organization of physical activity programs to provide first aid in cases of accidents. Study of the human body, its functioning and the role of the recreational professional in first aid.

REED 200 DEVELOPMENT OF RECREATIONAL PROGRAMS

3 CREDITS

Study of concepts, foundations and models in recreation program planning. Students examine the life cycle, social trends, needs assessment, program cost analysis, strategies for program implementation, and evaluation.

REED 205 ADMINISTRATION AND SUPERVISION OF RECREATIONAL SERVICES

3 CREDITS

During the course a study of the concepts and administrative theories applied in recreational services will be presented. Analysis and conceptual study in the administrative processes of the recreational services, as well as budget, planning, marketing, employee profile, organizational structure and evaluation.

REED 210 LEADERSHIP AND SUPERVISION IN RECREATION

3 CREDITS

Basic concepts of group dynamics, leadership, and supervision related to employees and volunteers in recreation and leisure services.

REED 301 CAMPS DEVELOPMENT

3 CREDITS

Origin and practice of the concept of camps in Puerto Rico. This course discusses the different types of camps, employment positions and their functions, programmatic considerations, security, planning, marketing, budget and evaluation.

REED 303 ADMINISTRATION OF URBAN AND NATIONAL PARKS

3 CREDITS

Analysis of aspects related to planning, designing and managing parks and other outdoor natural resources used for recreation and leisure.

REED 315 LEGAL ISSUES IN RECREATION

3 CREDITS

Study of legal issues and considerations dominant in the profession of recreation. Study of the legal aspects related to the provision of recreational services, monitoring programs, employees and property, neglect of duty, the development of risk management plans and legality in the hiring of employees.

REED 316 SOCIAL ISSUES IN RECREATION, PHYSICAL EDUCATION AND EXERCISE SCIENCES

3 CREDITS

Exploration of concepts, assumptions, philosophies and history of programs in recreation and sports education. Study of concepts of recreation, leisure and play.

REED 320 DESIGN AND MANAGEMENT OF RECREATIONAL AND SPORTS FACILITIES

3 CREDITS

A study of the design and development of sports and recreation facilities and their implications in the management of programs, including the user management.

REED 400 ASSESSMENT, MEASUREMENT AND EVALUATION IN RECREATION

3 CREDITS

Analysis of concepts of assessment, measurement and evaluation in education and psychology and their application to the field of recreation and human behavior concerning leisure.

REED 410 INVESTIGATION RECREATION

3 CREDITS

Study and application of concepts, design and analysis of quantitative and qualitative research. Analysis of quantitative investigation emphasizing in experimental research, quasi-experimental research, correlation and survey research. In the study of qualitative investigation, the emphasis is in on concepts, designs and analysis of ethnographic research.

**REED 420 PRACTICUM I: ADMINISTRATION, SUPERVISION AND LEADERSHIP IN RECREATION
3 CREDITS**

Supervised field experience in recreation and sports. Students are assigned to an agency to develop, implement, evaluate, or manage recreation and sports programs. Requisites: Applications for REED 420 need the approval of all required professional and specialization course with a minimum grade of C in each course.

**REED 425 PRACTICUM II: DEVELOPMENT AND EVALUATION OF RECREATIONAL PROGRAMS
3 CREDITS**

Supervised field experience in recreation and sports. Students are assigned to private and commercial organizations to develop, implement, evaluate, or manage recreation and sports programs.

**REED 505 INTERDISCIPLINARY STUDIES OF SPORTS LEISURE
3 CREDITS**

Overview study of the field of leisure services, its philosophies, assumptions, history and trends. Emphasis on concepts of leisure, recreation, and play.

**REED 510 MANAGING LEISURE SERVICES
3 CREDITS**

Overview study of management principles and practices as applied to managing leisure services and sports programs.

**REED 511 SCIENTIFIC FOUNDATIONS OF PHYSICAL ACTIVITIES
3 CREDITS**

Overview study of anatomy, kinesiology, and physiology of exercise and physical activity applied physical education.

**REED 512 SPORTS AND LEISURE PROGRAMMING
3 CREDITS**

Study of concepts, foundations and models of leisure programming. Includes an analysis of the life cycle, social trends related to programming, needs analysis, and how to develop, implement and evaluate leisure and sport programs.

**REED 514 MANAGING LEISURE AND SPORTS FACILITIES
3 CREDITS**

Study of management principles as applied to managing leisure and sports facilities. Examination of aspects such as facility design, day to day operation, and legal aspects related to managing leisure and sports programs and facilities.

**REED 515 ASSESSMENT, MEASURING AND EVALUATION OF LEISURE
3 CREDITS**

Study of assessment, measurement and evaluation in education. Examines the impact and application of Psychology into the Physical Education Field.

**REED 524 RESEARCH SEMINAR
3 CREDITS**

Study and discussion of the content, strengths, weaknesses, validity and reliability of recent research published in the sports and recreation field. Students will scrutinize the content (information) of recent research in their particular study field, its assumptions, research methodologies, data interpretation techniques and presentation styles. The analysis will be used as a reference for the refinement of the research proposal developed in the research methods course.

**REED 525 PROFESSIONAL SEMINAR IN PHYSICAL EDUCATION AND RECREATION
3 CREDITS**

Analysis and discussion of current issues and trends in physical education and leisure services.

REED 601 PRACTICUM IN LEISURE ACTIVITIES

3 CREDITS

Placement of students in agencies to participate in supervised experiences related to leisure activities and program development, evaluation, research and administration.

REED 800 SEMINAR ON RECREATION AS A PROFESSION

3 CREDITS

Seminar for the ontological and epistemological analysis of the recreation profession. Assessing the state of professional development of recreation in its theoretical, empirical, and programmatic. The seminar concludes with an analysis of trends and controversies in the beginning of this century 21.

REED 801 SEMINAR FOR THE DEVELOPMENT AND EVALUATION OF RECREATIONAL SERVICES

3 CREDITS

Evaluation of the models, practices and trends in the development and evaluation of recreational services. It identifies the implications of the models and practices for the development of the profession in Puerto Rico and the needs of existing research for these purposes.

REED 802 RECREATION FOR SPECIAL POPULATION

3 CREDITS

Advanced study of recreation for special populations: people with physical and mental disabilities, old and offenders. It involves field visits to institutions that offer recreational programs for people with disabilities, the elderly or offenders.

REED 803 RESEARCH SEMINAR IN RECREATION

3 CREDITS

Analysis of the research approaches used in the study of recreation and human behavior in leisure. Panoramic study and deep research methodologies, the questions and hypotheses raised by researchers in recreation, research areas and key development opportunities.

RESP 402 RECREATION ACT GOLDEN AGE

3 CREDITS

The course is based on the study and analysis of sport and recreation as an instrument to use leisure time in the development of the elderly population. Acknowledge the physiological changes due to aging process and the means in which physical activities affect the lifestyles of these citizens. It emphasizes recreation and sporting activities planning and organization for the different privates and governmental institutions where this population resides. It promotes the study of the aging characteristic in order to contextualize the use of recreation and sports as a means to promote healthy lifestyles.

RSLC 101 THE RECREATION AS A PROFESSION

3 CREDITS

The course has to deal with an abroad study of Recreation and Sports field. The conceptual structure refers to the exploration of concepts such as philosophy, history and subject of Recreation and Sports. It emphasizes in matters regarding aspects of recreation, leisure, games and sports.

RSLC 102 LEGAL ASPECTS OF RECREATION AND SPORTS

3 CREDITS

This course relies in the study of the legal aspects and consideration that dominate the profession of recreation and sports. It emphasizes the studies of legal aspects relates to the provision of sporting and recreated services, the programs supervision, properties, services negligence, and the plan development for risk management and legality in the process of hiring employees. It is one semester.

RSLC 103 PSYCHOLOGICAL FOUNDATION IN RECREATION AND SPORTS

3 CREDITS

Course that explores the study of human behavior and mental processes in sport and recreational settings. Analysis of the impact of ludic experiences in the life of a person at different stages of development. Discussion of the application of contemporary psychological theories that maximize athletic performance, such as stress, anxiety, motivation, and mental and emotional control, among others. Emphasis on socially relevant issues and sports, such as the construction of gender and sexual differentiation, as well as the psychological effects of the practice of sport, physical activity and recreation. It promotes the acquisition of skills and their application in the professional context.

RSLC 111 MANAGEMENT OF SPECIAL POPULATIONS AND TECHNOLOGICAL ASSISTANCE IN RECREATION AND SPORTS

3 CREDITS

The course is related with the application of the necessary modification to adapt recreation and sporting activities to the individual's special need. It emphasizes the complying of state's law regarding the promotion of recreation and sporting activities for individual with special needs. Our goal is to be sure that the recreationist acknowledges the cause and effect of the different physical's conditions of the human body as a strategy to plan motor sensory activities enhancing the wellbeing of the individuals. Legal aspects are discussed to assure good social, sporting and recreational decisions.

RSLC 112 RECREATION AND SPORTS AND THEIR COMMUNITY IMPACT

3 CREDITS

This course is based on the study and application of concepts, designs and quantitative or qualitative investigation analysis. In quantitative investigation, emphasis is given to experimental, quasi-experimental investigation and survey correlation. In qualitative investigation, the emphasis is on studies of concepts, design and field investigation analysis.

RSLC 113 OUTDOOR LEISURE ACTIVITIES

3 CREDITS

This course is based on the study of the relationship between leisure times for the development of activities such as: camping, ecologic games with rocks, dirt, sticks, plastics bottles, which can be held in available natural and artificial environments. Emphasize theoretical and practical aspects of the fundamental activities in cooperative games and proper use of free open spaces as part of the integral development of our citizen to protect our environment and to promote healthy life styles. It is one semester.

RSLC 114 THERAPEUTIC RECREATION

3 CREDITS

This course emphasizes in the study of recreation and sports as a rehabilitation instrument for integral emotional development, the proper use of physical health and nutrition as a mean of socialization to the individuals with special needs. It proposes the use of recreational and sporting activities as a key factor in prevention of depression, obesity and its related diseases due to the lack of movement opportunity in the citizen's with special needs. It is one semester.

RSLC 115 ORGANIZATION OF ACTIVITIES AND RECREATIONAL GAMES

3 CREDITS

The course is based on the study of private and commercial recreation and sport as a product to produce income. It emphasizes the study of sports and recreation dominant industries and their social impact in politics, economics of the sports and recreation as a commercial product.

RSLC 116 COORDINATION OF SOCIAL RECREATIONAL-SPORTS ACTIVITIES

3 CREDITS

The course deals with the study of recreation as an instrument of human development and social reform with socially disadvantaged populations. The characteristics of populations with social disadvantages, their problems and realities of life are studied to contextualize the use of recreation as a means of preventing social problems and promoting human development in children, adolescents and individuals with antisocial behavior. The structure that organizes government recreation in Puerto Rico is analyzed, how they use recreation for purposes of social reform and how it responds to the populations it serves.

RSLC 117 RECREATIONAL ACTIVITIES FOR THE ELDERLY

3 CREDITS

The course is based on the study and analysis of sport and recreation as an instrument to use leisure time in the development of the elderly population. Acknowledge the physiological changes due to aging process and the means in which physical activities affect the life styles of these citizens. It emphasizes recreation and sporting activities planning and organization for the different privates and governmental institutions where this population resides. It promotes the study of the aging characteristic in order to contextualize the use of recreation and sports as a mean to promote healthy life styles.

SCGS 200 SCIENCE, TECHNOLOGY AND SOCIETY

3 CREDITS

The course aims to promote, at “a developing” level, scientific reasoning, innovation, critical thinking, and ethics and diversity by evaluating everyday situations using the scientific method. The historical evolution of science framed in the development of the scientific method as a research instrument is studied. The impact of scientific research and the application of technology on modern society are identified and analyzed in an ethical manner. It presents how the methodical resolution of problems promotes innovation.

SEDE 300 MATERIAL SURVEY PROPERTIES AND PRODUCT PROCESS

3 CREDITS

This course builds on the curriculum of Material Survey and Properties I and provides more in-depth analysis of material properties and their uses. Through lectures and research projects student will deepen their knowledge of material, paying attention to the way they behave when utilized with various material processes.

SEED 510 SPORTS, SOCIETY AND SUSTAINABLE DEVELOPMENT

3 CREDITS

Development of applied capabilities and a base of critical knowledge to better perform in the sports industry, including sports education and recreational as spaces for sustainable and social change. Emphasis in deep theory and inquiry methods to understand, change and use of sports for a sustainable society and equality. Includes a socio-economic perspective of how sports is increasing its importance in the academic scenario, especially for its increasing recognition with the same characteristics as other traditional sectors.

SEED 511 SPORTS ENTREPREUNERSHIP AS SELF-MANAGEMENT

3 CREDITS

The purpose of the Sports Entrepreneurship course aspire that students identify an opportunity, a population or concept required to develop a sports entrepreneurship project. Through a variety of course experiences students will learn, identify and differentiate various sports entrepreneurship projects at the national and international levels. Concepts, theories, history and the origin of sports entrepreneurship until present day are covered. In addition, the economic impact to our society will be discussed.

SEED 512 ENTREPRENEURSHIP IN SPORTS ORGANIZATIONS

3 CREDITS

The Sports entrepreneurship course aspires for students to identify an opportunity, population and concepts to develop a sports entrepreneurship project in a public or private school, intercollegiate, professional, government or private organizations. Through the course, students will learn, identify and differentiate among the various sports entrepreneurship projects at the national and international levels. A variety of concepts, challenges, logistics, population, and types of sports entrepreneurship service and projects are discussed. Current sports organizational needs will be identified and concrete solutions through the means of proposals and sports management projects will be presented.

SEED 520 SPORTS TOURISM COMMERCIAL RECREATION

3 CREDITS

Panoramic vision of tourism as a social phenomenon framed within the field of study of free time, recreation and sports. Know their origins, their current, future characteristics and social impact. Know their controversies and trends globally as well as their implications in the present climate changes. Study of the system, for the development of sports complexes and related programs. Present and future considerations for the development of tourist careers aligned with current trends in sports entrepreneurship.

SEED 611 SPORTS MANAGEMENT

3 CREDITS

The Sports administration course aspires for students to learn the fundamental concepts of the Sports administration profession in private and public organization settings. Different topics including leadership styles, issues in sports administration, management, budgeting, legal aspects and the importance of administration in sports entrepreneurship are discussed. The different roles and duties of the sports administrator within the entrepreneurship field are identified.

**SEED 612 RESEARCH-EVALUATION OF THE SPORTS MANAGEMENT
3 CREDITS**

Analysis of concepts, principles, assumptions, designs, strategies, instruments and practices of evaluation-research as apply to field of sport management.

**SEED 613 MEDIA, ADVERTISING AND SPORTS
3 CREDITS**

Panoramic view of sport as a social phenomenon framed within the field of study of leisure time and recreation. Know their origins, their current, future characteristics and social impact. Understand its controversies and trends globally as well as its implications in international markets. Study of the system, for the promotion and marketing of sports programs, as well as related projects. Present and future considerations for the development of sports careers aligned to the current trends of sports entrepreneurship.

**SEED 615 CAPSTONE PROJECT ON SPORTS ENTREPRENEURSHIP
3 CREDITS**

Supervise experience under the advised of a professor-mentor, where students develop a sport's entrepreneurship project: sport entrepreneurship concept, project feasibility, implementation plan, financial and cost viability, and media strategies to promote the project. It may require visits to different banks to understand the requirement for applying to a small business loan.

**SEMN 500 TEACHING WRITING AND SCIENTIFIC ARTICLES
1 CREDIT**

The seminar explores the theoretical foundations required for scientific writing. It also evaluates the requirements described on various style manuals approved by the scientific communities. The students will analyze all required sections of a scientific paper. The course will also help the student in developing new trends in style and apply them to a print publication or digital. The student will develop the skills to write with precision, clarity and brevity the results of a research project. In the course, all concepts will be developed using responsibly technology, information skills, problem solving, case studies, research using the computer and virtual forums, among others. The course consists of one (1) credit and one (1) hour of lecture per week.

**SEMN 501 FOUNDATIONS OF THE TRANSDISCIPLINARY APPROACH IN THE INVESTIGATIVE PROCESS
1 CREDIT**

This seminar explores the theoretical foundations needed to understand and implement experimental designs with quantitative, qualitative or mixed investigation approaches. It also focuses on studying the basic steps used in the development of a research proposal. The students will analyze the traditional designs with multi, inter and transdisciplinary approximations within the field of Biomedical Sciences. The course concepts will be developed using the available technological resources, skills of information, case study, research in computer and virtual discussion forums, among others. The course consists of one (1) credit and one (1) hour of lecture per week.

**SEMN 502 MANAGEMENT ASPECTS IN BIOMEDICAL SCIENCES
1 CREDIT**

This seminar integrates the quality management and administrative functions with the Biomedical Sciences. The students will analyze the interaction between business components and scientific knowledge to optimize management in its various modalities. The course focuses in the managerial competencies for the development of a professional scientist able to launch and sustain a cost- effective business. The course concepts will be developed using the available technological resources, skills of information, case study, research in computer and virtual discussion forums, among others. The course consists of one (1) and one (1) hour of lecture per week.

**SIGN 102 SIGN LANGUAGE I: FOUNDATIONS, SPELLING AND NUMBERS
3 CREDITS**

The course is designed for the student who does not have previous Sign Language experience. The purpose of the course is to develop primarily receptive skills as well as expressive skills guided to the development of basic dialogue instructed in a functional scenario. The dialogues will be geared to conversations related to: introducing one-self, exchanging personal information, talking about our surroundings, and indicating where you live, all related to daily interactions. Students will also learn about the Deaf community and their culture.

**SIGN 103 SIGN LANGUAGE II: CONVERSATION
3 CREDITS**

The course is designed for the student who have previous Sign Language experience. The purpose of the course is to develop abstract concepts and to express themselves about issues outside the classroom setting. In this course they will also develop narratives and how to locate objects and persons. The students will have the opportunity of learning cultural aspects of the Deaf community. They will also learn conversational strategies and how to keep the attention between sign language users.

**SIGN 104 SIGN LANGUAGE III: NARRATIVES
3 CREDITS**

The course is designed for the student who has already Sign Language skills. The purpose is to develop the linguistic abilities necessary to explain ideas or concepts, illustrate how and why things are and work. The students will use Sign Language to express experiences, stories, and other aspects of the narrative. The knowledge of the linguistic vocabulary aspects and cultural information is presented by the Sign Language as primary language and the Spanish will be the secondary language.

**SIGN 105 SIGN LANGUAGE IV: ADVANCED
3 CREDITS**

This course is designed for the student that already has Sign Language experience. The course has the purpose of developing receptive and expressive skills of more complex aspects of Sign Language such as poetry and literature, artistic and abstract messages. The course focuses in going from informal to formal usage of language. The student will also explore how to translate written text into ASL.

**SIGN 106 VISUAL GESTURAL COMMUNICATION AND CLASIFIERS
3 CREDITS**

The course is designed to develop understanding of the functions of the different types and uses of classifiers in sign language and the abilities to utilize this linguistic and grammatical component in their receptive and expressive communication. The course also assists the student in acquiring fluent fingerspelling. A brief history of the different manual alphabet will be included. Also develops communication skills that emphasize the use and understanding of facial expression, gestures, body language and manual description of geometrical and organic shapes as an important part of all sign languages. It also develops the student's ability to think and organize what is communicated using the space. It teaches the students to use mental and semantic mapping to communicate concepts.

**SIGN 121 HISTORIC AND SOCIO-CULTURAL ASPECTS OF THE PUERTO RICAN DEAF CULTURE
3 CREDITS**

This course explores the history of the American Sign Language, the different Artificial Sign Systems and their linguistic relation to the Puerto Rican Sign Language. It also considers the sociolinguistics aspects by which the deaf people identify themselves as a linguistic minority group. This course also includes an analysis of the development of Puerto Rican Sign Language and its historical sociopolitical status. The analysis of this history is based on research of both American and Puerto Rican Sign Language. In this course we discuss the reasons why Deaf people have been considered a linguistic minority.

**SIGN 122 SIGN LANGUAGE DISCOURSE
3 CREDITS**

This course will assist student to gain an understanding of discourse, recognize features of discourse used in American & Puerto Rican Sign Language such as register, spatial mapping, prosody, discourse structures, rhetorical analysis, involvement and interaction strategies, coherence and cohesion, framing, and enhance their own use of American & Puerto Rican Sign Language through incorporation of those features.

**SIGN 201 SIGN LANGUAGE LINGUISTICS
3 CREDITS**

This course will include fundamental linguistic concepts founded in oral languages that have been used as a linguistic theoretical frame work and have been applied for the analysis of sign languages. It considers the work developed by sign language linguists, their contributions and issues raised by these professionals and how their linguistic and sociolinguistic research have changed the vision about deafness, deaf people, sign languages and interpreting.

**SIGN 203 INTRODUCTION TO SIGN LANGUAGE INTERPRETING
3 CREDITS**

This course will provide the students the opportunity to know the history of the interpretation, the terminology used in the field and the competence that a sign language interpreter has to have. Also, they will learn basic ethical concepts, dressing codes and the diverse work scenarios. The students will have to opportunity to watch demonstration in the class room and discuss different cases during the semester.

**SIGN 204 INTERPRETING PROCESS SKILLS
3 CREDITS**

This course is an introduction to the fundamental cognitive skills needed in Sign Language Interpretation. The course focuses on the development of cognitive skills with the models of the interpretation process. The course addresses the need to focus on complex information and handling different information at the same time. Aspects of listening, analyzing and transferring information will also be discussed. A self-evaluation process is addressed and practiced throughout the course. In addition, a digital Language Portfolio is completed as evidence of language knowledge in both the native language (Spanish) and Sign Language, English language is optional for this portfolio.

**SIGN 302 ETHICAL AND PROFESSIONAL PRINCIPLES
3 CREDITS**

Interpreters are often in situations that may conflict with their own value system. This course will provide an exploration of the personal ethics and values that influence the decision-making process. Students will be able to identify the source of conflicts; analyze the situation from the perspectives of the deaf clients, the agencies and the interpreter, and make recommendations for action. Students will examine moral considerations and ethical systems, address power relationships between the non-deaf interpreter and the Deaf Community, and incorporate their impact in functioning as facilitators of communication. Students will use case studies to explore issues, make recommendations and discuss the consequences of each decision.

**SIGN 303 CONSECUTIVE INTERPRETING
3 CREDITS**

This hands-on course will provide in-depth study and practice of interpretation through the understanding and use of the consecutive model of interpretation. Students will further develop requisite skills such as text analysis, mind mapping/visualization, multi-tasking strategies, prediction and anticipation. They will be understanding of three models of interpreting (Cokely, Colonomos, Gish). They will be exposed to process management skills, and will enhance their use of tools for self-analysis and peer feedback.

**SIGN 400 SIMULTANEOUS INTERPRETATION
3 CREDITS**

This hands-on course will provide in-depth study and practice of interpretation through the understanding and use of the simultaneous model of interpretation. Students will further develop requisite skills such as text analysis, mind mapping/visualization, multi-tasking strategies, prediction and anticipation. They will further be exposed to process management skills, and will enhance their use of tools for self-analysis and peer feedback. Skills in both voice-to-sign and sign to voice are studied and practiced during class work.

**SIGN 401 INTERPRETATION INTERSHIP I
3 CREDITS**

In this advanced live practice course in sign language interpretation students demonstrate a high level of complexity in interpretation, considering the different records and scenarios. Students, through exposure to real scenarios, will continue the development of skills through the advanced practice of discourse analysis, prediction and anticipation, self-monitoring and correction. The team interpretation will allow students to learn how to work in pairs and to receive and give feedback from their peers in an appropriate, consistent and relevant way. Students will be assigned to various real scenarios where they will practice advanced voice-to-sign and sign-to-voice skills in various registers and levels of complexity, complying with the requirement to accumulate 100 hours of practice, coordinated with their teacher in which they mediate a collaborative agreement approved and appropriate for such purposes.

**SIGN 402 INTERPRETATION MODELS
3 CREDITS**

This course provides advanced practice in sign language interpretation. A high level of complexity is demonstrated in the interpretation of records and scenarios. Through exposure to the real scenarios of advanced practice, the development of the skills of discourse analysis, prediction and anticipation, self-monitoring and correction is continued. The team interpretation will allow you to learn to work as a couple, receive and offer feedback from your peers in an appropriate way. Students will complete 75 hours of sign language interpretation practice in a minimum of three (3) different scenarios.

**SIGN 403 PRACTICUM AND THEORY OF SIMULTANEOUS INTERPRETING I AND INTERNSHIP
3 CREDITS**

In this course of advanced practice on the Interpretation of Sign Language Puertorriqueño develops the understanding and use of consecutive interpretation and the transition to simultaneous interpretation mode. Students develop skills through study and practice in text analysis, visualization, skills management process and tools for self-analysis and feedback from their peers. Students will complete 100 hours of practice in Sign Language Interpretation in at least three (3) different scenarios.

**SIGN 404 SIMULTANEOUS INTERPRETATION PRACTICUM II
3 CREDITS**

In this advanced practice course in Sign Language Interpretation, the student will develop a high level of complexity in the interpretation of formal records and scenarios. Through exposure to real scenarios, students will develop the skills of: discourse analysis, prediction and anticipation, self-monitoring and correction. Through the strategy of teamwork during the performance, the student will develop the skills of working as a couple and receive and give feedback from their peers in an appropriate manner. The student will develop the advanced skills of voice and sign in various registers. formal and levels of complexity, in the various practice scenarios.

**SIGN 405 INTERPRETING IDIOMS CULTURE
3 CREDITS**

This course is designed for the interpreting student to be able to list and study many of the different cultural idioms in Puerto Rico and other Spanish speaking communities. Through the use of comparison and analysis of traditional and typical phrases, the student will be able to look for meaning in various contexts. This course will help the student with the development of analytic thinking to be used in any interpreting situation of idiomatic phrases. Also, the student will analyze songs, poetry and theater. students will have both didactic and practice experiences in the classroom.

**SIGN 406 INTERPRETING IN HEALTH SETTINGS
3 CREDITS**

This course is designed for the advanced interpreting student. The course has the purpose of reviewing all the processes that take place in medical settings. The course focuses in the development of appropriate protocols in hospitals and medical facilities at different levels and registers. The student will experience different levels of interpretation from patient interview level material to surgery considerations and material in various health related topics and settings.

**SIGN 407 EDUCATIONAL SETTINGS INTERPRETATION
3 CREDITS**

This course is designed for the advanced interpreting student. The purpose of the course is to increase the knowledge of interpreting students who wish to work in the education field. Students will have the opportunity to know the laws that apply to consumers and to interpreters at the different levels of education. Students will have the opportunity to learn about the administrative processes of special education, including COMPU meetings

and PEI development. They will learn the vocabulary related to school assignments in the elementary, intermediate, secondary, and university levels.

SIGN 416 PSYCHOSOCIAL ASPECTS OF DEAFNESS

3 CREDITS

This course will study the psychological, emotive and social impact of deafness through the cycle of life. Role consideration of the interpreter to make non-professional advocacy in the rehabilitative process of the people who has hearing loss and their families. The course will focus on the social and cultural contexts of deafness, legal rights, family dynamics as well as language, cognition and education. Other topics that will be included are: working with the deaf-blind community, the implications of sexual, emotional, and physical abuse in deaf people, and sexuality.

SIGN 420 INTERPRETING IN LEGAL SETTINGS

3 CREDITS

This course is designed for the advanced interpreting student. The course has the purpose of reviewing all the processes that take place in legal settings. The course focuses in the development of appropriate protocols in court houses and legal context facilities at different levels and registers. The student will experience different levels of interpretation from client interview level material to trial procedure considerations and material in various legally related topics and settings.

SIGN 425 SIGN LANGUAGE PROJECT

3 CREDITS

The accomplishment of this requirement will become an important academic contribution to the knowledge and understanding of the Puerto Rican Deaf Community and Interpreters linguistic situation. The results of the projects developed by the students will provide the opportunity to apply them in the linguistic planning of deaf education, interpreting curriculum and understanding of important aspects of the history of the Deaf in Puerto Rico.

SOCI 203 ELEMENTARY PRINCIPLES OF SOCIOLOGY

3 CREDITS

This course will study the individual and his relationship with his environment and social organizations, and the nature of this relationship. The course will also examine the development, functions and influences of interaction, changes and social processes.

SOCI 216 CONTEMPORARY SOCIAL PROBLEMS

3 CREDITS

This course focuses on critical, theoretical, and empirical examinations of social problems, their classification as deviant behavior and subsequent informal and formal social controls. The course includes the influence of the social media in the construction of social problems. Comparative analysis of local and global problems, their possible solutions by means of citizen action and governmental structures that generate responsive public policy are examined. Analysis of readings and simulation exercises, case studies, statistical analysis, responsible use of technology, and the study of public policies related to the course will be used.

SOCI 325 SOCIOLOGY OF DEVIANCE

3 CREDITS

Theories of social deviants. The Role of social and cultural values in the definition of deviant behavior Emphasis in the influence of traditional and modern society in deviant behavior.

SOCI 327 COMMUNITY DEVELOPMENT

3 CREDITS

The course centers on the origin and structure of communities, with emphasis on social, economic and technological forces that promote change. Decision-making mechanisms and the role of local leadership will be discussed.

SOCI 345 INDUSTRIAL SOCIOLOGY

3 CREDITS

The course deals with the effects of industrialization on modern society. Topics include relationships between corporations and community, social organization of labor, and labor-management relations.

SOCI 358 SOCIAL PROBLEMS OF PUERTO RICO

3 CREDITS

Social problems of contemporary Puerto Rico. Historical perspective on the problems, their causes, public and private problem-solving policies. Demographic problems, poverty, educational deprivation, crime, drugs and alcohol and the problems of the victims in Puerto Rico.

SOGS 201 HUMAN BEING AND SOCIAL CONSCIOUSNESS

3 CREDITS

The course studies the social interaction and socialization processes that human beings undergo, from different theoretical perspectives. Exploration and explanation of the ways in which social stability is produced and reproduced over time. Critical analysis of social life, with the human being as primary subject and agent within the social structure. Emphasis on the development of different ideologies, forms of thought, and worldviews through which people interpret, and contribute to the production and reproduction of the social whole. The course contributes to the student's scholarly formation by providing a better understanding of the self within diverse social, cultural, and historical contexts. It is a competency-based course that encourages the responsible use of technology and information. This course will develop primary competencies such as, Critical thinking, Scientific inquiry, and Ethics and diversity, through the analysis and reflection on the topics and problems previously mentioned that permit the student to evaluate and propose solutions in regards to them.

SOGS 202 STATE-GOVERNMENT AND THE HUMAN BEING

3 CREDITS

This course includes a critical analysis of the complex dynamics, processes, and institutions that constitute the political community. A political community comprehends, among other things, subjects articulated into particular and diverse social relations emanating from the actions of the institution we call the state. Examination of issues related to the different political and economic systems, as well as what should be expected by citizens in a democratic polity. Analysis of the impact on politics of contemporary phenomena such as neoliberalism, globalization, international relations, and threats to the environment. The course is competency-based and encourages the responsible use of technology and information. This course will develop primary competencies in Critical Thinking and Ethics and Diversity, through the analysis and reflection on the topics and problems mentioned above, that will permit the student to evaluate and propose solutions in regards to them.

SOHS 605 ETHNOPSICOLOGY IN POSTMODERNITY ERA

3 CREDITS

A general exposition of ethnopsychology in the post modern era is examine in this course. Different post modern psychological orientations will be cover, as well as different paradigms that rule scientific activity. Topics appertain to the modern discourse will be exposed and discussed, from a post modern perspective. Theoretical and research contributions of different Puerto Ricans ethnopsychologies will be considered, especially, the work of Dr. Eduardo Seda Bonilla.

SOSC 250 STATISTICAL METHODS APPLIED TO SOCIAL SCIENCES

3 CREDITS

An introduction to applied statistics techniques in the field of social and human sciences. It covers the understanding, application and interpretation of descriptive statistics. It also presents basic principles to the understanding, application and interpretation of inferential statistics.

SOSC 258 INVESTIGATION TECHNIQUES IN SOCIAL SCIENCES

3 CREDITS

Introduction to scientific research techniques applied to the field of Social and Human Sciences Fundamental concepts and processes for the application of scientific tools are discussed from quantitative, qualitative and mixed approaches. Topics include identification of the research topic; selection of a research approach and theoretical framework; creation of research objectives and questions; Design of the investigation; chosen from the sampling process, information collection instruments, analysis; and discussion and presentation of results.

SOWO 200 INTRODUCTION TO SOCIAL WORK

3 CREDITS

This course introduces the student body to the basic fundamentals of the Social Work profession. The student body will be able to know the history of the profession, and appropriate the principles, values, roles, and functions of the Social Work professional. They will understand the methods of intervention and the ethical standards of Social Work. The course allows the examination of personal values and the ethical principles of the profession.

SOWO 210 SOCIAL WORK AND HUMAN RIGHTS

3 CREDITS

It exposes students to the critical analysis of the historical process of human rights in the world and in a professional practice. Emphasis on the philosophical, political, economic and social bases of human rights. It integrates the effective search for information to examine the different types of rights and their linkage with the political, social, and economic development of modern nations. It links the human rights and the work of international organizations.

SOWO 211 HUMAN BEHAVIOR AND SOCIAL ENVIRONMENT I 3 CREDITS

This course provides a conceptual framework that allows the student to examine human behavior and its relationship with the social environment. Study the relationship and influence of biopsychosocial and spiritual factors in social systems and individual behaviors. It provides the space to ground the differences in the development and behavior of people. It delves into human behavior and its relationship with the social environment in the stages of development, childhood, adolescence, adulthood, and end of life within a holistic conceptual framework. These theories will facilitate the student's understanding of the influence of biopsychosocial and spiritual factors in different social systems and stages of development. In addition, the ethical values of the social work professional are applied to be considered in the analysis of human development.

SOWO 212 HUMAN BEHAVIOR AND SOCIAL ENVIRONMENT II 3 CREDITS

Course in which issues around the conduct and behavior of people in various social environments such as family, groups, communities and organizations are discussed. Giving emphasis to the study of the General Theory of Systems, Ecological Perspective and critical approaches for the analysis of the structural and functional aspects of the systems. They study how the manifestations of oppression and diversity influence people's life experiences.

SOWO 294 SOCIAL WORK AND ENVIRONMENTAL ISSUES 3 CREDITS

This elective course promotes critical analysis on the issues of climate change, ecological justice, development and sustainability from a Social Work perspective. The emphasis of the course is the development of a generalist and anti-oppressive professional practice with a cross-cutting axis on environmental issues and human rights. It supports the acquisition of historical, conceptual and practical knowledge of Environmental Social Work for a comprehensive intervention. The course promotes transformative learning based on critical analysis, dialogue, participation and problem solving, so student takes over the teaching-learning process and generates a collective knowledge about the application of environmental issues in the practice of Social Work. The course is competency-based and integrates the responsible use of technology to support pedagogical activities.

SOWO 296 SOCIAL WORK HEALTH AIDE 3 CREDITS

Elective course that exposes students to critically evaluate THE Model of Social Determinants of Health to understand the social contexts that affect people's health. As well as the understanding of how the intersections of race, gender, age, and social status contribute to the living conditions of the participants to whom services are provided. The student will learn intervention models from public health that can be applied in their professional practice.

SOWO 303 SOCIAL POLITICS 3 CREDITS

In this course, the students study the link between Social Work and social policy. He will know the impact of social policies related to the process of helping diverse populations in the practice of social work. Critical analyzes of social policies that define programs and services are carried out at the local, state and federal levels, from an anti-oppressive and anti-racist approach.

SOWO 311 SOCIAL WORK METHODOLOGY I 3 CREDITS

This course introduces the student to the Generalist Intervention model of Social Work practice, emphasizing the discussion of theories with anti-oppressive, anti-racist and culturally sensitive approaches to expose the student body to the theoretical bases used for the application of intervention methodologies. The basics of social work values and ethical principles, diversity, equity and inclusion are presented and discussed. In addition, the student body will be able to base a professional intervention, through a critical and culturally informed lens.

SOWO 312 SOWO METHODOLOG II: INDIVIDUALS AND FAMILY 3 CREDITS

This course is designed for students to integrate their knowledge of the General Intervention Model in each of its phases. They are exposed to critically analyze the situations of the individuals and families served. Understand the assessment process (weighting) and make differentiated use of human behavior theories and critical approaches to support their professional judgment. As part of the intervention process sequence, the student develops planning skills, strategy implementation, and evaluation of their professional intervention.

SOWO 313 INTERVIEW AND DOCUMENTATION IN SOCIAL WORK

3 CREDITS

Course in which the purpose, components and factors of the process of human communication, interview and documentation in Social Work are discussed. In the course, the student body is trained in the development of the necessary skills to establish the professional relationship from an anti-oppressive, anti-racist approach, cultural sensitivity and ethical standards of Social Work.

SOWO 314 GROUP INTERVENTION METHODOLOGY

3 CREDITS

This course exposes students to the origins and evolution of group work. It promotes the analysis of the fundamental principles that guide the intervention with groups. The group is presented as a social unit and its characteristics, dynamics, roles and goals are discussed. It also allows the discussion of different theoretical approaches in order to understand its processes at a collective level. We work with the application of the generalist intervention model in the work with groups and strategies aimed at an intervention based on cultural competence and humility.

SOWO 315 COMMUNITY INTERVENTION METHODOLOGY

3 CREDITS

This course exposes students to a generalist intervention with communities. It discusses the historical evolution of community social work and its development in Puerto Rico. It promotes the discussion of theoretical approaches and models applicable to intervention with communities from a culturally sensitive approach. The course exposes students to the experience of identifying the forces that are generated in the communities in their claim for rights and resources to benefit their residents. Community organizing is studied as an alternative to confront social inequalities, injustices, and forms of exclusion and oppression.

SOWO 320 SOCIAL RESEARCH TECHNIQUES

3 CREDITS

This course aims towards the identification of the nature and function of scientific social research and its contribution to the knowledge and practice of the Social Work profession. It will allow ethical applications, quantitative, and qualitative methodological approaches.

SOWO 328 SOCIAL GERONTOLOGY

3 CREDITS

The course is aimed at the study of the biopsychosocial, political, cultural, and legal implications of the aging process and the manifestations of oppression based on age, race, color, marital status, health, among others. Students are instructed from a gerontological social work model that includes theoretical and methodological approaches for intervention with older adults, legislation, diversity, and cultural sensitivity. This course values and advocates for respect, human dignity, human rights, and autonomy of older adults.

SOWO 330 SEMINAR: CURRENT TOPICS IN SOCIAL WORK

3 CREDITS

Analysis of a diversity of current subjects applicable to the generalist practice of the Social Work profession. Discussion of themes such as cultural diversity, diasporas, alternate lifestyles, political and economic processes, postmodern human relations and their impact on the philosophy, knowledge, skills and practice of social work at the undergraduate level. Provides opportunities for students to examine and strengthen their professional and personal values prior to their admittance to Supervised Practicum (SOWO 451-452).

SOWO 338 RESEARCH IN SOCIAL WORK

3 CREDITS

Course aimed to the induction of students in the application of techniques and methods of scientific social research. Emphasis is placed on the concepts and procedures of quantitative and qualitative research, applied to the practice of social work. It emphasizes the development of social worker skills for research-informed professional practice, as well as encourages commitment to conduct ethical, culturally informed, anti-racist, anti-oppressive and human rights approaches in research.

SOWO 405 INTERVENTIONS WITH LGBTQI+AND GENDER DIVERSE POPULATIONS

3 CREDITS

This course addresses the analysis and intervention strategies with the LGBTQI+ population and diverse gender. It allows the study of theoretical and practical aspects, as well as a critical analysis of the contexts in which violence, discrimination and oppression are experienced for reasons of sexual orientation, identity, and gender expression. The examination of values and beliefs in the ethical intervention of the social work professional with the LGBTQI+ and gender diverse population is also studied.

**SOWO 430 SOCIAL WORK GENDER PERSPECTIVES
3 CREDITS**

The course promotes discussion and analysis, theoretically and practically, of the use of gender perspective in a transversal way in social intervention. Throughout the course, key concepts related to gender will be discussed, including the social construction of gender, inequalities and gender violence, the intersections between gender and other dimensions of identity. Theoretical foundations, intervention strategies, professional support methods and good practices to promote gender equality and empower people in vulnerable situations will be addressed. The social inequalities faced by people, groups and communities due to gender and strategies to promote equity, inclusion, social justice and human rights from professional practice are discussed.

**SOWO 441 PRACTICUM SEMINAR I
3 CREDITS**

This course complements supervised practice I (SOWO 451), creating a space that integrates knowledge of human behavior theories. In addition, the development of methodological skills for the construction of the identity of students as social work professionals, from an ethical, inclusive, anti-racist and anti-oppressive lens. It facilitates the analysis of the relationship between theoretical knowledge and practical experiences in the agency context and direct service, according to experiences with individuals, families, groups, communities, and organizations.

**SOWO 442 PRACTICUM SEMINAR II
3 CREDITS**

The Practice Seminar II course provides continuity to the discussion and analysis of the student's experiences in the practice setting. Provides an emphasis on the application of various intervention models in individual cases or social groups. It proposes the application of ethical, culturally informed, anti-racist and anti-oppressive approaches in the assessment, planning and evaluation phases, as well as the ethical dilemmas that may arise in the organizational context. At the end of the course, the student is expected to be able to apply research results to inform and improve practice, policy and programs, and critically analyze the impact on the profession of social, historical, political and economic contexts in society. for which he will practice as a social work professional

**SOWO 445 DIVERSITY, EQUITY, AND INCLUSION FOR SOCIAL WORK PRACTICE
3 CREDITS**

Course aimed at exploring human diversity from a context of race, ethnicity, culture, social class, gender, sexual orientation, religion, age, and nationality. The origins, dynamics, impact, and problems of the diverse populations in Puerto Rico will be examined, emphasizing the forms of institutionalized oppression and discrimination that they face in contemporary society. It will be evaluated how these systems of oppression are perpetuated in society, the ideology of domination and subordination and the role of the social work professional challenging these situations of oppression. It integrates the ethical aspects of the social work professional in the provision of services aimed at vulnerable populations.

**SOWO 451 SUPERVISED PRACTICE I
4 CREDITS**

The supervised practice I course provides the necessary experience for the critical application of theories, methodology and skills from an ethical, inclusive, anti-racist and anti-oppressive lens. Students are expected to start a general practice whose objective is to expose them to a diversity of experiences at the individual, family, group, community, and organizational levels. Student must complete 200 contact hours in the assigned practice scenario.

**SOWO 452 SUPERVISED PRACTICE II
4 CREDITS**

The course allows students to apply their theoretical-methodological knowledge and skills when intervening with assigned situations, both at the individual, family, group, community, and organizational level. This course prepares the student to make a critical analysis of their professional performance from an ethical, inclusive, anti-racist and anti-oppressive perspective. During the course, the student, along with her peers, carry out a social action project whose purpose is to advocate for human rights and social, economic, and environmental justice. Student must complete 200 contact hours in the assigned practice scenario.

**SOWO 488 NON-GOVERNMENTAL ORGANIZATIONS AND SOCIAL PROJECTS
3 CREDITS**

This course familiarizes the student with the aspects related to Non-Governmental Organizations (NGO). It relates the student to the history and evolution of NGO, with an international and Latin American perspective but with special attention in Puerto Rico. Focus on the relationship between the State, the new public administration of social services, non-government entities and civil society. Emphasis is on the role of the social worker and their relationship with NGO as service providers and developers of social projects.

**SOWO 495 PREVENTION AND CARE INTERVENTIONS FOR CHILDRENS
3 CREDITS**

This is an elective course aimed at training the student with the competencies for the processes of interventions for prevention and care for children. Through this course, students will learn about childhood's social realities, challenges, and vulnerability to society. For this, they will study the conceptual, theoretical models consistent with social work for intervention with children. The course includes anti-oppressive approaches recognizing adultism as a structure of oppression. The need to use operational, technical components based on intersectional, gender, anti-racist, and counter-hegemonic strategies is being worked on to intervene with this population sector, considering their subjects of rights and with all the attributes of citizenship. In addition, they will be able to learn how to address the human rights of children and the rights approach in intervention with this population group. Finally, this course will link the student body with contemporary approaches to childcare.

**SOWO 500 HUMAN BEHAVIOR AND SOCIAL ENVIRONMENT I
3 CREDITS**

Study of the human development stages and the influence of biological, psychological, and socio-cultural elements in the individual, family and group functions in a social environment. Analysis of the ethnic, gender and the contribution of culture and the socio-economic and historical factors in social behavior.

**SOWO 504 SOCIAL POLICY SOCIAL WELFARE
3 CREDITS**

Study of social policy in the United States, Puerto Rico and Latin America. Analysis of the development and relationship with Social Work from a social, economic, historical and political perspective.

**SOWO 505 RESEARCH IN SOCIAL WORK
3 CREDITS**

Study and application of social scientific research, integrating professional ethics in the design of a research proposal in Social Work.

**SOWO 506 ANALYSIS OF SOCIAL REALITY, OPPRESSION AND SOCIAL JUSTICE
3 CREDITS**

Critical structural conditions that contextualize the practice of social workers in Puerto Rico analysis. Study of the manifestations of oppression and theoretical frameworks in practice with diverse populations.

**SOWO 507 HUMAN BEHAVIOR AND SOCIAL ENVIRONMENT II
3 CREDITS**

The course allows the necessary knowledge to understand and analyze the factors that contextualize the practice of social work at the mezzo and social macro level. It emphasizes the critical analysis and integration of the macro theories used in the practice of social work with groups, in organizations and in diverse communities.

**SOWO 510 PROFESSIONAL SOCIAL WORK PRACTICUM FOUNDATIONS I
3 CREDITS**

The first of two courses of foundations of the professional practice of social work, of regular curriculum. It is directed to the study of the purpose, roles and the regulating organisms of the Social Work profession. It allows the acquisition of knowledge about the historical trajectory of Social Work and the ethical principles that govern the profession. It examines the practice of social work as a method and process of intervention with individuals and families (micro-systems), through a generalist perspective, with emphasis on the process of human communication and professional interview.

**SOWO 511 PROFESSIONAL SOCIAL WORK PRACTICUM FOUNDATIONS II
3 CREDITS**

The first of two courses of foundations of the professional practice of social work, of regular curriculum. It is directed to the study of the purpose, roles and the regulating organisms of the Social Work profession. It allows the acquisition of knowledge about the historical trajectory of Social Work and the ethical principles that govern the profession. It examines the practice of social work as a method and process of intervention with individuals and families (micro-systems), through a generalist perspective, with emphasis on the process of human communication and professional interview.

**SOWO 514 PROFESSIONAL SEMINAR IN SOCIAL WORK
3 CREDITS**

Course focused on the development of basic skills for the application of the generalist method in professional intervention. It is required in the professional practice component since it facilitates the insertion of the student body in a practice scenario.

**SOWO 515 PRACTICUM I: SOCIAL WORK PRACTICE
3 CREDITS**

This is the first of the courses required in the Professional Practice component and allows the student to demonstrate professional and ethical behavior by insertion into a practice setting (agency or direct service organization) under the supervision of a Social Work professional. It facilitates the development of skills in the application of the Generalist Method in the indirect and direct service with individuals and diverse families, as well as in the documentation and writing of files. Requires a minimum of 300 hours of practice.

**SPAN 213 LITERARY GENRES I
3 CREDITS**

This course deals will deal with the characteristics of literary language, poetry, drama, and the essay. Illustrative works of each of these literary genres will be analyzed. The course will expose the students to language as a means for artistic creation, and will provide the students with reading strategies to develop an active approach, to reading not only of literary texts, but of any kind of discourse.

**SPAN 214 LITERARY GENRES II
3 CREDITS**

Analysis of literary genres through the study of representative Works in Spanish Language.

**SPAN 218 ORAL COMMUNICATION
3 CREDITS**

This course intends to develop the necessary skills for public oral communication. The adequacy, organization, correctness, clarity of the message, and the characteristics of an effective speaker are emphasized. Various types of presentations are studied in accordance to the audience and purpose of the message. It seeks to advance the competence of rhetoric through teaching and practice. It also considers the integration of information and communication technologies as communicator's tools. And it integrates diversity competence, such as the ability to work in teams in diverse changing and international contexts.

**SPAN 221 INTRODUCTION TO SPANISH LITERATURE I
3 CREDITS**

Introduction to the history of Spanish literature. Offers a panoramic view of the history of Spanish literature from its origins to the present. Familiarizes the student with the cultural movements and representative works of each period.

**SPAN 222 INTRODUCTION TO SPANISH LITERATURE III
3 CREDITS**

This course is a panoramic view of Spanish Literature from its origins up until the beginning of the Spanish Renaissance. Special attention will be placed on the distinctive features of Spain's historic and cultural background until the end of the Medieval times. Illustrative texts from this period will be read and analyzed. On the second semester the students will be exposed to a diachronic view of Spanish literature from the Renaissance (16th century) to the so-called Generation of '98 (beginnings of the 20th century). The main authors and works of these literary periods will be studied, taking into consideration their historical and cultural context.

**SPAN 230 INTRODUCTION TO LINGUISTICS
3 CREDITS**

This course studies some general aspects of the origin of modern linguistics, the history and evolution of Spanish linguistics, and the main elements of the study of language. The course is based on the notion of language as a linguistic sign. The topics of language acquisition and language variations, which depend on geographic, social and individual aspects, will also be considered.

**SPAN 235 LINGUISTIC
3 CREDITS**

Examines the development of the sciences of linguistics through the twentieth century. Emphasizes the analysis of the Spanish language and its teaching at the secondary level.

**SPAN 240 LITERATURE AND DIVERSITY
3 CREDITS**

This course is guided towards the study of the concept of diversity in literary and non-literary texts. The course will stress the appreciation and analysis of literary and non-literary texts from the perspective of gender, race, ethnic origins, and social class, among others. The course is developed through reflexions, critiques, research, oral and written presentations, and the responsible use of technology.

**SPAN 255 RESEARCH AND WRITING
3 CREDITS**

This course aims to develop students research and advanced academic writing skills. Throughout the course, the process of critical inquiry (the selection of a topic, statement and resolution of a hypothesis, and the search, revision and use of data, its revision and use) will be covered. In addition, the writing (pre-writing, organization of details, edition, correction, re-writing), will be emphasized.

**SPAN 265 ADVANCE GRAMMAR
3 CREDITS**

Examines the nature of the Spanish language, its components and structure: phonemics, morphology and syntax. Emphasizes types of linguistic change: phonetic, phonemic, analogic and semantic. Aims at improving written and oral communication.

**SPAN 275 ADVANCED WRITING IN SPANISH
3 CREDITS**

Study and analysis of the metacognitive and cognitive processes of the written text. Integration of information skills (search, evaluation, synthesis) and as well as strategies for planning and organizing the text for the development of summaries, expository and argumentative essays through their writing and revision. The course requires the use of the computer in the production of written texts, critical reflection and the presentation of a portfolio of their work.

**SPAN 451 PUERTO RICAN LITERATURE I
3 CREDITS**

The course is a panoramic study of Puerto Rican literature since its beginnings, considering the myths offered by Fray Ramón Pané as a testimony of pre-Columbian literature, until the nineteenth century. It includes the analysis of representative works and authors of each period studied. Texts published in Puerto Rico and the diaspora will be read and analyzed within their historical context to foretaste the dynamics of literature as a discourse that involves an insight and conversation with the space and time in which it develops. Literature and History will be disciplines that will converge in this course.

**SPAN 452 PUERTO RICAN LITERATURE II
3 CREDITS**

The course is a panoramic study of Puerto Rican literature from the nineteenth century to the present. It includes the analysis of representative works and authors of each period studied. Texts published in Puerto Rico and the diaspora will be read and analyzed within their historical context to foretaste the dynamics of literature as a discourse that involves an insight and conversation with the space and time in which it develops. Literature and History will be disciplines that will converge in this course.

**SPAN 453 PUERTO RICO LITERATURE-COMPENDIUM
3 CREDITS**

This course will deal with the main literary movements, authors and works of Puerto Rican literature. It will discuss the evolution of Puerto Rican literature from the Colonial period to the present.

**SPAN 461 LATIN AMERICAN LITERATURE I
3 CREDITS**

This course is a panoramic study of Hispanic-American literature from the pre-Columbian period until the nineteenth century. It merges the analysis of representative works and authors of each historic period studied. Literary texts published in Hispanic America, the Caribbean and the diaspora will be read and analyzed within their historical context to foretaste the dynamics of literature as a discourse that involves an insight and conversation with the space and time in which it develops. Literature and History will be disciplines that will converge in this course.

**SPAN 462 LATIN AMERICAN LITERATURE II
3 CREDITS**

This course is a panoramic study of Hispanic-American literature from the nineteenth century (peak of Modernism) to the end of the twentieth century. It merges the analysis of representative works and authors of each historic period studied. Literary texts published in Hispanic America, the Caribbean and the diaspora will be read and analyzed within their historical context to foretaste the dynamics of literature as a discourse that involves an insight and conversation with the space and time in which it develops. Literature and History will be disciplines that will converge in this course.

**SPED 201 ASSISTIVE TECHNOLOGY IN SPECIAL EDUC
3 CREDITS**

Students will study methodologies, techniques and innovative strategies needed to teach special education students effectively. Emphasis is placed on current research, identification of needs of exceptional children that can be met through use of computers, evaluation and prescription of software, hardware, and assistive devices.

**SPED 202 ETHICS, COLLABORATION AND PROFESSIONAL LEARNING IN SPECIAL EDUCATION
3 CREDITS**

The course will focus on: critical discussion of current, ethical, and collaborative issues that pertain to the special education process; in self-reflection on the personal and professional attributes necessary for working with students with disabilities and in evaluating experiences designed to assist students with disabilities in learning. They will apply, observe, analyze and develop assessment instruments and lesson planning; in addition to the responsible use of technology and how they affect professional learning in Special Education.

**SPED 214 ASSISTIVE TECHNOLOGY IN SPECIAL EDUCATION
3 CREDITS**

Students will study methodologies, techniques and innovative strategies needed to teach special education students effectively. Emphasis is placed on current research, identification of needs of exceptional children that can be met through use of computers, evaluation and prescription of software, hardware, and assistive devices.

**SPED 295 EVALUATION AND ASSESSMENT FOR STUDENTS WITH SPECIAL NEEDS
3 CREDITS**

Study of the evaluation methods of the student with special needs. Analysis and evaluation protocols of the exceptional student for the development of assessment process at the initial and during the school year. Study of the relation of the processes of evaluation and assessment, the federal and state laws of academic achievement and the development of the Individualized Educational Program (IEP). Application, observations, analysis and development of assessment instruments and planning lessons; also, responsible use of technology.

**SPED 306 CURRICULUM, TRANSITION, AND INCLUSION IN K-12 SPECIAL EDUCATION
3 CREDITS**

Analysis of methods used to identify learning difficulties in mathematics and its teaching implications. It includes the study of the informal and formal methods of teaching, the use of strategies, instructional adaptations and the application of the technology, including the assistive technology for differentiated instruction of mathematics. Analysis of the curricular content of the mathematics program for elementary, middle and high school level (K-12). Emphasis on assessment, measurement and evaluation strategies of learning for students with disabilities. Provides for the practice in diagnosis and intervention of learning needs as well as for the individual educational plan. Planning, selection and design of materials for the teaching of mathematics in the educational levels from kindergarten to twelfth with emphasis on the individualization of teaching.

**SPED 312 EDUCATION OF CHILDREN WITH SPECIFIC LEARNING DISABILITIES
3 CREDITS**

Basic learning disabilities due to minimal brain damage such as: Aphasia, dyslexia, dyslexia, dystrophy and dyscalculia. Study of the psychosocial, motor perceptual and linguistic development as well special educational experiences of the child with these conditions. Emphasis on diagnostic skills, Participatory experiences equivalent to ten hours of clinical experiences will be required.

**SPED 315 TEACHING EXCEPTIONAL CHILDREN
3 CREDITS**

Introductory course in special education. Analysis of social, emotional and educational needs of children with exceptional qualities diagnostic, educational and rehabilitation services, family, community attitudes and civil rights. Emphasis on the educational needs and learning styles of exceptional children: teaching, methods, techniques and inclusion process. Also includes the analysis of the assistive technology used for the different necessities of the exceptional children.

**SPED 324 BEHAVIOR MODIFICATION OF THE HANDICAPPED CHILD
3 CREDITS**

The course provides the basic knowledge of the nature and psychosocial and educational needs of the child with severe, behavioral and emotional disturbances. Emphasis in the learning methods, techniques and strategies used with children with conditions such as autism schizophrenia, phobic neurosis, autism, oppositional defiant disorder and mute children.

**SPED 330 EARLY INTERVENTION AND SPECIAL EDUCATION
3 CREDITS**

In this the student will center on the analysis of social, emotional and educational needs of children with different exceptional qualities. The different interventions procedures that includes diagnosis; educational and rehabilitation services; family and community attitudes, and civil rights. Emphasis is placed on the educational needs and learning styles of special education children, teaching methods, techniques and curricular content in early age.

**SPED 390 METHODOLOGY OF TEACHING MATH IN SPECIAL EDUCATION
3 CREDITS**

Analysis of methods used to identify learning difficulties in mathematics and its teaching implications. It includes the study of the informal and formal methods of teaching, the use of strategies, instructional adaptations and the application of the technology, including the assistive technology for differentiated instruction of mathematics. Analysis of the curricular content of the mathematics program for elementary, middle and high school level (K-12). Emphasis on assessment, measurement and evaluation strategies of learning for students with disabilities. Provides for the practice in diagnosis and intervention of learning needs as well as for the individual educational plan. Planning, selection and design of materials for the teaching of mathematics in the educational levels from kindergarten to twelfth with emphasis on the individualization of teaching. Analysis of methods used to identify learning difficulties in mathematics and its teaching implications. It includes the study of the informal and formal methods of teaching, the use of strategies, instructional adaptations and the application of the technology, including the assistive technology for differentiated instruction of mathematics. Analysis of the curricular content of the mathematics program for elementary, middle and high school level (K-12). Emphasis on assessment, measurement and evaluation strategies of learning for students with disabilities. Provides for the practice in diagnosis and intervention of learning needs as well as for the individual educational plan. Planning, selection and design of materials for the teaching of mathematics in the educational levels from kindergarten to twelfth with emphasis on the individualization of teaching.

SPED 393 SPECIAL EDUCATION TEACHING METHODOLOGY K-12

3 CREDITS

Analysis of Individualized Education Plan (PEI-Spanish acronym), strategies, methods, and teaching techniques for special education students K-12. Includes observations in real school scenarios where students with different special needs are attended. Emphasis in daily planning and teaching simulations. Curriculum modifications and learning strategies for the teaching of students with special needs K-12. Use of case analysis, observations, action research, planning, modification and adaptations, and portfolios. Also, responsible use of technology as a working tool.

SPED 394 METHODOLOGY IN TEACHING READING-WRITING IN SPECIAL EDUCATION PART I

3 CREDITS

Methodology, adaptations, and adjustment in the teaching of reading and writing for the student of special education in the elementary level (K-6). Emphasis in the application of instructional methods and techniques of teaching and learning, including whole language approach. Development and design of curriculum in Spanish with attention to the individual differences. Application, observations, analysis and development of assessment instruments and planning lessons; also, responsible use of technology.

SPED 395 METHODOLOGY IN TEACHING READING-WRITING IN SPECIAL EDUCATION PART II

3 CREDITS

Methodology, adaptations, and adjustment in the teaching of reading and writing for the student of special education in the secondary level (7-12). Emphasis on the application of instructional methods and techniques of teaching and learning, including comprehension and analysis skills. Development and design of curriculum in Spanish with attention to the individual differences. Application, observations, analysis and development of assessment instruments and planning lessons; also, responsible use of technology.

SPED 396 LEAR ENVIRONMENT AND BEHAVIOR MODIFICATION MODELS

3 CREDITS

The course offers basic knowledge of the nature, psychosocial, and educational needs of the child with severe emotional disturbances. Topics emphasized include mutes, infantile schizophrenia, phobic neuroses, and educational handling of children with these conditions in a special classroom. The course includes clinical experience.

SPED 420 CLINICAL EXPERIENCE IN SPECIAL EDUCATION K-12

3 CREDITS

The course offers a learning opportunity focusing in observation, reflection and integrating the theory to the practicum in special education (K-12). It promotes the student's diverse learning and teaching dimensions under the tutoring of an experience teacher. The course promotes that the students in a reflective way go through live scenery experimenting the teaching process along the newest strategies and methodologies regarding the curriculum, planning, evaluation, assessment, research, and specialization fundamental areas. Required time is 100 hours distributed in 85 hours in an educational center or school and 15 hours in seminar.

SPED 430 PRACTICUM SEMINAR IN SPECIAL EDUCATION K-12

3 CREDITS

This is the final phase of the professional preparation in a specialized field as a future special education teacher candidate (K-12). It is the field experiences where the teacher candidates assume the responsibilities to take charge of the tasks performed by the teacher in a real school environment. It constitutes the means to apply the different dimensions of teaching and learning. During the practicum the future teacher are presented with sceneries in which they can rehearsals the educative experiences promoting the physical, social, emotional and intellectual development of the student. The required time is of 250 hours in an educational center or school.

SPEG 601 LEGAL ASPECTS AND INCLUSION IN SPECIAL EDUCATION

3 CREDITS

Analysis of the legal bases, local and external, in the Special Education discipline. Evaluation of the inclusion concept and assistive technology, as an important element to serve students with impairments. Critical discussion of the legislative, judicial, and present matters that belong to the special education process. Evaluation of experiences designed to help in the learning of the students with impairments. Application, observations, analysis and development of assessment instruments and planning lessons; also, responsible use of technology.

SPEG 602 OBSERVATION, EVALUATION AND ASSESSMENT IN SPECIAL EDUCATION

3 CREDITS

Analysis of the importance of the observation and the evaluation in the development of the children with disabilities. Development of competences for planning appropriate programs, guides of execution, environments, interactions and adaptations for the individual differences (children and adolescents with disabilities). Analysis and application of assessment techniques for the individualized curriculum planning and teaching practices. Critical discussion on the selection, evaluation and interpretation of standardized instruments and the ways to utilize the assessment information for the benefit of the children with disabilities. The course will be conducted through the use of observation, analyze and develop of assessment instruments and lesson planning; and responsible use of technology.

**SPEG 603 METHODOLOGY FOR THE TEACHING OF STUDENTS WITH SPECIAL NEEDS
3 CREDITS**

Study of different methodologies and strategies that support the special education (K-12) students learning process. Analysis of models of teaching, scientific based research, and best practices in strategies and techniques used with students with special needs. Emphasis in alternatives in the areas of independent living, mastering basic academic skills and the required standards. We propose the use of assistive technology and universal design as technological support tools in the school environment. The course is based on the analysis of cases, and on legislation and procedures that apply to the Special Education Program in Puerto Rico.

**SPEG 604 LANGUAGE DEVELOPMENT AND THE READING PROCESS IN SPECIAL EDUCATION STUDENTS
3 CREDITS**

Analysis of the basic cognitive processes (attention, perception and memory) that intervene in the development of the language of the student with special needs. Exam of the development of the reading and the writing from the linguistic enriched environments, and inside the integral language approach. Evaluation of the meta linguistic and meta cognitive processes and its importance in the development of the language. Design of instructional strategies that facilitate the reading and writing for students with special needs. Evaluation of interactive equipment that support the instruction and that facilitate the development of the linguistic skills. Use of semantics maps, cases studies, problem solving, distance learning, thematic discussions and portfolio.

**SPEG 605 NATURE, NEEDS, AND BEHAVIOR MANAGEMENT OF SPECIAL EDUCATION STUDENTS
3 CREDITS**

Analysis of the social, psychological, physiological aspects, strengths and emotional needs that characterize the student with special needs. Emphasis on the development of individualized educational programs and the resulting educational practices, both in the special education classroom and in the regular education classroom. Study of the interdisciplinary contribution required for the effective transition of the student from one level to: from primary to secondary level and from the next secondary level to post-secondary life (university or workforce). Practical experience, case studies, curriculum development, and field observations. Application, observations, analysis and development of evaluation instruments, evaluation and plans; as well as the responsible use of technology.

**SPEG 607 PROBLEMS AND TRENDS IN LEARNING USING ASSISTIVE TECHNOLOGY
3 CREDITS**

The discipline of special education is a matter of great relevance and need today. Attention to it is focused on the efficacy and effectiveness of psychoeducational interventions carried out in the school setting. The knowledge of the psychological aspects of special education, as well as the core aspects of observation and intervention, promote that the educator possesses the professional skills that the country demands for a sensible, respectful and well-founded practice.

**SPGS 152 FUNDAMENTALS OF READING AND WRITING
3 CREDITS**

This course develops paragraph writing competencies and the characteristics and methods for the organization of ideas through the reading and analysis of texts. Basic elements of communication and the Spanish language are studied, in addition to the features of narrative and descriptive discourse. The course is based on the development of communicative competence and critical thinking, and it integrates the responsible use of technology and information.

**SPGS 152I FUNDAMENTALS OF READING AND WRITING INTENSIVE
3 CREDITS**

This course develops paragraph writing competencies and the characteristics and methods for the organization of ideas through the reading and analysis of texts. Basic elements of communication and the Spanish language are studied, in addition to the features of narrative and descriptive discourse. The course is based on the development of communicative competence and critical thinking and it integrates the responsible use of technology and information. In addition to the conference hours, the student must attend the language laboratory.

SPGS 152IL LABORATORY FOR FUNDAMENTALS OF READING AND WRITING (I)
0 CREDITS

This course develops paragraph writing competencies and the characteristics and methods for the organization of ideas through the reading and analysis of texts. Basic elements of communication and the Spanish language are studied, in addition to the features of narrative and descriptive discourse. The course is based on the development of communicative competence and critical thinking and it integrates the responsible use of technology and information. In addition to the conference hours, the student must attend the language laboratory. This course develops paragraph writing competencies and the characteristics and methods for the organization of ideas through the reading and analysis of texts. Basic elements of communication and the Spanish language are studied, in addition to the features of narrative and descriptive discourse. The course is based on the development of communicative competence and critical thinking and it integrates the responsible use of technology and information. In addition to the conference hours, the student must attend the language laboratory.

SPGS 250 WRITING TECHNIQUES
3 CREDITS

This course will develop the communicative competence of oral and written expression for effective writing. Different strategies will be used for reading comprehension and the writing of expository and argumentative texts integrating the responsible use of technology and information. In addition to the conference hours, the student must attend the language laboratory.

SPRT 101 SPORT PEDAGOGY
3 CREDITS

Study of the theory and practice on the process of teaching and learning of the sport in the tactical, technical aspects and mental skills. It emphasizes itself in the to know the media and teaching methods of the sports skills as the organization of a session training for the children and young athletes.

SPRT 102 METHODOLOGY FOR TRAINING
3 CREDITS

Study of the principles and methods of training for childlike and youthful in practice of the sport. It understands a theoretical perspective on the capacity of sports performance, the phases of sports formation, the demands of controls and the competitions of the children and young.

SPRT 103 PHYSIOLOGY FOR SPORT FITNESS PERFORMANCE
3 CREDITS

It studies the biological bases of the effects of the physical exercise in the training in the youthful and childlike ages. Basic principles for the improvement of the physical capacities with a focus in the prevention of the inconveniences by excessive loads in the sports training are established. It studies the biological bases of the effects of the physical exercise in the training in the youthful and childlike ages. Basic principles for the improvement of the physical capacities with a focus in the prevention of the inconveniences by excessive loads in the sports training are established.

SPRT 104 METHODOLOGY OF PHYSICAL TRAINING
3 CREDITS

It understands the study on the media and methods of the conditioning of the physical capacities and coordinatives in the sports preparation of the youthful and childlike athletes. As an orientation in the planning and organization of the loads of optimum training by its phases of biological madured.

SPRT 105 ETHICAL AND PHILOSOPHICAL PRINCIPLES OF THE COACH
3 CREDITS

Study of the ethical and philosophical principles of the behavior that their compliance they cause are a successful coach for the integral development of the children and youths in the motivation of their sports practice. It understands the development of a code of ethics and social responsibility with the development of the equity, inclusion and solidarity of the sports programs.

SPRT 106 FUNDAMENTAL ANALYSIS OF MOVEMENT IN SPORT
3 CREDITS

Study of the bases to understand the analysis of the mechanics of the movement in the sports technique and how to utilize you said know-how in order to improve the performance of the skills identifying and correcting the errors in the execution of the athletes.

SPRT 108 SPORT MANAGEMENT FOR COACHES
3 CREDITS

Study of the organization and administration of the childlike sports programs and youthful as for devising a compatible philosophy with the objectives for the integral development of the children and young. Establishing health risks reducing programs and negligence, plans of enlarging the economic incomes and the organization of sports events.

SPRT 109 CONCEPTS OF SPORT PSYCHOLOGY
3 CREDITS

It understands the introduction to the study of the conduct of the athletes in terms of the motivation and learning, the management of the anxiety, the techniques of relaxation and the planning of the mental training.

SPRT 110 SPORT COACHING PRACTICUM
3 CREDITS

Includes an internship in their field of sport in a club or federation community with children and youth. Emphasis is placed on planning the training sessions, organization of practices such as learning the technical skills and tactics as the application of physical loads.

SPSC 800 HISTORICAL AND SOCIO-CULTURAL ANALYSIS OF SPORT AND PHYSICAL ACTIVITY
3 CREDITS

In-depth study of sports as a social phenomenon, which is part of a historical context and implications of their production and consumption as a major cultural symbol. Examines the characteristics of sport, its practice within a historic time as part of a culture, its structure as a consumer good, its management as merchandise, political representation, its meaning for the individual and the collective, and his influence on the constructs and social meanings.

SPSC 801 PSYCHOLOGY APPLIED TO SPORT AND PHYSICAL ACTIVITY
3 CREDITS

Analysis of psychological factors that impact the practice of sports and physical activity as well as the psychological effects of such participation. Theoretical approach to the foundations and psychological effects of the behaviors expressed in physical and sports activities, whereas the study of mental processes, as well as carrying out practical tasks of diagnosis and intervention. The course provides knowledge about the psychological aspects of sport, both in the field of sports initiation, to the maintenance of the activity and the high performance athlete.

SPSC 802 ANALYSIS OF PSYCHOSOCIAL DEVELOPMENT THROUGH SPORT
3 CREDITS

Analysis of the sports dynamics that influence and promote the development of social and personal values and their implications for the development of the sport as an instrument of social reform. Review sporting ethics and values that promote Puerto Rican sports, instruments used for measuring psychological variables, which respond to personal and social constructs in the formation of values and attitudes through sport, learning through social media and research studying the conceptual aspects, methodological, and functional related to sports programmers for the promotion and transmission of social and personal values. The research will be used to examine and develop a methodological practice that promotes some psychological construct associated with the desirable behavior in physical and sports activities.

SPSC 803 SPORTS MANAGEMENT AND ADMINISTRATION
3 CREDITS

Analysis of the processes related to the organization, supervision and management of sports programs: administrative theories, functions and roles of sports manager and empirical sports management in Puerto Rico and internationally. Field visits to various facilities and programs needed to know the processes related to the Organization, supervision and administration of these.

**SPSY 500 PSYCHOLOGY OF PERSONALITY
3 CREDITS**

In-depth study of the theoretical and conceptual development of psychology of personality that allows to understand human nature. The course is based on the empirical basis of research of personality to evaluate the different situations and analyze the strategies to work with them. Personality development, theoretical models, genetic influences, environmental and cultural factors, change and stability, dynamic determinants, and personality integration, among others, are evaluated in depth. The course encourages the dialogue and critical and scientific debate, based on cases and situations. The importance of writing, correct oral expression and the ability to conceptualize cases in the light of various approaches or personality models are highlighted.

**SPSY 502 PSYCHOLOGY OF LEARNING AND MOTIVATION
3 CREDITS**

Psychological analysis of the construction of knowledge process and its historical transformation and the dimensions motivation of the human being. The course promotes an emphasis on critical evaluation of the predominant and actual models and theories that demonstrates the complexity of human learning and motivation. This course is based on the discussion of the factors proposed by the human learning and motivation models, theories and the emergent research, related to development, personality, and cognition, among others. The course will foster oral and written critical analysis throughout structured exercises and activities.

**SPSY 506 RESEARCH METHODS
3 CREDITS**

Discussion of a variety of designs and methods of qualitative and quantitative research that are used in the field of psychology. As a core course, it allows the graduate student to begin to conceptualize, clarify and refine their research topic or research objectives or questions. It recognizes the importance of excellence in research design, but it assumes that the definition of the problem should determine the design. The course evaluates research topics and techniques to help students select specific methods and strategies for application and in-depth study. The course encourages students to read and evaluate research reports and academic articles critically. By the end of the course, students must have produced a review of scientific literature related to a topic of interest in psychology.

**SPSY 508 PSYCHOLOGY OF HUMAN DEVELOPMENT
3 CREDITS**

An advanced insight and critical analysis of current perspectives and issues in developmental psychology. Some topics are: the development of motor perception, language acquisition and the process of cognitive development, contextualized in social and moral development. The emphasis of the course is the systemic analysis of development as a process over time and in the determinants and limitations related to it. The course format is variable, it includes, but is not limited to, lectures, seminar-style discussions, oral and written exercises, strengthening the skills to retrieve, evaluate and use information effectively, and field experiences that explore the diversity in different contexts from an ethical perspective.

**SPSY 510 PHYSIOLOGICAL ASPECTS OF HUMAN BEHAVIOR
3 CREDITS**

Broad study of the neuronal, hormonal, genetic and developmental bases of human behavior with emphasis on the processes that underlie learning, cognition, motivation and emotions. The structures, functions and development of the nervous system are discussed, as well as physiological aspects of sensation and perception, self-regulation of behavior and the most common mental disorders or conditions that affect children and youth, according to the most recent research in neuropsychology and cognitive neuroscience, including psychopharmacology. The course format includes lectures, discussions, critical analysis of scientific research articles, as well as written reports, oral presentations, quizzes and tests. The student should demonstrate critical thinking, scientific reasoning and the skills to retrieve, evaluate and use information effectively.

**SPSY 530 ETHICAL, LEGAL AND PROFESSIONAL ASPECTS OF PSYCHOLOGY
3 CREDITS**

The ethical principles that guide the practice of psychology in Puerto Rico and other countries are discussed; reflection on ethical and moral issues and the commitment to expected responsible behavior for psychology professionals from their training stage are encouraged. Based on the historical development of the regulation of psychology in Puerto Rico, laws, regulations and jurisprudence that impact the practice of psychology are discussed, with emphasis on, but not limited to, those that apply to the practice of psychology in Puerto Rico. Comparisons between ethical principles of psychology and other professions are facilitated and situations are discussed to practice the decision process and critical thinking of the ethical and legal dilemmas. The need to keep up to date, during and after graduate studies, the knowledge and skills on ethical and legal matters of the discipline are updated. The student should demonstrate oral and written communication and the skills to retrieve, evaluate and use information effectively.

**SPSY 532 PRINCIPLES OF EVALUATION AND PSYCHOLOGICAL MEASUREMENT
3 CREDITS**

Course that discusses the theory and application of psychological assessment of cognitive abilities and measures of personality in children and adolescents. This course offers opportunities to begin to develop the skills needed to become a reflective decision-makers throughout the assessment process. The student should demonstrate critical thinking and quantitative reasoning to analyze ethical and correctly information and data.

**SPSY 534 COGNITIVE EVALUATION
3 CREDITS**

Analysis of models, methods, instruments and quantitative procedures that are used to obtain information about the strengths and cognitive and academic needs of students, including aspects related to development, the school and family environment, as well as the influence of sociocultural aspects in the learning. The course integrates the theoretical and conceptual application of psychometrics technological tools, development, learning, motivation, the principles of psychological evaluation and measurement, and statistics to practical experience with infants and students in a specific context or situation. The student must demonstrate oral and written communication graduate skills and to retrieve, evaluate, and use information ethically and effectively.

**SPSY 535 SOCIOEMOTIONAL EVALUATION
3 CREDITS**

Study of models and methods to obtain information about emotional development and its influence on the cognitive, academic and social performance of infants, children and adolescents, taking into account the level of development, the school and family environment, as well as the influence of aspects sociocultural in learning. The course integrates the theory and practice of psychological methods, procedures, and tests to analyze socio-emotional diversity critically, responsibly and ethically. The student must demonstrate the skills of oral and written communication and also those to retrieve, evaluate and use effectively the information obtained during an evaluation process.

**SPSY 613 CONFLICT MEDIATION AND THE PREVENTION OF SCHOOL VIOLENCE
3 CREDITS**

Critical analysis of the mediation process as a method of managing conflicts in a non-adversative way in the school setting: theoretical foundations, stages in the mediation process, strategies and technics that have proved to be effective in handling disputes among teachers, parents, and students.

**SPSY 629 RESEARCH PROPOSAL
3 CREDITS**

In this course the student will conceptualize and develop a research proposal in the area of ??interest within the discipline. The student will be guided by the professor in the selection of the subject, the development of the literature review and the research methodology among other related aspects. The student should demonstrate quantitative and scientific reasoning, critical thinking, technological skills and the ability to retrieve, use and analyze data. At the end of the course, the student must produce a research proposal that will be evaluated and presented orally in class.

**SPSY 630 COUNSELING, PSYCHOTHERAPY, AND PSYCHOEDUCATION INTERVENTIONS
3 CREDITS**

In-depth analysis of counseling, psychotherapy and psychoeducation for children and young people in various school and clinical settings. The emphasis is on the patient-centered process that includes the planning, application, evaluation, and modification of a comprehensive intervention program. It is proposed that the student learn to identify the needs of the student, integrating teachers and other school personnel, parents or caregivers and the community. The course emphasizes personal work based on philosophy, principles, services, and professional standards and ethics important to the role of the school and child psychologist. The course combines the use of lecture, discussion, exercises based on experiences, to promote students' knowledge and skills. The student should demonstrate oral and written communication skills and the ability to retrieve, evaluate and use information effectively.

SPSY 631 EMOTIONAL AND BEHAVIORAL DISORDERS AND INTERVENTION
3 CREDITS

Analysis of emotional and behavioral disorders, considering various intervention modalities. The approach of the course will consider a critical look at the traditional diagnostic and treatment models and the recognition of the particular family and socio-cultural considerations in which these disorders occur. The student will be able to distinguish and identify them, in addition to exposing themselves to the findings in the scientific research relevant to each disorder. The course is developed through readings, presentations, class discussions, case evaluation and writing, the student will analyze the characteristics of these disorders, including their diagnostic criteria, etiology, prevalence, treatments and ethical and effective management.

SPSY 632 THEORIES AND SOCIAL SYSTEMS IN THE FAMILY, SCHOOL, AND COMMUNITY
3 CREDITS

Discussion and analysis of the theories and social models inherent to the relationship between the family, school and community. The course stresses the importance on family systems, including their strengths and influences on student, learning, behavior, and social development and of methods that can involve families and the community in education. The course includes case studies and clinical observations based on theories and models. The student should demonstrate critical thinking, excellent written and oral communication skills, respect and empathy for the diversity in the different contexts and the ability to retrieve and use information.

SPSY 633 PREVENTION AND CRISIS INTERVENTION
3 CREDITS

Study of the history and theoretical models of prevention. Models and strategies for prevention and intervention in crisis will be explored. The course discusses and critically analyzes aspects of different crises that affect the mental health and physical well-being of children, young people and in school. Some of the crises that will be explored will be natural disasters, deaths, accidents, suicide attempts, domestic violence, violence in the community, among others. Students should be prepared to put into practice the skills and techniques of crisis prevention and intervention in small groups in specific situations. Particular emphasis will be given on disaster preparedness as a tool for crisis prevention and trauma in the school-child population. The student should demonstrate respect for diversity, excellent oral and written communication skills and the ability to retrieve and use information.

SPSY 634 CONSULTING AND COLLABORATION INTERVENTIONS
3 CREDITS

Course that integrates consulting and collaboration in community settings, which includes historical perspectives, theories, models, methods, practice, research, diversity and ethical considerations. It also promotes the development of consulting skills, emphasizing effective collaboration in well written planning procedures and decision-making, based on evidence, of the individual, family, group, and levels in different systems. The course includes a 15-hour practicum of interventions for the application of competencies, and the use of professional consulting skills under supervision.

SPSY 635 INTERNSHIP I
3 CREDITS

First part of the final component of the training program in school and infant psychology. It consists of 600 hours of field experience in an approved practice center in order for the student to demonstrate, under supervision, their ability to integrate the knowledge, skills and competencies required to offer a wide spectrum of psychological services in the school environment. This experience provides the student the opportunity to work with diverse populations, a range of educational, behavioral, and social issues, and the different types of service programs that use the various intervention methodologies. The emphasis of Internship I is the infant, child or youth in school or home.

SPSY 636 INTERNSHIP II

3 CREDITS

Second part of the final component of the training program in school and child psychology. It consists of 600 hours where the field experience is continued in an approved practice center in order for the student to demonstrate, under supervision, their ability to integrate the knowledge, skills and competencies required to offer a wide spectrum of psychological services in the field school and family. This experience provides the student with the opportunity to work with diverse populations, a range of educational, behavioral, and social issues, and the different types of service programs that utilize various intervention methodologies. The emphasis of boarding school II is the social interaction that occurs within the school and family environment and its influence on the teaching-learning process.

SPSY 637 RESEARCH PROJECT

3 CREDITS

The student, under the supervision of the faculty of the graduate program, prepares a master's research project that meets the standards of the discipline and specialty. The student, with the advice of her mentor, selects the subject of study and the methodological design of the research to demonstrate mastery of the scientific reasoning and analytical competencies.

STAG 504 GRADUATE STATISTICS

3 CREDITS

Study and practice of basic statistical techniques used in research. Emphasis is placed on descriptive and inferential statistics for parametric and non-parametric samples based on quantitative reasoning. The fundamentals of statistics, measures of central tendency and dispersion, correlation and regression, normal distribution, estimation and hypothesis testing, sampling, analysis of variance, chi-square and non-parametric tests, are analyzed. The course requires the use of technology and programs for statistical analysis, among other assessment techniques.

SWGR 504 SOCIAL POLICY AND SOCIAL WORK

3 CREDITS

This course consists of a systematic analysis of the development of the social policies that impact the Social Work field in Puerto Rico. It promotes a critical analysis of the political, social, cultural and economic contexts that influence these policies. It supports the acquisition of theoretical and practical knowledge of the design, implementation and evaluation processes of social welfare policies. The course encourages the use of practice-based research to achieve positive action towards the goal of social justice and equality.

SWGR 505 DIVERSITY AND SOCIAL JUSTICE

3 CREDITS

This course is directed to the study of human diversity and to promote cultural competence among advanced social work students. Students will analyze and evaluate the concepts of human diversity, discrimination, oppression, economic and social inequalities and social justice. Racism, sexism, heterosexism, homophobia, religious fundamentalism, ethnocentrism, classism, ageism and disability status are examined. Strategies are discussed and applied to mitigate the social injustices that affect Puerto Rican society. Students will develop self-awareness of their own social and cultural identities and how it affects their professional relationship with participants.

SWGR 506 SOCIAL WORK WITH INDIVIDUALS AND FAMILIES

3 CREDITS

Introductory course that presents the historical and theoretical foundation of Social Work, its values, and the skills required to serve and work with individuals and families. It promotes a critical analysis and evaluation of the principal models that explain the person's functionality within the environment from a bio-psycho-social perspective. Analyses the Social Worker's role and instill in the students the commitment to work with diverse populations. It allows the development of knowledge of the specific models of intervention. Systemic elements are discussed such as injustice, inequality, racism, discrimination and violence, and their impact on individuals and families. The course explores the different codes of ethics that guide social workers and the legal considerations inherent in the profession. It, also, introduces students to the importance of conducting practice based on research evidence and conducting research on professional interventions and practice.

SWGR 507 SOCIAL WORK WITH GROUPS, COMMUNITIES, AND ORGANIZATIONS

3 CREDITS

The course explores the process of formation, maintenance, and evolution of groups, communities and organizations as social entities from a Social Work perspective. Attention is given to the unique structural characteristics that make up these entities and their roles in the promotion of systemic and structural changes that advance justice and equality. The course addresses the theoretical framework and develops the professional competence to work with groups, communities and organizations. It also examines the socio-economic, political, and cultural aspects as well as the role of minorities in group, community and organizational processes. Focus is placed on the social worker's commitment with social justice, equality and respect for human rights in order to maximize the opportunity of oppressed and alienated groups to participate in the social life and economy of today's Puerto Rico. It emphasizes the ethical and legal responsibility of the professional social worker towards these populations.

SWGR 510 RESEARCH DESIGN

3 CREDITS

This course deals with the methodology of designing scientific social research. It discusses quantitative and qualitative concepts and procedures applying them to the practice of social work. The topics include research development, theoretical approaches, ethics in research, and elements of diversity in the investigation, the discussion comparison and application of quantitative and qualitative designs, samplings, the elaboration of research tools and data and information gathering. It facilitates skill development and fundamental knowledge for the design and completion of research in social work.

SWGR 511 RESEARCH ANALYSIS

3 CREDITS

This is the second part of the 6 credits course centralized in the scientific social investigation in Social Work. It deepens the elements of quantitative and qualitative data analysis as well as the preparation of reports with analyzed data and their conclusions. Among the topics are the techniques for data gathering, validation criteria, reliability and quality in research, data processing and presentation, and the use of programs for quantitative and qualitative analysis. Importance of protection of human subjects and diversity in populations is discussed.

SWGR 555 PRACTICE FOUNDATIONS SEMINAR I

6 CREDITS

The course corresponds to the foundation component of supervised social work generalist practice at the graduate level. It provides training experience in direct service and intensive supervision focused on the importance of acquiring generalist intervention skills with individuals, groups, families, communities and organizations. It is expected that students can consolidate their education at this level based on the foundation of social work given the systemic multiplicity, diversity, equity, welfare and social justice of the client system. In the early stages of the course the social workers in training, within their practice scenario, should analyze, contrast and evaluate individual idiosyncrasy versus the professional role and how to harmonize them, considering the ethical and legal issues which frames their execution. The course encourages students to achieve mastery of the practice scenario, applying their understanding of the services' philosophies, institutional policies and procedures, applying intervention skills under the generalist model, evaluating the relationship of human behavior and their environment from an ecosystems perspective. In addition, the course allows for the integration of social research conducted by students in the practice scenario and in the practice seminar in social work where students attend three hours a week.

SWGR 601 THEORIES AND MODELS OF HUMAN DEVELOPMENT AND BEHAVIOR I

3 CREDITS

This is the first of two courses that introduce students to models and theories of human behavior and development. This course covers the early span of development, from conception through adolescence. Students are required to critically analyze the implications of these models for Puerto Rican society. The most recent research and its application to the diverse populations served by the field of Social Work are examined.

SWGR 602 CLINICAL INTERVENTION I

3 CREDITS

This course is part of advanced component of the curricular model. This is intended to aid to the students, therapeutic skills in the context of clinical social work based on the theoretical and practical components aimed at intervention with individuals, families, couples and groups. The approach is aimed at the development of skills through analysis and application of established models, therapeutic techniques, treatment plans and also by identification of various mental disorders in the Diagnostic and Statistical Manual of Mental Disorders (DSM-V) for precise diagnostics. Several aspects that relate to the environmental and psychosocial functioning in which humans operate are taken into account. Moreover, analysis of the various roles of the social work professionals' functions and activities as well as the personal traits or qualities necessary to facilitate the process and the various clinical intervention strategies is taken into consideration. Similarly, it's intended that students develop the skills necessary to identify the strengths and the importance of prevention promotion in order to achieve improved psychosocial functioning. Students are expected to consider legal ethics, human diversity and culture to identify the needs, problems and concerns that require attention during clinical intervention.

**SWGR 604 SOCIAL WORK MENTAL HEALTH
3 CREDITS**

This course is directed to the analysis and evaluation of the role, function, as well as the social, ethical and legal responsibility of the clinical social worker that provides services to clients that present mental health problems. It focuses on the concepts of mental illness, the elements involved and the factors that influence the development of mental conditions from a biological, systemic and holistic perspective. The course explores the more common mental conditions, their etiology, and prevalence, and the methods of prevention and treatment in accordance with the DSM IV-TR as a tool in the diagnosis of mental illness.

**SWGR 606 THEORIES AND MODELS OF HUMAN DEVELOPMENT AND BEHAVIOR II
3 CREDITS**

This is the second of two courses that introduce students to models and theories of human behavior and development. This course covers the later span of development, from young adulthood to death. Students are required to critically analyze the implications of these models for Puerto Rican society. The most recent research and its application to the diverse populations served by the field of Social Work are examined.

**SWGR 607 CLINICAL INTERVENTION II
3 CREDITS**

This course is part of advanced component of the curricular model. It's designed to continue developing in the student the clinical intervention skills required for the social work field. It also enables students to correctly identify the proper selection of the theoretical model and therapeutic intervention techniques considering the target population. It emphasizes on the analysis of various mental disorders and the situations presented by the participants with the purpose of enabling students to develop effective treatment plans. Provides attention to the discrimination that can occur when an individual is diagnosed with a mental disorder, such as their needs and limitations to human services. Students are expected to further develop the skills in identifying needs, problems and concerns that require attention during clinical intervention.

**SWGR 608 PSYCHOPATHOLOGY, HUMAN BEHAVIOR AND SOCIAL ENVIRONMENT
3 CREDITS**

The course examines the history of mental health in Puerto Rico in its sociocultural context and evaluation of different approaches to studying psychopathology. Student is expected to classify mental disorders, identify its causes, categories, symptoms, severity level, time and specific criteria for effective clinical diagnoses. It is important to analyze the factors that influence the development of mental conditions from a biological, psychological, social and spiritual perspective to a systemic and holistic approach. Likewise, the relationship between human behavior and social environment. The course explores some of the most common mental conditions, their etiology and prevalence, prevention and treatment methods according to the Diagnostic and Statistical Manual of Mental Disorders, as a diagnostic tool for the social worker. The student is directed to the evaluation of the functions, roles and social responsibility as well as the contrast of the ethical and legal aspects of the social worker in clinical practice.

**SWGR 616 SOCIETY AND VIOLENCE
3 CREDITS**

This course examines the nature and causes of violence in society, and how its manifestation contributes and perpetuates violence on an interpersonal and intrafamilial level. A diversity of manifestations of violence will be examined from macro- and micro-system perspectives. Students will also research and examine the systemic and ecological aspects that perpetuate oppression, inequality, and social injustice, and how these affect human and social group behavior and development. Particular focus is placed on the acquisition of the knowledge to identify and assess risk factors, and on the research skills to evaluate, compare, and contrast different prevention and treatment alternatives. In addition, the course will look at case studies that particularly reflect Puerto Rican reality, taking into account the ethical and legal elements that affect social worker's interventions.

**SWGR 620 ADULT AND ELDERLY DEVELOPMENT
3 CREDITS**

This course focuses on the acquisition of knowledge and skills for interventions with adults. It explores factors that promote wellbeing and prevent illness and disorders in adults and the elderly. Bio-psycho-social theories of aging, the impact of health disorders on individuals and family members, and the relationship of race, gender, ethnicity, sexual orientation, and social class to health will be presented.

**SWGR 623 PSYCHOACTIVE DRUGS
3 CREDITS**

This course will address current theories on the use, abuse, and chemical dependency of psychoactive drugs and alcohol. It also evaluates the social worker interventions with populations that face these addictions. The significance of drugs such as caffeine, nicotine, cocaine, opiates, hallucinogens, inhalants, marihuana, amphetamines, sedatives, and alcohol will be discussed according to their classification in the DSM IV-R. On the other hand, theoretical intervention models with active populations will be identified in the use, abuse or dependency of psychoactive drugs and alcohol as well as rehabilitation and relapse prevention services.

**SWGR 625 PSYCHOPHARMACOLOGY AND SOCIAL WORK
3 CREDITS**

This course has a clinical and orientation to practice. The aim is to examine the interaction and impact of psychopharmacological medication as part of treatment of mental health patients. Clinical practice of social work includes the acquisition of knowledge of psychotropic medications, and how they interact with the treatment plan. An integral part of this course is to focus on the design of treatment plans through the use of technology resources, recent research related to therapeutic interventions with families and patients.

**SWGR 627 MENTAL HEALTH SERVICES AND POLICIES
3 CREDITS**

The course discusses the historical development of the mental health services in Puerto Rico. It analyzes the public policies, regulations and the administration of the mental health services, together with the programs, promotional services, prevention, treatment and rehabilitation of children, adolescents and the adult population. The relationship between the governmental sector, private providers, insurers and community-based organizations for the provision of mental health services will be discussed. The impact of federal laws and the financial mechanism for the provision of mental health services will be critically examined. The course will also analyze the stigmatization affecting mental health patients as a human rights and social justice issue.

**SWGR 655 PRACTICUM FOUNDATIONS SEMINAR II
6 CREDITS**

The course corresponds to the advanced curriculum in clinical social work. Allows students to contrast generalist social work and clinical social work and discuss values, ethical and legal issues in professional practice. It is expected that students develop clinical and therapeutic skills for the identification of psychosocial problems on the client system. From this perspective, students will demonstrate practice behaviors and skills in the clinical area to assess human behavior and its relationship with the social environment on the client system for objective clinical analysis of the various situations presented. At this stage it is expected that students, within the practice scenarios, should analyze, contrast and evaluate the intra-psychic world and ecosystem factors in the client system, in order to identify problems, diagnose, select models and therapeutic techniques to guide the design of clinical interventions. The course encourages students to achieve integration of evidence-based practices in the intervention with the client and practice communication strategies with different professionals. In turn, students should reflect on their role and performance to identify strengths and limitations in the training process. In the seminar, where students attend three hours a week, they should evaluate the use of supervision and consultation in social work practice.

**SWGR 665 PRACTICUM FOUNDATIONS SEMINAR III
6 CREDITS**

The course corresponds to the ??advanced curriculum in clinical social work. It provides students the opportunity to continue their development of advanced diagnostic skills, design and implementation of therapeutic interventions with the client system. The course emphasizes effective utilization of the DSM-V for the diagnosis of mental health conditions and the identification of psychosocial problems by the client system and clinical conceptualization, guided by the design and implementation of the treatment plan. From this perspective, students will demonstrate practice behaviors and skills in the clinical area to assess human behavior and its relationship with the social environment on the client system for objective clinical analysis of the various situations presented. During this course it is expected that students integrate their knowledge, values ??and skills expected for the advanced level in social work. The course is designed to strengthen professional identity and strengthen the commitment of the student to work with individuals and groups providing emphasis on intervention with families and couples, by applying appropriate models and therapeutic techniques. In addition, the course encourages students to achieve integration of evidence-based practices in the intervention with the client and to communicate with different professionals. Students must reflect on their role and performance to identify strengths and limitations in the training process. In the seminar, where students attend three hours a week, they should evaluate the use of supervision and consultation in social work practice.

SWGR 670 COMPREHENSIVE EXAM I
0 CREDITS

The comprehensive exam I is an individual exercise course covering the master's degree foundation courses, these are: SWGR 504, SWGR 505, SWGR 506, SWGR 507, SWGR 510, SWGR 601, SWGR 606 and SWGR 555. The exam is divided in three areas: (a) research, (b) foundation, and (c) generalist practice.

SWGR 671 COMPREHENSIVE EXAM II
0 CREDITS

The comprehensive exam II is an individual exercise course covering the master's degree specialization courses, these are: SWGR 511, 602 SWGR, SWGR 607, SWGR 655 and SWGR 665. The exam is divided in three areas: (a) research, (b) specialty, and (c) advance practice.

TEPE 803 MULTIDISCIPLINARY STUDY OF LEARNING IN PHYSICAL EDUCATION

3 CREDITS

Analysis of the theories and principles that explain learning in the human being from multidisciplinary perspectives, such as biological, sociology, anthropological and psychological (cognitive, behavioral, humanistic, socio-cognitive, information processing, socio-cultural, motivation) and its application to physical education. Evaluation of the implications of the theories of learning in light of the curricular and methodological reality of physical education.

TEPE 804 MODELS OF TEACHING IN PHYSICAL EDUCATION

3 CREDITS

Analysis of the beliefs, principles, theories, and research related to the proposed models of teaching in physical education, its organization and planning. Study of the diverse models of teaching and their adequacy in relation to contemporary social-cultural diversity and complexity; different learning styles, individual differences among students, teaching styles, the nature of physical education and the proposed objectives of this discipline. Study of the instructional, technological, and research framework of models of teaching in light of the new tendencies in physical education.

TEPE 805 CURRICULUM DESIGN AND EVALUATION

3 CREDITS

Analysis of contemporary premises, theories and practices in physical education curriculum design, planning, development, evaluation, and research that support them. Discussion of content standards and assessment as part of curriculum design. Analysis of curriculum design as a means to maximize student learning and to improve teaching practice in physical education. Evaluation of different theoretically established models to evaluate diverse existing curriculums in physical education. As part of the course, students will plan, design, evaluate, and perform research related to school or college physical education curriculums.

TEPE 806 MODELS OF LEARNING ASSESSMENT

3 CREDITS

Evaluation of dominant practices and models of learning assessment in three current scenarios: classroom assessment, academic programs assessment, and assessment of educational institutions. Analysis of learning assessment as a strategy to determine institutional effectiveness and academic quality.

TEST 800 DOCTORAL CANDIDACY EXAM

0 CREDITS

Comprehensive Exam of the Doctorate in Counseling Psychology.

TEST 500-1 COMPREHENSIVE EXAM PART 1

0 CREDITS

This course provides students the opportunity and time to prepare for the comprehensive exam. The examination will be offered in writing. In this test, the student will demonstrate mastery of the specialty, through the critical analysis and application. Students will take exams after completing the required courses. The number of times you can take this test is determined by the academic standards of the Institution.

TEST 500-2 COMPREHENSIVE EXAM PART 2

0 CREDITS

This course provides students the opportunity and time to prepare for the comprehensive exam. The examination will be offered in writing. In this test, the student will demonstrate mastery of the specialty, through the critical analysis and application. Students will take exams after completing the required courses. The number of times you can take this test is determined by the academic standards of the Institution.

TEST 500-N COMPREHENSIVE EXAM

0 CREDITS

This course provides students the opportunity and time to prepare for the comprehensive exam. The examination will be offered in writing. In this test, the student will demonstrate mastery of the specialty, through the critical analysis and application. Students will take exams after completing the required courses. The number of times you can take this test is determined by the academic standards of the Institution.

TRED 201 RECREATION AS PLAY THERAPY FOR INFANTS AND CHILDREN

3 CREDITS

Analysis of programs called play therapies that are developed in childcare centers, health centers, children's hospitals and rehabilitation centers and physical therapies with the aim of treating psychological trauma and disabilities in infants and children. Examination of the game as a therapeutic instrument to promote the psychological, cognitive, and natural sensory-motor development in children.

**TRED 202 RECREATIONAL THERAPY WITH MENTAL HEALTH PATIENTS
3 CREDITS**

Study of recreational therapy practices and programs with mental health patients. Analysis of recreation as an instrument to develop social adaptation skills that facilitate the mental health patient to achieve quality of life in and through recreation.

**TRED 203 RECREATIONAL THERAPY WITH GERIATRIC POPULATIONS
3 CREDITS**

Study of recreational therapy practices and programs with the elderly or the elderly. Analysis of recreation as an instrument to assist the elderly to preserve their functionality and quality of life in and through recreation.

**TRED 204 RECREATIONAL THERAPY CLIENT ASSESSMENT
3 CREDITS**

Study of the principles and foundations of assessment, measurement and evaluation applied to the various interventions and practices of evidencing and documenting the progress of patients in recreational therapy programs.

ENGINEERING, DESIGN, AND ARCHITECTURE ACADEMIC DIVISION

**ADID 111 TECHNICAL DRAWING I
6 CREDITS**

This course introduces to the student to the profession of architectural drafting, the basic principles of drawings, laws and regulations. It includes the identification and use of the drawing instruments, alphabet of letters, lines, measurement and scales, applied geometry, orthographic projections, sectionals, isometric views oblique, perspective, auxiliary views, raised hand sketching and sizing. Students will complete their work on a drawing table.

**ADID 121 COMPUTER AIDED DRAWING I
3 CREDITS**

This is an introductory course in the use of AutoCAD computer-aided drafting software. Students will learn the advantages and disadvantages of using computer graphics, as well as fundamental capabilities of AutoCAD such as how to draw and edit entities (lines, circles, arcs, etc.). In addition, the students will learn more advanced concepts such as how to work with layers and how to write text and dimension drawings. The course concludes with a final project that consists of drawing the floor plan, sections, and elevations of a two-bedroom residence.

**ADID 122 TECHNICAL DRAWING II
6 CREDITS**

This course is a continuation of ADID 111 and emphasizes the elements of the architectural sketch such as learning how to draw floor plans, dimensions, elevations (facades) and architectural sections. The symbols and nomenclature will be used in detail. The details in drawings of kitchens, bathrooms, bedrooms and dining rooms will also be discussed. Site and location, plans and other field elements will be examined.

**ADID 223 METHODS AND CONSTRUCTIONS MATERIALS
3 CREDITS**

This course introduces students to the basic principles of the methods and materials used in construction, including the final estimated cost of work. Students will learn about the different government agencies and private associations that govern construction. They will also learn about the different types of materials used to produce the various works, emphasizing concrete and steel, which are very common. The range of information provided will give the student the opportunity to become a versatile draftsman and be useful in drafting the different ideas of professionals with whom he interacts.

**ADID 231 COMPUTER AIDED DRAWING II
3 CREDITS**

This course addresses the advanced AutoCAD technique of creating symbol libraries and working with isometric drawings. The emphasis of the course is on preparing students to produce civil (structural), mechanical (plumbing) and electrical drawings. Students will prepare their own symbol libraries to represent valves, pump, electrical outlets, etc. In addition, students will learn how to use the symbol libraries already created for AutoCAD. The course concludes with a final project, which consists of drawing the structural, plumbing, and electrical drawings of two-bedroom residence. This residence is the same one for which the architectural drawings were prepared in DRAF121 AutoCAD I.

ADID 232 TECHNICAL DRAWING III

6 CREDITS

This course examines the particular requirements to create civil (structural), mechanical (plumbing and HVAC), and electrical drawings. The emphasis is on familiarizing the students with the nomenclature and organization of the drawings. Fundamental principles for each of the subjects will be briefly presented as background. The course concentrates on examining and analyzing several construction drawings donated to engineering professor Juan C. Morales for educational purposes. Students will practice the concepts learned in class during the laboratory session. The laboratory session will include both drafting with instruments and drafting with the computer using AutoCAD.

ADID 240 MECHANICAL DRAWING

3 CREDITS

The course introduces students to the fundamentals of mechanical and industrial design through study and analysis of the physical description of the objects. This course includes topics such as: assembly drawing, welding drawing, structural delineation, industrial pipe drawing, flat air conditioning ducts and introduction to the civil drawing (typography). By using the table and drawing instruments, students develop the manipulative skills required in the plans.

ADID 241 COMPUTER AIDED DRAWING III

3 CREDITS

This course addresses the advanced AutoCAD technique of creating symbol libraries and working with isometric drawings. The emphasis of the course is in preparing civil (structural), mechanical (plumbing) and electrical outlets, etc. In addition, students will learn how to use the symbol libraries already created for AutoCAD. The course concludes with a final project which consists of drawing the structural, plumbing, and electrical drawings of a two-bedroom residence. The residence is the same for which the architectural drawings were prepared in course DRAF 231 AutoCAD II.

ADID 242 TECHNICAL DRAWING IV

3 CREDITS

This course prepares the student in the facet of foundations, situations plan and localization, topographic maps reading and additional topics on surveying like transversal, and card calculation. All work is done in a drawing table. The class concludes with a final project where the student draws the localization of a residential in a level according to the zoning zones.

ADID 250 PORTFOLIO STUDIO

3 CREDITS

This studio will focus on the preparation and refinement of a portfolio that encompasses the student's work within the program and any other distinguishing activity. The goal will be the production of a refined, multifaceted presentation of the student goals and creative vision and his or her ability to engage in professional practice.

ADID 270 INTERNSHIP

3 CREDITS

All students will be required to take part in a professional internship that employs a wide range of skills and knowledge developed in this degree program. Each student will work with a department advisor to fully realize the potential of this experience in an Architectural Drafting industry or giving professional services to an industry in drawing realization.

AETP 202 AIRCRAFT DIGITAL ELECTRONICS

3 CREDITS

Study and analysis of different kinds of flying instruments and their relationship with some numerical systems. Boolean algebra and Karnaugh Maps will be used to analyze, design and construct logic circuits, logic gates, combinational circuits, flip-flops, sequential circuits, counters, registers, multiplexers, memory interfaces, microprocessors and computer software designed for use in aircrafts. The course will be conducted through demonstrations, lecture and interpretation of schematics, case analysis, laboratory practice and responsible use of technology. One semester, 3 hours of integrated lecture and lab per week.

AETP 203 AIRCRAFT COMMUNICATION SYSTEMS

3 CREDITS

This course will provide to the students the ability to develop, construct and analyze different functions of electronic communication systems. The student will distinguish the concepts of AM, FM and Single Side Band in oscillator circuits, tuning circuits, detectors, radio frequency amplifiers, transmission lines and antennas. The students will analyze and probe the characteristics of the concepts of very high frequency (VHF) and trans-receivers of analog, digital and satellite communication. The course will be conducted through demonstrations, lecture and interpretation of schematics, case analysis, laboratory practice and responsible use of technology. -

AETP 204 AIRCRAFT NAVIGATION SYSTEM

3 CREDITS

This course introduces the study and analysis of different kinds of navigation instruments like the very high frequency navigation receiver, the very high frequency omnidirectional range (VOR), the glideslope and marker beacon receivers. The students will analyze the functions of the long-range navigation system, the inertial navigation system, and the global positioning system (GPS). The course will be conducted through demonstrations, lecture and interpretation of schematics, case analysis, laboratory practice and responsible use of technology. One semester, 3 hours of integrated lecture and lab per week.

AETP 206 FUNDAMENTAL PULSE AND RADAR SYSTEM

3 CREDITS

This course emphasizes the study and analysis of pulse and microwave circuits fundamentals typically applied and used in Radar Systems. The students will analyze the radar systems function in areas of weather and search. Elements like transmitters, modulators, and receivers, signal processing and other circuits will be focus of study and verification by the students. This course will be based on demonstrations, lecture and interpretation of schematics, case analysis and laboratory practice. The student will do presentations, written reports, solve assign problems and will complete written and practical tests.

AETP 207 FCC LICENSE REVIEW

1 CREDIT

This course provides to the students the review of learned concepts and its correspondent application with the objective to be certified by the Federal Communication Commission (FCC) with the General Radio-Telephone Operator and Radar Endorsement Licenses (Elements 1, 3 and 8). It will use the pool of questions available in the FCC web page and the equivalent test using the same scales of passing used by the Federal Agency. To be a graduation candidate, the students must pass this course. One semester, 1 hour of lecture.

AETP 302 DIGITAL ELECTRONICS

4 CREDITS

Introduction to Digital Electronics, general principles of Boolean algebra, vocabulary, symbols, logic gates, combinational logic, and devices. Differences between digital vs. analog electronics systems will be analyzed and their uses in modern electronics by using Analog Digital and Digital to Analog converters. The course includes the theory and applications of digital components as Latches, Flip Flops, Timers, Counters, Shift Registers, Multiplexers, Memory and Storage. Students will interact with programmable logic software to implement and practice the acquired knowledge. It will be based on demonstrations, lectures, interpretation of schematics, and case analysis with responsible use of technology to develop higher thinking processes such as scientific and quantitative reasoning, responsible, and critical thinking.

AETP 404 ADVANCED AIRCRAFT NAVIGATION

3 CREDITS

Study and analysis of navigation instruments such as very high frequency navigation receiver, very high frequency omnidirectional range (VOR), the glideslope, and marker beacon receivers. The course focuses on the operation and calibration process of systems such as long-range and inertial navigation, global positioning system (GPS), and Doppler navigation. The course will be conducted through demonstrations, lectures, interpretation of schematics, case analysis, and laboratory practices with responsible use of technology to develop scientific and quantitative reasoning skills. One semester, 1 hour of lecture per week and 2 hours of lab per week.

AETP 405 ADVANCED COMMUNICATION SYSTEMS

4 CREDITS

Introduction to circuits and systems employed for communication systems, methods for their analysis, design, experimental measurement, and characterization. Discussion of AM, FM and Single Side Band in oscillator circuits, tuning circuits, detectors, radio frequency amplifiers, transmission lines, and antennas. Student will learn how to use and manipulate Spectrum Analyzers observing carriers in modulated signals and analyze very high frequency (VHF) transceivers of analog, digital and satellite communication. The course will be conducted through demonstrations, lecture and interpretation of schematics, case analysis, laboratory practice and responsible use of technology to develop scientific and quantitative reasoning.

AETP 410 PULSE AND RADAR SYSTEMS

3 CREDITS

This course emphasizes the study and analysis of pulse and microwave circuits fundamentals typically applied and used in Radar Systems. The students will analyze the radar systems function in areas of weather and search. Elements like transmitters, modulators, and receivers, signal processing and other circuits will be focus of study and verification by the students. This course will be based on demonstrations, lecture and interpretation of schematics, case analysis and laboratory practice. The student will do presentations, written reports, solve assign problems and will complete written and practical tests. One semester, 3 hours of lecture.

AETP 450 ROBOTICS AND DRONES

4 CREDITS

Study of basic concepts, theory and technology of robotics and drones. The course makes emphasis on learn robotics from history (the basic), design, interfacing and programming. On the drone course section, emphasis will be from physics problem during flight to distribution boards. This course is developed by using a balanced approach of theory, electronic simulation, lab projects, and practice.

AETP 470 FCC AND ETA LICENSE REVIEW

2 CREDITS

Review of concepts for Electronics Technicians Association (ETA) Certification and the Federal Communication Commission (FCC) license. The course will focus on key subjects of electronics to help students in the study process. This course will help the student to review FCC regulatory laws and safety needed to be a successful electronic technician.

ARCH 500 ARCHITECTURAL DESIGN I

6 CREDITS

This course is a requirement in this program. It introduces students to fundamental architectural issues — form, program, site, materials, and structure — through projects that emphasize the exploration and conceptual dimensions of architectural design and research.

ARCH 501 INTRODUCTION TO HISTORY AND THEORY

3 CREDITS

This course is a requirement in the program. It is an introductory survey of the history and theory of the western architectural tradition. The course intends to help the student develop an understanding of the social, cultural, political and economic context in which architecture is produced and interpreted. The students will also become familiar with basic terminology and theoretical approaches.

ARCH 505 VISUAL THINKING AND COMMUNICATION

3 CREDITS

This is a required course in the program. It will cultivate the ability to communicate through drawing, thus enhancing visual, perception, and simultaneous thinking while developing the student's representational skills.

ARCH 510 ARCHITECTURAL DESIGN II

6 CREDITS

This course is a requirement in the program. It addresses the role of architecture in constructing social relations by creating innovative proposals for contemporary dwellings and site while exploring the impact of new technological and social developments.

ARCH 511 ARCHITECTURAL HISTORY I

3 CREDITS

This course is a requirement in the program. It focuses its discussions in the architectural production of the 18th and 19th Century and examines the importance of this particular period in the formation of the Modern Movement.

ARCH 512 BUILDING DESIGN, CONSTRUCTION SYSTEMS I: MATERIALS, TECHNOLOGY

3 CREDITS

This course is a requirement in the program. It incorporates the content of Architect Registration Examination 4.0 Building Design and Construction Systems and as stated in NCARB, develops the application of knowledge and skills in the selection of systems, materials, and methods related to building design and construction.

ARCH 513 STRUCTURAL SYSTEMS I

3 CREDITS

This course is a requirement in the program. It incorporates the content of Architect Registration Examination 4.0 Structural Systems and as stated identifies and incorporates the fundamental principles of general structures in the design and construction of buildings.

ARCH 515 COMPUTER STUDIO

3 CREDITS

This course is a requirement in the program. It emphasizes architectural representation and encourages the use of CAD process for exploration and documentation generating three-dimensional renderings and models with Rhino.

ARCH 520 ARCHITECTURAL DESIGN III

6 CREDITS

This course is a requirement in the program. It will explore the conditions that define mixed-use space in a context defined by the inclusion of public space and the city and the interrelationship of site with structure.

ARCH 521 ARCHITECTURAL HISTORY II

3 CREDITS

This course is a requirement in the program. It observes the development of western modernity in the transition between the 19th Century into the 20th Century, to the euphoric utopianism of the Avant Garde, on to Corporate Modernism in the Americas.

ARCH 522 BUILDING SYSTEMS I

3 CREDITS

This course is a requirement on the program. It incorporates the content of Architect Registration Examination 4.0 Building Systems and, as stated, emphasizes on the evaluation, selection, and integration of plumbing and mechanical systems in building design and construction.

ARCH 523 STRUCTURAL SYSTEMS II

3 CREDITS

This course is a requirement in the program. It incorporates the content of Architect Registration Examination 4.0 Structural Systems and as stated identifies and incorporates the fundamental principles of general structures emphasizing on lateral force in the design and construction of buildings.

ARCH 524 CODES AND REGULATIONS

3 CREDITS

This course is a requirement in the program. It incorporates the content of Architect Registration Examination 4.0 from various exams, and incorporates building and specialty codes, zoning, and other regulatory requirements in building design, construction systems and programming and planning in site developments.

ARCH 600 ARCHITECTURAL DESIGN IV

6 CREDITS

This course is a requirement in the program. It focuses on the role of the architectural object as a component of the urban whole. The studio provides for the conception of architecture, not only as an objectified existence, but also as an intrinsic element of an urban system. The course's investigation will begin as an analysis of a localized urban context and will advance its investigations into a second stage, by the selection of a specific site included in the devised master plan.

ARCH 601 THEORY IN ARCHITECTURE

3 CREDITS

This course is a requirement in the program. It offers an overview of the role of treatises in architectural history. It approaches a critical review of influential texts and excerpts that shaped architectural thought and serve as an intellectual scaffolding to scrutinize their further interpretation and application.

ARCH 602 BUILDING SYSTEMS II

3 CREDITS

This course is a requirement in the program. It incorporates the content of Architect Registration Examination 4.0 Building Systems and, as stated, emphasizes on the evaluation, selection, and integration of mechanical, electrical, and specialty systems in building design and construction.

ARCH 604 PROJECT AND PRACTICE MANAGEMENT I: ETHICS, CONTRACTS AND LEGAL ISSUES

3 CREDITS

This course is a requirement in the program. It incorporates the content of Architect Registration Examination 4.0 from various exams and introduces students to the legal and strategic characteristics of the design industry in contemporary professional practice and ethics.

ARCH 610 DESIGN BUILD STUDIO I

6 CREDITS

This course is a requirement in the program. It is the first course of the design/build studio: the application of knowledge and skills required for the schematic design and development of construction documents for a 1,000 sq ft structure. This course will integrate ARCH 612 and ARCH 614 in the studio.

ARCH 612 BUILDING DESIGN AND CONSTRUCTION SYSTEMS II: ENVIRONMENTAL ISSUES

3 CREDITS

This course is a requirement in the program. It incorporates the content of Architect Registration Examination 4.0 Building Design and Construction Systems and, as stated, develops the application of knowledge and skills by applying sustainable design principles to the selection, design and construction of building systems.

ARCH 614 PROJECT AND PRACTICE MANAGEMENT II: COST

3 CREDITS

This course is a requirement in the program. It will introduce the student with different types of estimates, estimating software, the construction estimating process, and estimating the various parts of a project to consider cost implications of design decisions.

ARCH 615 METHODS: SURFACES

3 CREDITS

This course is a requirement in the program. The course investigates materials, methods and strategies for making innovative building forms and systems. It incorporates the learning of computer programs to emphasize in the research and development of digitally fabricated prototypes.

ARCH 700 DESIGN-BUILD STUDIO II: CONSTRUCTION DRAWINGS AND PROJECT MANUAL

9 CREDITS

This course is a requirement in the program. It is the second course of the design/build studio: the programming and planning of the 1,000f2 structure to begin construction. This course will integrate ARCH 702 and ARCH 704 in the studio.

ARCH 704 PROJECT AND PRACTICE MANAGEMENT III: SCHEDULING AND COORDINATION

3 CREDITS

This course is a requirement in the program. It complements ARCH 700 and covers the programming and management process of the design/build project, including the scheduling and coordination of the construction phase.

ARCH 710 DESIGN-BUILD STUDIO III: CONSTRUCTION FIELD HOURS

12 CREDITS

This course is a requirement in the program. It is the last course of the design/build studio: the construction phase of the 1,000f2 structure. This course will integrate ARCH 712 and ARCH 714 in the project execution.

ASCT 100 AVIATION COMMUNICATION

3 CREDITS

Students will be able to describe air traffic control communication procedures, fundamental differences between radar and non-radar operations, how to communicate with air traffic controllers, and how air traffic controllers' sequence and direct aircraft. The course will be conducted through demonstrations, lecture, case analysis, and responsible use of technology. One semester, 2 hours of lecture per week.

ASCT 101 AVIATION WEATHER

3 CREDITS

In-depth coverage of meteorological phenomena affecting aircraft flight. Topics include basic concepts of aviation meteorology in the study of temperature, pressure, moisture, stability, clouds, air masses, fronts, thunderstorms, icing, and fog. Also includes analysis and use of weather data for flight planning. The course will be conducted through demonstrations, lecture, case analysis, and responsible use of technology. One semester, 3 hours of lecture per week.

ASCT 102 AIRCRAFT SYSTEMS

3 CREDITS

Study of the general principles, operation, and application of pneumatic, hydraulic, electrical, fuel, environmental, protection and warning systems. Emphasis on types of aircraft structures and their control systems. The course will be conducted through demonstrations, lecture, case analysis, and responsible use of technology. One semester, 3 hours of lecture per week.

ASCT 103 PHYSIOLOGY AND PSYCHOLOGY OF FLIGHT

3 CREDITS

Instruction in flight physiology, the decision-making process, pilot health maintenance, psychological aspects of flight, human behavior as related to the aircraft cockpit, and aeromedical information of significance to flight crews. The course will be conducted through demonstrations, lecture, case analysis, and responsible use of technology. One semester, 3 hours of lecture per week.

ASCT 105 AVIATION SAFE LAW REGULATION

3 CREDITS

This course familiarizes the aviation students with both past and present legislative processes, public opinions, and political climates that have led to the creation of vast bodies of rules and regulations that govern pilots, aircraft owners, and aircraft operators. Discussion will include Title 14 CFR (the Federal Aviation Regulations) as set forth by the FAA, and then expand to include rules from other federal agencies such as the DOT, NTSB, TSA, and Congress. Consideration will also be given to state and local entities whose laws affect aviation. This course places special emphasis on current issues in aviation regulation and provides the student the opportunity to take an active role in the rule making process. The course will be conducted through demonstrations, lecture, case analysis, and responsible use of technology. One semester, 2 hours of lecture per week.

ASCT 106 AIRPORT MANAGEMENT

3 CREDITS

A study of the major functions of airport management including facilities and services, organization, human resources, maintenance, planning and zoning, operations, revenues and expenses, public relations, ecology, and safety. The course will be conducted through demonstrations, lecture, case analysis, and responsible use of technology. One semester, 3 hours of lecture per week.

ATPP 200 PRIVATE PILOT GROUND SCHOOL

3 CREDITS

This introductory level course provides the classroom instruction in preparation for initial flight training and the FAA Private Pilot Airplane Knowledge Test. Topics include the science of flight, airplane systems and instruments, weight and balance, aircraft performance, meteorology, physiology of flight, basic navigation techniques, radio navigation, the Air Traffic Control system, radio communications and Federal Aviation Regulations. Students who complete the course satisfactorily may earn the required endorsement to take the FAA Private Pilot Airplane Knowledge Test. Students are required to be enrolled in, or have completed, this course prior to beginning Primary Flight training. The course will be conducted through demonstrations, lecture, case analysis, and responsible use of technology. One semester, 3 hours of lecture per week.

ATPP 211 PRIVATE PILOT FLIGHT PRACTICE

3 CREDITS

This course uses Advanced Aviation Training Devices (AATDs) to familiarize flight students with the basic controls, instruments, communication and navigation radios, and operation of a typical light aircraft used for flight training. Students will "fly" approximately 8 hours and observe approximately 8 hours on the AATDs and may log up to 5 hours of that time towards their Private Pilot certificate as allowed by Federal Aviation Regulations Parts 61 and 141. The course will be conducted through demonstrations, flight simulator, and responsible use of technology. One semester, 1 hour of lecture per week.

ATPP 204 INSTRUMENT PILOT GROUND SCHOOL

3 CREDITS

This course prepares the student for instrument flight training and the FAA Instrument Airplane Knowledge Test. Topics include aircraft flight instruments, flight by instrument reference, flight physiology, IFR aircraft operations and procedures, aircraft performance, the Air Traffic Control system, radio navigation and charts including standard departure procedures (DPs). Also includes enroute (Lcharts), standard terminal arrival routes (STARs), and instrument approach procedures (IAPs), IFR flight planning, IFR regulations, aviation weather, aviation weather charts, and acquisition of aviation weather. Students who complete the course satisfactorily may earn the required endorsement to take the FAA Instrument Rating Knowledge Test. The course will be conducted through demonstrations, lecture, case analysis, and responsible use of technology. One semester, 3 hours of lecture per week.

ATPP 212 INSTRUMENT PILOT FLIGHT PRACTICE

3 CREDITS

This course uses Advanced Aviation Training Devices (AATDs) to introduce students to basic instrument flying, communications, navigation, holding patterns, and instrument approaches. Students will “fly” approximately 15 hours and observe approximately 15 hours on the AATDs and may log up to 20 total hours – minus any previous simulator time – towards their Instrument Rating as allowed by Federal Aviation Regulations Parts 61 and 141. The course will be conducted through demonstrations, the use of an AATD, and responsible use of technology. One semester.

ATPP 207 COMMERCIAL PILOT GROUND SCHOOL

3 CREDITS

This course prepares students for commercial pilot training and the FAA Commercial Pilot Airplane Computer-Based Knowledge Test. This course provides insight into advanced aircraft system such as turbo-charging, high performance engines, retractable landing gear and environmental systems. Weight and balance of larger aircraft, advanced performance charts and maximizing aircraft performance will also be discussed, as will regulations of interest to the commercial pilot. Students who complete the course satisfactorily may earn the required endorsement to take the FAA Commercial Pilot Airplane Knowledge Test. The course will be conducted through demonstrations, lecture, case analysis, and responsible use of technology. One semester, 3 hours per week.

ATPP 213 COMMERCIAL PILOT FLIGHT PRACTICE

3 CREDITS

This course uses Advanced Aviation Training Devices (AATDs) to expose students to a wide variety of operating and flight conditions, advanced flight planning and navigation, in-flight decision making and emergency situations. Students will “fly” approximately 30 hours on the AATDs and may log up to 50 total hours – minus any previous simulator time – towards their Commercial Pilot Certificate as allowed by Federal Aviation Regulations Parts 61 and 141. The course will be conducted through demonstrations, the use of an AATD, and responsible use of technology. One semester.

CEN 337 CONSTRUCTION DRAWINGS AND DETAILS

3 CREDITS

Three hours of lecture per week. Fundamentals for interpretation of construction plans. Documentation and legal importance of construction plans and details. Review of different types of drawings, as well as fundamentals of scale and dimensions, specifications, terminology and typical details.

CEN 403 SPECIAL TOPICS: STRUCTURES AND GEOTECHNICS

3 CREDITS

Three hours of lecture per week. Analysis and discussion of relevant topics in Structural and Geotechnical Engineering. Course format depends on the specific topic to address. Special problems to be offered by civil engineering faculty with specialization in Structures or Geotechnics.

CEN 406 SPECIAL TOPICS: ENVIRONMENTAL AND WATER RESOURCES

3 CREDITS

Three hours of lecture per week. Analysis and discussion of relevant topics in Environmental Engineering and Water Resources. Course format depends on the specific topic to address. Special problems to be offered by civil engineering faculty with specialization in environmental engineering or water resources.

CEN 407 SPECIAL TOPICS: CONSTRUCTION MANAGEMENT

3 CREDITS

Three hours of lecture per week. Analysis and discussion of relevant topics in construction management engineering. Course format depends on the specific topic to address. Special problems to be offered by civil engineering faculty with knowledge in construction management.

CEN 408 SPECIAL TOPICS: TRANSPORTATION

3 CREDITS

Three hours of lecture per week. Analysis and discussion of relevant topics in Transportation Engineering. Course format depends on the specific topic to address. Special problems to be offered by civil engineering faculty with specialization in transportation.

CEN 411 PRINCIPLES OF SURVEYING FOR ENGINEERS

3 CREDITS

Three hours of lecture per week. Basic concepts of surveying such as units of measurement, vertical and horizontal distance, and angle measurement. Surveying application topics include Control Surveys, Topographic Surveys, Principles of Leveled and Underground Routing, Global Positioning Systems and Geographic Information Systems. Describe the modern trends in the surveying practice. Analysis and preparation of surveying maps.

CIEN 420 CIVIL ENGINEERING MATERIALS

2 CREDITS

Two hours of lecture per week. Analysis of mechanical and nonmechanical properties of civil engineering materials. Description of the production process of steel, aluminum, asphalt, composites and Portland cement. Study of the materials structure and bonding at the molecular level. Analysis of the physical behavior of civil engineering materials. Appropriate material selection in the design phase and in the life-cycle cost of engineering facilities. Quality control procedures in the manufacturing and placing of Portland cement concrete and hot-mix asphalt.

CIEN 420L CIVIL ENGINEERING MATERIALS LABORATORY

1 CREDIT

Three hours of laboratory work per week. The course introduces the concepts, techniques, and devices used to measure engineering properties of steel, aluminum, asphalt, and Portland cement. Special emphasis on measurement of load-deformation characteristics and failure modes of materials. Experiments include data collection, data analysis, and interpretation and presentation of results.

CIEN 430 STRUCTURAL ANALYSIS I

3 CREDITS

Three hours of lecture per week. Classification and calculation of design loads based on adopted design codes. Evaluation of the stability of structures and their classification as determinate or indeterminate. Analysis and calculation of reactions, internal forces and deflections of statically determinate and indeterminate beams, frames and trusses. Construction of influence lines for statically determinate structures. The course includes the use of computer applications for the analysis of structures.

CIEN 431 STRUCTURAL ANALYSIS II

3 CREDITS

Three hours of lecture per week. Analysis of statically indeterminate beams, frames and trusses using the displacement method. Fundamentals concepts of the stiffness method for structural analysis. The course includes the use of computer applications for the analysis of structures.

CIEN 432 REINFORCED CONCRETE DESIGN

3 CREDITS

Three hours of lecture per week. Analysis of reinforced concrete members subject to flexure, axial and shear loads. Topics include design of slabs, beams, columns and spread footings based on the strength design method. Description of the basic properties of concrete and reinforcing steel. Analysis of the load paths from floor slab to floor beams to columns to footings of a typical reinforced concrete framing system. Serviceability criteria for the design of reinforced concrete structures.

CIEN 434 STRUCTURAL STEEL DESIGN

3 CREDITS

Three hours of lecture per week. Behavior and design of structural steel members including tension members, welds, laterally supported and continuous beams, columns, and connections based on the Load and Resistance Factor Design method. Description of basic properties of steel, concepts of safety and load as they relate to structural steel design. Serviceability criteria for the design of steel structures.

CIEN 436 DESIGN OF WOOD STRUCTURES

3 CREDITS

Three hours of lecture per week. Engineering principles and specifications for designing wood structural members. Topics include design of beams, columns, roof diaphragms, and shearwalls. Specifications for designing wood structural connections using dowels, such as nails, bolts and lag-screws. Description of physical and structural characteristics of solid lumber and other wood products, such as plywood, laminated veneer lumber, parallel strand lumber, and composite wood I-joists.

CIEN 440 INTRODUCTION TO GEOTECHNICAL ENGINEERING

2 CREDITS

Two hours of lecture per week. Engineering properties of soils including their descriptions and classifications, the effects of water, soil strength and compressibility. Consolidation, permeability and seepage characteristics of soils. Evaluation of shear strength and compressibility parameters from laboratory test data. Calculation of stress changes in soil due to foundation loads. Description of the emergence of modern geotechnical engineering.

CIEN 440L INTRODUCTION TO GEOTECHNICAL ENGINEERING LABORATORY

1 CREDIT

Three hours of laboratory per week. Laboratory methods to determine engineering properties of soils. Laboratory tests will be conducted to obtain index and mechanical properties such as water content, specific gravity, grain size distribution, permeability, rate of volume change and strength.

CIEN 444 FOUNDATION ENGINEERING

3 CREDITS

Three hours of lecture per week. Analysis and design of foundations for engineering structures and the evaluation of subsoil conditions as they affect their behavior, proportions, and choice of type of said foundation. Interpretation of results from different tests available for subsurface exploration and characterization. Identification of major types of shallow and deep foundations. Design of earth retaining structures. Evaluation of the effects of water and layered soil systems on foundation performance. Identification of common soil improvement techniques.

CIEN 450 HYDROLOGY AND HYDRAULICS

3 CREDITS

Three hours of lecture per week. Fundamental principles of fluid mechanics such as conservation of mass, energy, and momentum; and their application to the hydrologic flow components and to the operation of pipeline, pump, and open channel hydraulic systems. Basic principles of the hydrologic cycle and watershed hydrology.

CIEN 461 INTRODUCTION TO ENVIRONMENTAL ENGINEERING FOR CE

3 CREDITS

Three hours of lecture per week. Fundamental concepts in environmental engineering concerning global warming, sustainability, water quality and treatment, wastewater treatment, air pollution, solid-waste management, and green engineering. Derive and solve mass balance problems in environmental engineering for steady and non-steady systems. Description of appropriate strategies to produce high quality drinking water. Study of the most common sewage treatment plant tests and determination of the efficiency in removing residue.

CIEN 462 ENVIRONMENTAL ENGINEERING AND WATER RESOURCES LABORATORY

1 CREDIT

Three hours of lecture/laboratory per week. Laboratory methods and interpretation of results for chemical and biological analyses of water and wastewater. Testing procedures such as solids determination, measurement of chemical oxygen demand and dissolved oxygen, chloride concentration, chlorine demand will be conducted to determine water quality. Measurement of flow, volume and hydrostatic loads in open and closed channels.

CIEN 465 WATER AND WASTEWATER ENGINEERING

3 CREDITS

Three hours of lecture per week. Analysis of water distribution systems providing comprehensive coverage of hydrology, hydraulics, and water-resources planning and management. The material is rigorous, relevant to the practice of water resources engineering, and reinforced by detailed presentations of design applications. Description of the design and process of flow in closed conduits, pumps, pumps selection, design of water distribution systems, water demand, estimation of per-capital demand, pipelines, design of drainage channels, design of sanitary sewers, design of hydraulic structures. The course examines the needs for water distribution and how to achieve it by drinking water treatment, wastewater treatment, and other water control strategies. The emphasis of the course is on principles and theory.

CIEN 470 CONSTRUCTION PROJECT MANAGEMENT

3 CREDITS

Three hours of lecture per week. Construction management tasks such as project documentation, job scheduling, cost estimating, quality control, and safety management. The construction process and the roles of the different participants. Computer implementation of cost estimates and schedules of work. Different types of bonds and insurances necessary for a construction project. Change orders and their impact on the completion time and additional costs of the project. General conditions established in a construction contract.

CIEN 474 CONSTRUCTION COST ESTIMATES

3 CREDITS

Three hours of lecture per week. Principles and techniques of estimating construction costs, with emphasis on quantity take-off and pricing elements of work. Discussion of the different estimating methods. Interpretation of construction drawings and specifications. Steps in construction estimating planning. Use of estimating tools, work breakdown structure, and coding systems. Calculation of labor, materials, and equipment costs.

CIEEN 480 TRANSPORTATION AND TRAFFIC ENGINEERING

3 CREDITS

Three hours of lecture per week. Fundamental principles of traffic flow, operations, and controls. Capacity analysis and level of service evaluation of highways. Characteristics of transportation system components. Evaluation of the operation of signalized and unsignalized intersections. Calculation of trip generation, mode choice, and route choice parameters given typical models for each. Types of queue analysis used in traffic engineering.

CIEEN 484 HIGHWAY ENGINEERING

3 CREDITS

Three hours of lecture per week. Geometric design of highways. Analysis, behavior, performance, and structural design of pavements for highways. Pavement management and rehabilitation. Soil engineering for highway design.

CIEEN 490 CIVIL ENGINEERING DESIGN PROJECT

3 CREDITS

Three hours of lecture per week. Design of a project that integrates technical areas of the civil engineering profession. Development of design alternatives, including computational methodology, plans, cost estimates, and specifications. The course prepares civil engineering students to use advanced technology to analyze and design engineering elements and systems according to industry standards.

CIEEN 498 UNDERGRADUATE RESEARCH I

3 CREDITS

Three hours of lecture per week. Student will perform scientific/engineering research, supervised by a Civil Engineering Department faculty member. Weekly schedule to be agreed between student and faculty member.

CIEEN 499 UNDERGRADUATE RESEARCH II

3 CREDITS

Three hours of lecture per week. Student will perform scientific/engineering research, supervised by a Civil Engineering Department faculty member. Weekly schedule to be agreed between student and faculty member. In this course, the student must continue their research and demonstrate deeper understanding, if the student wants to change research topic, the student must prepare the literature review before the chairperson approves enrollment.

COMP 311 DISCRETE MATHEMATICS FOR ENGINEERS

3 CREDITS

Three credit-hours. Three credit-hours of lecture per week. This is an introductory course in discrete mathematics. It covers fundamentals of logic, proofs, set theory, number theory, finite state machines, computational complexity, recurrence relations, discrete probability, and graph theory with an emphasis on engineering applications.

COMP 315 ANALYSIS AND DESIGN OF DATA STRUCTURES AND ALGORITHMS

3 CREDITS

Three credit-hours. Three credit-hours of lecture per week. This course is an introduction to data structures and algorithm design as fundamental topics in computer engineering. This course includes the design of efficient algorithms, abstract data types such as linked lists, queues, stacks, binary trees, complexity analysis, sorting, searching, and recursive algorithms.

COMP 315L ANALYSIS AND DESIGN OF DATA STRUCTURES AND ALGORITHMS LAB

1 CREDIT

One credit-hour. One three-hour lab session per week. This course supplements the topics and activities presented in COMP 315. It offers students the opportunity to hone their skills with additional practice in a programming language as applied to data structures and design of algorithms.

COMP 411 NUMERICAL METHODS WITH PROGRAMMING

3 CREDITS

Three credit-hours. Three hours of lecture per week. This course targets students who have working knowledge in one or more programming languages such as C, C++, and Java, or computational tools such as Matlab. This course introduces algorithm development to solve mathematical problems such as root finding, interpolation and approximation, integration, solution to initial value problems (IVP) arising from first- and second-order ordinary differential equations (ODE), and direct and iterative methods for solving systems of linear equations.

CPEN 358 OBJECT-ORIENTED PROGRAMMING

3 CREDITS

Three credit-hours. Three hours of lecture per week. This course provides in-depth coverage of object-oriented programming principles and techniques. Topics include classes, interfaces, UML, data abstraction, information hiding, encapsulation, inheritance, and polymorphism, file processing, generic programming, exceptions, abstract classes, nested classes, and aggregation.

CPEN 358L OBJECT-ORIENTED PROGRAMMING LABORATORY

1 CREDIT

One credit-hour. One three-hour lab session per week. This course supplements the topics and activities presented in CPEN 358. It offers students the opportunity to hone their skills with additional practice in a programming language as applied to object-oriented programming.

CPEN 410 MOBILE WEB AND INTERNET PROGRAMMING

3 CREDITS

Three credit-hours. Three hours of lecture per week. This course serves as an introduction to the technologies and concepts underlying software development for mobile devices. It also introduces students to responsive web application programming techniques. The course focuses on installing, developing, testing, and distributing mobile applications. It also introduces network-centric mobile software development. This course will cover TCP/IP protocol stack, concurrency, HTML, CSS, Java Scripts, Java server pages (JSP), Java Servlets, and database connection to web applications.

CPEN 425 SOFTWARE ENGINEERING

3 CREDITS

Three credit-hours. Three hours of lecture/laboratory per week. This course covers the techniques used during the software development cycle: specification, design, testing, documentation, and maintenance. Software and hardware integration is also discussed. The course requires the design, implementation, and management of a software engineering project.

CPEN 444 COMPUTER ARCHITECTURE AND ORGANIZATION

3 CREDITS

Three credit-hours. Three hours of lecture per week. Survey of the basic concepts of computer design. Information representation, instruction sets, addressing modes, arithmetic/logic units, floating point units, control units, microprogramming, hardwired control, memory hierarchy, caches, associative memory, memory management, input-output, DMA, interrupts, system organization, CISC, RISC, super scalar machines, special purpose machines, and multiprocessing.

CPEN 452 OPERATING SYSTEMS

3 CREDITS

Three credit-hours. Three hours of lecture/laboratory per week. Introduction to basic operating systems concepts, UNIX operating system, process management, communication and scheduling; I/O devices, drivers, interrupts handlers, and deadlock; memory management, swapping and virtual memory; file systems, security, and protection mechanisms.

CPEN 455 INTRODUCTION TO DATABASES

3 CREDITS

Three credit-hours. Three hours of lecture/laboratory per week. This is an introductory course in database management systems with emphasis on relational database design and applications development. Topics include entity-relationship model, relational model, object-oriented model and object-relational model; database design techniques such as E-R modeling, E-R to relational mappings, functional, and normalization; structured query language (SQL); applications servers and DBMS; transaction processing and database recovery; DBMS implementation techniques such as storage management, indexing, and access methods, query evaluation, and optimization.

CPEN 456 DATABASE MANAGEMENT SYSTEMS

3 CREDITS

Three credit-hours. Three hours of lecture per week. This course introduces some techniques for traditional building of relational database management systems (DBMS). The course focuses on design, implementation, performance, and reliability considerations for DBMS. It emphasizes database engine architecture, disk storage organization, buffer management, B+-trees indexing, hash-based indexing, traditional join algorithms, two-phase locking and concurrency, write-ahead logging, query optimization, database benchmarking, object-oriented databases, data warehousing, and data mining.

CPEN 457 PROGRAMMING LANGUAGES

3 CREDITS

Three credit-hours. Three hours of lecture per week. Comparative study of programming paradigms including imperative, object-oriented, functional, logic, and concurrent programming with focus on main features produced by different languages for specific applications. Topics include formal specification of the syntactic structure of a language, context-free grammars, parsing, and principles of language design.

CPEN 458 INTRODUCTION TO COMPUTERS

3 CREDITS

Three credit-hours. Three hours of lecture per week. This course is an introduction to specifications and implementation of modern compilers. It addresses the techniques involved in source languages analysis and efficient generation of object codes with an emphasis on the components of a compiler. Topics include lexical analysis, parsing, type checking, code generation and translation, optimization, and implementation of modern programming languages.

CPEN 459 ARTIFICIAL INTELLIGENCE

3 CREDITS

Three credit-hours. Three hours of lecture per week. This course will introduce the basic principles in artificial intelligence research. Topics include simple representation schemes, problem solving paradigms, constraint propagation, and search strategies. Application areas such as knowledge representation, natural language processing, expert systems, robotic vision and machine learning will be explored.

CPEN 478 DISTRIBUTED SYSTEMS

3 CREDITS

Three credit-hours. Three hours of lecture per week. This course covers several topics in distributed systems. Topics include operating system architectures, network, distributed, and autonomous systems; design, concurrent programming, client/server models, synchronization, distributed process communication, time and resource scheduling, distributed/shared files and memory.

CPEN 481 TELECOMMUNICATION NETWORKS AND SECURITY

3 CREDITS

Three credit-hours. Three hours of lecture per week. This course introduces participants to the key concepts of data communications, telecommunications, networking, technologies, components, and protocols used in local area networking (LAN) and wide area networking (WAN) environments. Students will learn about the popular LAN protocols of Ethernet, Token Ring, and asynchronous transfer mode (ATM), with emphasis on all speeds of Ethernet. This course also introduces the most widely used network operating systems. Basic network design and security concepts are discussed.

CPEN 488 ADVANCED COMPUTER ARCHITECTURES

3 CREDITS

Three credit-hours. Three hours of lecture per week. This course provides an in-depth overview of the current state of the art in high-performance computing. Topics to be covered include the history of computational science, processor architectures, multi-core systems, memory systems for high performance, input/output devices, ultra-scsi, fiber channel, and storage area networks. Introduction to parallel computing, supercomputing, grid computing, cluster computing, Beowulf systems, and performance benchmarks. Survey of supercomputer applications such as scientific visualization, ocean and atmospheric models, fluid flow, wave propagation, and np-complete problems.

CPEN 491 SENIOR DESIGN PROJECT I

3 CREDITS

Three credit-hours. Three hours of lecture and seminar/workshop per week. Lecture discussion, seminars, workshops, and laboratory practice on a specific project. Analysis, simulation, and development of a design project. Discussion of alternative designs. Discussion of appropriate standards and realistic design constraints such as cost, environmentally friendly manufacturing, aesthetics, safety, possible social and political impact, and ethical considerations. Ethics workshops. Integration of hardware and software where appropriate. Seminars and workshops on contemporary issues. Teamwork required.

CPEN 492 SENIOR DESIGN PROJECT II

3 CREDITS

Three credit-hours. Three hours of workshop and sessions of experimental practice per week. Hands-on workshops and experimental practice on a specific project. Development, analysis, simulation, and implementation of a major design project to solve a specific problem in an industry or enterprise. Integration of hardware and software where appropriate. Teamwork required.

CPEN 497 SPECIAL TOPICS

3 CREDITS

Three credit-hours. Three hours of lecture per week. This is a series of lectures and/or seminars on topical issues in computer engineering.

CPEN 502 ADVANCED ANALYSIS & DESIGN OF ALGORITHMS

3 CREDITS

Three credit-hours. Three hours of lecture per week. This course covers the fundamentals of analysis and design of algorithms, complexity of algorithms, searching, sorting, pattern matching, combinatorial problems, and graph algorithms.

CPEN 503 COMPUTER AND NETWORK SECURITY

3 CREDITS

Three credit-hours. Three hours of lecture per week. This course covers the basics of computer and network security. Topics in computer security include cryptography; security of computer programs, databases, operating systems; and multi-level security. Topics in network security include confidentiality, authentication, secure electronic transactions, IP security, intrusion detection, and firewalls.

CPEN 504 ADVANCED COMPUTER ARCHITECTURES

3 CREDITS

Three credit-hours. Three hours of lecture per week. This course provides an overview of high-performance computing: processor architectures, memory, input/output devices, interfaces, and storage area networks; parallel computing, grid and cluster computing, and Beowulf systems.

CPEN 505 DATABASE MANAGEMENT SYSTEMS

3 CREDITS

Three credit-hours. Three hours of lecture per week. This course introduces techniques for building relational database management systems (DBMS): database architectures, storage, buffer management, indexing, algorithms, concurrency, query optimization, benchmarking, object-oriented databases, data warehousing, and data mining.

CPEN 511 DISTRIBUTED SYSTEMS

3 CREDITS

Three credit-hours. Three hours of lecture per week. This course covers several topics in distributed systems: operating system architectures, network, distributed, and autonomous systems; design, concurrent programming, client/server models, synchronization, distributed process communication, time and resource scheduling, distributed/shared files and memory.

CPEN 520 NUMERICAL OPTIMIZATION

3 CREDITS

Three credit-hours. Three hours of lecture per week. This course introduces the central ideas behind the algorithms for the numerical solution of both unconstrained and constrained optimization problems.

CPEN 550 OPERATING SYSTEMS PROGRAMMING

3 CREDITS

Three credit-hours. Three hours of lecture per week. This is an advanced course in operating systems (OS). It focuses on the design and construction of a modern OS kernel. Topics include booting, system calls, process and thread abstractions, scheduling, synchronization, inter-process communication, memory management, file systems, device drivers, and network management.

CPEN 552 COMPUTER GRAPHICS

3 CREDITS

Three credit-hours. Three hours of lecture per week. This course is a hands-on class on advanced computer graphics. It covers major aspects of digital image generation: geometric modeling, computer animation, and rendering.

CPEN 640 EMBEDDED SYSTEMS

3 CREDITS

Three credit-hours. Three hours of lecture per week. This is an introductory course in embedded systems. The course is project-oriented and emphasizes application issues, system specifications and modeling, system languages, synthesis, and verification.

CTEC 210 OPERATING SYSTEMS, INSTALLATION AND CONFIGURATION

3 CREDITS

This course covers all software components comprising a PC. It introduces every component and analyses its functionalities and weaknesses. It analyses the role of each component in supporting an application and the user functional goal. It presents the PC as a package of matched components and dissects all of its internals individually and integrally. Some of the software components covered are: the operating system and its subcomponents, data communications software components, DOS components, peripheral administration components, Windows Systems architecture, disk operating software, essential user applications, memory management software, and software upgrades management. The course covers in detail the diagnosis, procedures and resolution of software problems. It also deals with the Virus problem and the most effective software solutions. Finally, it covers Networking from a software perspective.

CTEC 220 FUNDAMENTALS OF COMPUTERS, PERIPHERALS AND OPERATING SYSTEMS

3 CREDITS

This course covers all components and ancillary systems comprising a personal computer. It introduces every component and analyses its functionalities and weaknesses. It presents the PC as a package of matched components and dissects all its internals individually and integrally. Also, this course covers all software components comprising a PC. It analyses the role of each component in supporting an application and the user functional goal. Some of the software components are the operating system and its subcomponents. It covers in detail software problems in detail.

CTEC 220L LABORATORY OF FUNDAMENTALS OF COMPUTERS, PERIPHERALS AND OPERATING SYSTEMS

1 CREDIT

This course covers all components and ancillary systems comprising a personal computer. It introduces every component and analyses its functionalities and weaknesses. It presents the PC as a package of matched components and dissects all its internals individually and integrally. Also, this course covers all software components comprising a PC. It analyses the role of each component in supporting an application and the user functional goal. Some of the software components are the operating system and its subcomponents. It covers in detail software problems in detail.

CTEC 222 PRINCIPLES OF COMPUTERS, PERIPHERALS AND OPERATING SYSTEMS

4 CREDITS

This course covers all components and ancillary systems comprising a personal computer. It introduces every component and analyses its functionalities and weaknesses. It presents the PC as a package of matched components and dissects all its internals individually and integrally. This course also covers all software components comprising a PC. It analyses the role of each component in supporting an application and the user functional goal. Some of the software components are the operating system and its subcomponents. It covers software problems in detail.

CTEC 230 FUNDAMENTALS OF INTERMEDIATE PROGRAMMING

3 CREDITS

This is an intermediate-level course in computer programming. It provides a wealth of current, real-world applications, and examples drawn from the scientific and engineering fields. It allows students to fully exploit the potential uses of C and C++ programming languages. This course includes problem analysis and design of algorithms, programming structures, modular programming, sorting, searching, pointers, multidimensional arrays, string processing, structures, and file processing.

CTEC 340 PROGRAMMING FOR THE WEB

3 CREDITS

This course provides the student with a basic understanding and skills to program for Web Sites. It covers the basics of Data Base manipulation techniques using MySQL and PERL. It covers matters such as configuration for DBA systems on the Web, Perl scripts, performance, and error handling. Finally, the students are presented with a live example of a simple Web Based DBA control application. The course then focuses on one of today's most important development in suite/environment, the Macromedia Dreamweaver/Flash environment. It covers the complete development cycle using these tools, from plan to publishing and maintenance. Matters such as Dreamweaver graphics, formatting for the Web, style sheets, cascading sheets, dimensional tables, forms, frames, templates, layers, animation and others are covered. It also covers Fireworks image and text manipulations, working with objects, effects, creating buttons, backgrounds, hotspots, sliced images, rollovers, integrating Fireworks images with HTML applications and finally, auditing and publishing a Web Site and post publishing practices.

CYBR 501 NETWORK SECURITY I

3 CREDITS

Three credit-hours. Three hours of lecture per week. Introduces basic concepts of network security with a strong emphasis on cryptography and cryptographic techniques. Topics to be covered include classical encryption, data encryption standard, advanced encryption standard, symmetric key ciphers, public and private key cryptography and key management. Introduction to number theory concepts needed to understand public key cryptography.

CYBR 502 COMPUTER SECURITY I

3 CREDITS

Three credit-hours. Three hours of lecture per week. The fundamental tools and techniques for computer security are discussed in the context of the pervasive role and impact that computer technology has over the individual, the enterprise and on society-at-large. Topics covered include computer viruses, operating systems, program security, database security, legal, privacy and ethical issues.

CYBR 521 NETWORK SECURITY II

3 CREDITS

Three credit-hours. Three hours of lecture per week. Introduces advanced concepts of network security with an emphasis on hashing functions and algorithms and their applications to network security. Topics to be covered include message authentication, digital signatures, kerberos, electronic mail security, pretty good privacy, s/mime, ip security (IPSEC), secure socket layer (SSL), transport layer security (TLS), wireless security (WEP, WPA, WPA2), intrusion detection systems (IDS), intrusion prevention systems (IPS) and firewalls.

CYBR 522 COMPUTER SECURITY II

3 CREDITS

Three credit-hours. Three hours of lecture per week. Selected advanced topics in computer security are discussed in the context of the pervasive role and impact that computer technology has over the individual, the enterprise and on society-at-large. Core topics to be covered include penetration testing with Kali Linux which will take up the first half of the course. Other selected topics will vary from time to time and will typically include information assurance, data backup and redundancy, digital rights management, botnets, risk analysis and identity theft.

CYBR 600 CYBER FORENSICS

3 CREDITS

Three credit-hours. Three hours of lecture per week. Introduction to computer forensics. Overview of evidence acquisition and archiving. Locards Exchange Principle and the order of volatility (rfc 3227). Preservation of volatile and non-volatile data. Analysis of data files including graphics files, email, executable and non-executable files. Report writing, expert testimony and ethics. Case studies and forensic software tools. Overview of DOS File System. Introducción al análisis Cibernético Forense.

DESI 121 DRAWING I

3 CREDITS

In this studio course students will be introduced to the basic drawing skill required for the representation of objects, figures and spaces. The importance of sketching as a means of recording and demonstrating concepts and processes will be emphasized. Black and white media, in particular pencil, pen and marker will be emphasized. The development of fundamental drawing skills and standard manual product illustration skills will be stressed.

DESI 285 DIGITAL PHOTOGRAPHY

3 CREDITS

This course develops students' creative vision of the photographic composition that is necessary for application in the design world, beginning with analog photography and ending with digital photography. Students will work with different formats for digital images. They will learn how to work with the most useful software in the digital images industry, as a tool for managing and manipulating digital images.

DESI 315 ETHIC AND LEGISLATION

3 CREDITS

This course introduces students to legal and ethics issues that affect design. Topics examined include intellectual property, freedom of expression and contract law. The basic legal issues of contract and property law, within the creative context, will be examined: agreements, copyright, trademark, and patents. Students will learn how to protect their rights, and as importantly, how to lead the legal debate with the identification of legal concepts and terms which apply to the practice of design. In addition, the course will approach other ethics issues: free speech, obscenity, pornography, libel, privacy and their damages. The course will introduce students the ability of distinguishing poor from good ethical justifications. Legal moral and ethical principles will also be examined.

ECEN 400 SURVEY OF ELECTRICAL AND COMPUTER ENGINEERING TOPICS

3 CREDITS

Three credit-hours. Three hours of lecture per week. A review of some of the main topics that prepares students to take the Fundamentals of Engineering (FE) exam in electrical and computer engineering. In addition, students are required to take computer-based testing in the form of knowledge area tests and one comprehensive final exam.

ECTE 122 INTRODUCTION TO COMPUTER PROGRAMMING

3 CREDITS

This course is an introduction to computer programming and the Visual Basic (VB) programming language. The first half of the course covers VB for Applications using Excel and the fundamental programming structures of control statements, loops, operators, and functions. The second half of the course explores programming applications using other VB compiler options. Problem analysis, algorithms, flowcharts, and structured programming concepts are used throughout the course.

EETE 220 INTRODUCTION TO DC/AC CIRCUITS

3 CREDITS

In this course the student will learn the basic concepts of the theory of analysis of electronic circuits, theory of semiconductors; the diode; Bipolar Junction Transistor, amplifiers BJT and field effect transistors. In addition, the course covers response of frequencies and operational amplifiers and multistage. Circuits that are used in communication equipment, and systems of sound and instrumentation will also be analyzed.

EETE 220L INTRODUCTION TO DC/AC CIRCUITS LABORATORY

1 CREDIT

In this laboratory, the student will experiment and deal with demonstrations related to the basic concepts of electronic circuits; semiconductors; the diode; Bipolar Junction Transistor; amplifiers BJT and field effect transistors. In addition, the laboratory covers the response of frequencies and operational amplifiers and multistage. circuits that are used in communication equipment, and systems of sound and instrumentation.

EETE 221 INTRODUCTION TO ELECTRONICS

3 CREDITS

In this course the student will learn and apply the basic concepts of electronic circuit analysis theory; semiconductor theory; the diode; bipolar junction transistor; BJT amplifiers and field effect transistors. In addition, frequency response and operational and multistage amplifiers are discussed. Circuits that are used in communication equipment, sound systems and instrumentation will be analyzed. Lecture, labs, team collaboration, and problem solving will be used to develop technological competencies, quantitative reasoning, and electronic design. The course meets three hours a week.

EETE 223 FOUNDATIONS OF COMPUTER ELECTRONICS

3 CREDITS

The course covers the theoretical concepts of number systems and codes, digital electronics, signals and switches, logic modules and Boolean algebra, combinational logic circuits and related devices. Digital Arithmetic: operations and circuits. Code converters, multiplexers and demultiplexers. Furthermore, analyze digital circuits that are used in computers, communications systems and medical equipment.

EETE 223L LABORATORY OF FOUNDATIONS OF COMPUTER ELECTRONICS

1 CREDIT

In this laboratory, the student will experience, and address demonstrations related to the basic concepts of digital electronics, signals and switches, logic modules and Boolean algebra, combinational logic, circuits and related devices, digital circuits, and communication systems.

EETE 225 INTRODUCTION TO EMBEDDED SYSTEMS

3 CREDITS

Study of methods and common practices for embedded systems design with a top-down approach. The course will introduce the student to concepts relating to in learning computer industry standards for control systems, the code development environment to control central processing units (CPUs). Also, designing and programming an embedded system using printed circuits boards and microcontrollers.

EETE 225L LAB INTRODUCTION TO EMBEDDED SYSTEMS

1 CREDIT

In this laboratory, the student will experience, and tackle demonstrations related to the basic concepts of embedded systems, control systems, the code development environment to control central processing units (CPUs). printed circuit boards and microcontrollers.

EETE 230 COMMUNICATIONS ELECTRONICS

3 CREDITS

This course covers the fundamentals of electronic communication systems. It focuses a discussion of AM, FM, single side band and digital communications, oscillators, tuning circuits, detectors, radio frequency amplifiers, transmission lines and antennas.

EETE 230L LAB COMMUNICATIONS ELECTRONICS

1 CREDIT

In this laboratory, the student will experience, and address demonstrations related to the basic concepts of electronic communication systems, handling of AM and FM signals, single side band, digital communications, oscillators, tuning circuits, detectors, radio frequency amplifiers, transmission lines and antennas.

EETE 255 FUNDAMENTALS MICROPROCESSORS

4 CREDITS

This course includes an introduction to microprocessors and microprocessor-based systems. The student will learn machine and assembly language programming as well as understand the functions of interrupts and DOS entry points. The physical structure, architecture, and operation of the PC and its various peripheral attachments will be covered as well as PC troubleshooting techniques, board upgrades, and use of diagnostic software. This course will be based on demonstrations, lecture and interpretation of schematics, case analysis, laboratory practice and responsible use of technology. The student will do presentations, written reports, solve assigned problems, and complete written and practical tests. One semester, 3 hours of integrated lecture and lab per week.

EETE 260 ELECTRONIC TECHNICIAN LICENSE REVIEW

1 CREDIT

This course covers the fundamental topics of the test offered by the Board of Examiners of Electronics Technicians. Included is a discussion of the most relevant concepts in mathematics, physics, regulatory laws, circuits, and safety. This course will be based on demonstrations, lecture and interpretation of schematics, case analysis and computer-generated tests similar to the offered by the Board of Examiners of Electronics Technicians. The student will do presentations, written reports, solve assigned problems and complete written tests. One semester, 1 hour of lecture.

EETP 302 CIRCUITS I

3 CREDITS

Study of the basics of electronic DC electric circuits including terminology, definitions, units, assembly and analysis. This course emphasizes the analysis of electric circuits using Ohm's law, Kirchhoff's current and voltage laws, nodes, loops, and theorems such as Thévenin, Norton, and maximum power transfer. The course is developed by using a balanced approach of theory, electronic simulation, lab projects, and practice to develop higher thinking processes such as scientific and quantitative reasoning, responsible, and critical thinking. One semester, 3 hours of classroom lab per week.

EETP 303 CIRCUITS II

4 CREDITS

Study of the principles of electromagnetism and the analysis of alternating current (A.C.) circuits using Ohm's and Kirchhoff's Laws, network theorems, and branch/mesh/nodal analysis techniques. It will include transient and steady-state analysis of R-C, R-L and RLC circuits along with concepts of energy, power, and efficiency. Several AC circuits applications such as filters, resonant circuits and transformers are introduced as well. Each new concept will be focused on a balanced approach of theory, computer simulations, and lab projects. It will be based on demonstrations, lectures, interpretation of schematics, case analysis, laboratory practice, and responsible use of technology to develop higher thinking processes such as scientific and quantitative reasoning, and critical thinking.

EETP 316 ELECTRONICS I
3 CREDITS

Introduction to the characteristics and applications of semiconductor devices and circuits. Emphasis is focused on analysis, selection, biasing, and applications of diodes, transistors and other devices. Students will design, construct, analyze, validate, and troubleshoot analog circuits using appropriate techniques and test equipment. The course is established through lectures, problem solving, simulations, and laboratory experiments to develop higher thinking processes such as scientific and quantitative reasoning, responsible use of technology, and critical thinking.

EETP 410 MICROPROCESSORS
3 CREDITS

Study of the principles of microprocessors, the history, the architecture, and the operation behind them. Machine and assembly language programs will be designed, as well as applying microcontrollers and hardware architecture (I/O, Accumulator, Memory, Flags and Buses) theory in the solution of engineering problems with development tools interfaced with basic sensors. The course is established through lectures, programming experiences, problem solving, and projects to develop higher thinking processes such as scientific and quantitative reasoning, and critical thinking.

EETP 417 ELECTRONICS II
4 CREDITS

This course is designed to focus undergraduate engineering students to continue learning characteristics and applications of semiconductor devices and circuits. Emphasis is concentrated on analysis, selection, biasing, and applications of different classes of amplifiers. The course will explain in detail how the class A, B, C and D amplifiers works and the different transistor configurations. The course will illustrate the Operational Amplifiers (Op-Amp) uses and applications including linear and nonlinear circuits. Upon the course completion, students should be able to design, construct, analyze, verify, and troubleshoot active filters in circuits.

EETP 420 EMBEDDED SYSTEMS
3 CREDITS

Study of methods and common practices for embedded systems design with a top down approach. The course will be focused in learning computer industry standards for control systems, the code development environment to control central processing units (CPUs). Also designing and programming an embedded system using printed circuits boards and microcontrollers. Current issues surrounding embedded development will be examined and common solutions discussed. The course is established through lectures, problem solving, simulations, and laboratory experiments to develop higher thinking processes such as scientific and quantitative reasoning, responsible use of technology, and critical thinking.

EETP 450 SENSORS AND ACTUATORS
3 CREDITS

Study of basic sensors and how to interface them with microcontrollers. Emphasis will focus on the different types of sensors available in the market and how-to calibrate them considering range and bandwidth. The course will provide engineering students with practical, hands-on experience in the application of electronic instrumentation methodology and tools for gathering and manipulating data. The students will learn about the problems that some of these sensor measurements present and the solution methods to deal with them. It will be based on demonstrations, lectures, interpretation of schematics, laboratory practices, and case analysis with responsible use of technology to develop higher thinking processes such as scientific and quantitative reasoning, responsible, and critical thinking.

ELEN 301 ELECTRICAL NETWORKS I
3 CREDITS

Three credit-hours. Three hours of lecture per week. Introduction to the analysis of linear circuits. Electrical quantities, Ohm's law, Kirchhoff's current and voltage laws, node voltage analysis, loop analysis, theorems of Thevenin and Norton, maximum power transfer, energy storage, introduction to AC circuits.

ELEN 302 ELECTRICAL NETWORKS I LAB

1 CREDIT

One credit-hour. One three-hour laboratory session per week. Application of the theory learned in ELEN 301 Electrical Networks I. Characteristics of electrical components and circuits; use of electronic test equipment.

ELEN 311 ELECTRICAL NETWORKS II

3 CREDITS

Three credit-hours. Three hours of lecture per week. This course introduces the fundamentals of transient state analysis for second order circuits using differential equations, linear circuit analysis in the frequency domain, sinusoidal steady-state analysis and power calculations. Additional topics include Laplace transform techniques, frequency response analysis of balanced three-phase circuits, and two-port circuit analysis.

ELEN 312 DIGITAL LOGIC DESIGN I

3 CREDITS

Three credit-hours. Three hours of lecture per week. This course is an introduction to the fundamentals of digital design concepts. The topics covered include positional number systems, switching algebra, logic function minimization, Karnaugh maps, combinational logic design using SSI, MSI, and LSI, and sequential logic analysis and design.

ELEN 313 DIGITAL LOGIC DESIGN I LAB

1 CREDIT

One credit-hour. One three-hour laboratory session per week. This laboratory explores the characterization and application of typical digital logic circuits and covers the topics required for analyzing the behavior of logical networks. It reinforces the material covered in Digital Logic Design I (ELEN 312) and introduces material relevant to the use of electronic test equipment.

ELEN 330 ELECTRONICS I

3 CREDITS

Three credit-hours. Three hours of lecture per week. An introductory course in electronics and microelectronics that covers semiconductor fundamentals, operational amplifiers, diodes, BJTs, MOSFETs, and basic digital switching. The course aims to build a solid understanding of these basic electronic devices by providing a clear understanding of device operation on a physical level, and then complements this with applications, analysis, and design of electronic circuits.

ELEN 332 ELECTRONICS I LAB

1 CREDIT

One credit-hour. One three-hour laboratory session per week. This course consists of a series of laboratory experiments involving semiconductor devices. Design, building, and testing of electronic circuits containing op-amps, diodes, BJTs, and MOSFETs.

ELEN 360 RANDOM SIGNALS AND SYSTEMS

3 CREDITS

Three credit-hours. Three hours of lecture per week. This course introduces the physical origins of noise and modeling uncertainty for the analysis of electronic devices, analog and digital systems, and communications. Coverage of basic discrete and continuous probability theory, random variables, and stochastic processes. Applications to the analysis of linear systems in the presence of noise and random signal processing are also presented.

ELEN 370 ELECTROMAGNETICS

3 CREDITS

Three credit-hours. Three hours of lecture per week. Introduction to electromagnetic systems. Transmission lines, electrostatics, boundary value problems. Maxwell's equations and its applications. Plane waves. Reflection and refraction of plane waves. Fundamentals of electromagnetic wave propagation and antennas.

ELEN 415 SIGNALS, SYSTEMS AND CONTROL

3 CREDITS

Three credit-hours. Three hours of lecture per week. This course covers the mathematical foundations for analyzing signals and linear systems with an engineering orientation. Time- and frequency-domain methods are presented and subsequently applied to analyze and design feedback control systems using classical control theory.

ELEN 417 SYSTEMS LABORATORY

1 CREDIT

One credit-hour. One three-hour laboratory session per week. This lab course provides practical experiences in control systems. This course encourages students to explore concepts in feedback control systems through lab experiments and open-ended projects. Feedback control experiments include modeling, identification, and servomechanism control.

ELEN 421 ELECTROMECHANICAL ENERGY CONVERSION LABORATORY

1 CREDIT

One credit-hour. One three-hour laboratory session per week. This laboratory explores the characterization and application of typical electrical energy conversion components. The laboratory experiments include testing and parameter identification for modeling of DC machines, transformers, poly-phase as well as single-phase systems, magnetic circuits, synchronous machines, and induction machines.

ELEN 422 ELECTRICAL MACHINES

3 CREDITS

Three credit-hours. Three hours of lecture per week. Analysis of electrical machines and transformers. Topics include the theory and operation of direct current motors, direct current generators, alternating current motors, alternating current generators, and transformers. In the alternating current motors and transformers both single-phase and three-phase systems are included.

ELEN 430 DIGITAL ELECTRONICS

3 CREDITS

Three credit-hours of lecture/laboratory-practice per week. Theory of operation of transistor-transistor logic (TTL), emitter coupled logic (ECL), metal-oxide-semiconductor (MOS), and complementary MOSFETs (CMOS) gates; time delay, operation of semiconductor memories; programmable logic arrays (PLA); multivibrators; analog gates; analog to digital (A/D) and digital to analog (D/A) converters. Laboratory experiments to reinforce concepts.

ELEN 431 ELECTRONICS II

3 CREDITS

Three credit-hours. Three hours of lecture per week. Introduction to the concepts and techniques of practical electronic design. Topics include single-stage amplifier configurations, multi-stage amplifiers, frequency response, feedback and stability, power amplifiers, active filters, oscillators, and advanced semiconductor properties.

ELEN 433 ELECTRONICS II LAB

1 CREDIT

One credit-hour. One three-hour laboratory session per week. Experiments include design, testing, and measurements with advanced electronic circuits, frequency response, power amplification, sinusoidal oscillators, waveform generators, active filters.

ELEN 434 INSTRUMENTATION

3 CREDITS

Three credit-hours. Three hours of lecture per week. Introduction to the design of electronic systems for the measurement of physical variables. Sensors and transducers, signal conditioning, noise, noise reduction techniques, grounding, shielding, signal recovery techniques, sampling, digital-to-analog conversion, analog to-digital conversion, precision electronics, automated test equipment. Design, construction, and evaluation of instrumentation systems.

ELEN 436 POWER ELECTRONICS

3 CREDITS

Three credit-hours. Three hours of lecture per week. Application of electronic devices to the conversion of electrical power. Device fundamentals, controlled rectifiers, AC voltage controllers, AC-DC converters, DC to DC converters, DC to AC inverters, motor controllers, snubbers, thermal design considerations. Design, simulation, construction, and testing of power electronic components and systems.

ELEN 441 DIGITAL LOGIC DESIGN II

3 CREDITS

Three credit-hours. Three hours of lecture per week. This course covers additional theoretical and practical aspects in digital systems and sequential logic design. Topics include additional minimization techniques, synthesis techniques, asynchronous sequential logic, interfacing, programmable logic devices, design considerations for practical systems, high speed logic design, design for testability, implementation of logic circuits using MSI, LSI, CPLDs, FPGAs, VHDL, CAD tools, and digital test equipment.

ELEN 442 MICROPROCESSORS I
3 CREDITS

Three credit-hours. Three hours of lecture per week. This is an introductory course in computers and microprocessors. It focuses primarily on software aspects. Topics include CPU architecture, microprocessors, microcontrollers, assembly language programming, interrupts, I/O peripherals, memory, system architecture, and simple interfacing.

ELEN 443 MICROPROCESSORS II
3 CREDITS

Three-credit hours. Three hours of lecture per week. Advanced topics in microprocessor systems design. System timing, memory architecture, interrupts, interfacing peripherals, design for testability, system buses, embedded and real-time systems, hardware and software aspects of interfacing, hardware-software tradeoffs, high level languages, in-circuit emulators, disassembling logic analyzers, and simulators.

ELEN 447 MICROPROCESSORS LAB
1 CREDIT

One credit-hour. One three-hour laboratory per week. This course covers advanced topics in microprocessor systems design. These include: system timing, memory architecture, interrupts, interfacing peripherals, design for testability, system buses, embedded and real-time systems, hardware and software aspects of interfacing, hardware-software tradeoffs, high level languages, in-circuit emulators, disassembling logic analyzers, and simulators.

ELEN 460 DIGITAL SIGNAL PROCESSING
3 CREDITS

Three credit-hours. Three hours of lecture per week. This course provides a practical introduction to digital signal processing concepts. Topics include discrete-time signals and systems, sampling, convolution, z-transforms, frequency response, discrete-time Fourier transform, fast Fourier transform (FFT), and digital filtering (IIR and FIR).

ELEN 472 ANTENNAS AND TRANSMISSION LINES
3 CREDITS

Three credit-hours. Three hours of lecture per week. This course provides an introduction to communication systems. Telegraphy equations, lossless lines, characteristic impedance matching, bounded wave propagation modes, cavity resonators, planar and dielectric wave guides, vector potential, antenna types, impedance, radiation patterns, and antenna feeds.

ELEN 474 COMMUNICATION SYSTEMS I
3 CREDITS

Three credit-hours. Three hours of lecture per week. This course introduces communication systems. Basic modulation and demodulation techniques and performance of digital communication systems in the presence of noise are introduced: linear modulation, angle modulation, sampling and pulse code modulation, detection-error probability, behavior of digital communication systems in the presence of noise.

ELEN 475 COMUNICATION SYSTEMS II
3 CREDITS

Three-credit hours. Three hours of lecture per week. Introduction to the analysis of analog communication systems in the presence of noise. Optimum signal detection. Introduction to information theory. Introduction to error correcting codes.

ELEN 478 RF DESIGN
3 CREDITS

Three-credit hours. Three hours of lecture per week. This course introduces the fundamentals of radio frequency (RF) circuits and design. It covers the behavior of circuit components at radio frequencies, transmission line theory, the use of Smith charts in impedance matching, and the design of various RF circuits such as amplifiers, oscillators, mixers, and super-heterodyne receivers.

**ELEN 480 POWER SYSTEM ANALYSIS I
3 CREDITS**

Three-credit hours. Three hours of lecture per week. This is an introductory course in electrical power systems. The course emphasizes the modeling of power system components, determination of transmission system parameters, generalized network analysis to characterize a power system in steady-state including load-flows. It also incorporates the use of computer software packages to aid in the analysis and design of power systems.

**ELEN 481 POWER SYSTEM ANALYSIS II
3 CREDITS**

Three-credit hours. Three hours of lecture per week. This is a second course in power system analysis and forms a continuation of the topics introduced in ELEN 480. This course presents the concepts and system analysis and design techniques necessary to evaluate the performance of power systems. In this course, fault analysis of power systems using matrix formulation of bus admittance and impedance matrices is studied. Balanced three-phase faults as well as unbalance faults are included. Unbalanced systems are analyzed using symmetrical components technique. Power system protection methods and equipment are also studied. The course incorporates the use of computer software packages to aid the analysis and design of power systems.

**ELEN 484 POWER TRANSMISSION AND DISTRIBUTION
3 CREDITS**

Three-credit hours. Three hours of lecture per week. This course deals with power transmission and distribution systems analysis and design. Topics include transmission line characteristics, inductance and capacitance calculations of overhead lines, steady-state analysis, transmission losses, and transmission system design. In the distribution system area, the topics covered include distribution system analysis, voltage regulation, and distribution system design. The course provides a practical insight into the analysis of transmission and distribution systems.

**ELEN 488 POWER SYSTEM RELIABILITY
3 CREDITS**

Three-credit hours. Three hours of lecture per week. This is an introductory course in power system reliability evaluation with emphasis on probabilistic techniques. The course introduces the basic reliability concepts using probability and statistics. The significance of outage data collection and classification in realistic system planning will be examined. The course concludes with a final design project.

**ELEN 491 ELECTRICAL ENGINEERING DESIGN CONCEPTS
3 CREDITS**

Three credit-hours. Three hours of lecture and seminar/workshop per week. Lecture discussion, seminars, workshops, and laboratory practice on a specific project. Analysis, simulation, and development of a design project. Discussion of alternative designs. Discussion of appropriate standards and realistic design constraints such as cost, environmentally friendly manufacturing, aesthetics, safety, possible social and political impact, and ethical considerations. Ethics workshops. Integration of hardware and software where appropriate. Seminars and workshops on contemporary issues. Teamwork required.

**ELEN 492 MAJOR DESIGN EXPERIENCE
3 CREDITS**

Three credit-hours. Three hours of workshop and sessions of experimental practice per week. Hands-on workshops and experimental practice on a specific project. Development, analysis, simulation, and implementation of a major design project to solve a specific problem in an industry or enterprise. Integration of hardware and software where appropriate. Teamwork required.

**ELEN 497 SPECIAL TOPICS
3 CREDITS**

Three credit-hours. Three hours of lecture per week. This is a series of lectures and/or seminars on topical issues in electrical engineering.

**ELEN 498 UNDERGRADUATE RESEARCH I
3 CREDITS**

Three-credit hours. Three hours of seminar per week. This course introduces basic undergraduate research on specific electrical/computer engineering topics.

**ELEN 499 UNDERGRADUATE RESEARCH II
3 CREDITS**

Three-credit hours. Three hours of seminar per week. This course expands the undergraduate research experience on specific electrical/computer engineering topics.

**ELEN 502 ADVANCED LINEAR SYSTEMS
3 CREDITS**

Three credit-hours. Three hours of lecture per week. This course provides the mathematical foundations of system theory that play an important role in control, communications, signal processing, information theory, networks and Internet applications, among others. Specifically, this course will delve into the theory of linear dynamical systems in both continuous and discrete time. A strong background in linear algebra is required.

**ELEN 503 SOLID STATE ELECTRONICS
3 CREDITS**

Three credit-hours. Three hours of lecture per week. This course covers the physics of solid-state electronic devices, including p-n junctions, MOS devices, field-effect transistors, and bipolar transistors. In addition, principles of optoelectronics, integrated circuits, and high frequency and high-power devices will be discussed.

**ELEN 505 PROBABILITY AND RANDOM PROCESSES
3 CREDITS**

Three credit-hours. Three hours of lecture per week. This course introduces a broad range of topics such as random vectors, random sequences, random processes, filtering of random processes, correlation, power spectrum density, and response of linear systems to random inputs.

**ELEN 510 ADVANCED POWER SYSTEM ANALYSIS
3 CREDITS**

Three credit-hours. Three hours of lecture per week. This course introduces the theoretical framework associated with short circuit, power flow, and stability analysis. The course presents the models, techniques, and tools used for these types of studies with a practical perspective by emphasizing their application to the comprehensive analysis of a typical test system.

**ELEN 511 POWER SYSTEM DYNAMICS AND CONTROL
3 CREDITS**

Three credit-hours. Three hours of lecture per week. This course covers the dynamic processes in power systems including regulation of turbines, voltage control, system stability, and protection of transmission lines.

**ELEN 520 DIGITAL CONTROL SYSTEMS
3 CREDITS**

Three credit-hours. Three hours of lecture per week. This course introduces the student to the fundamental theory of digital control and sampled data control systems.

**ELEN 550 DIGITAL FILTERS
3 CREDITS**

Three credit-hours. Three hours of lecture per week. This course presents the analysis and design techniques of modern digital signal processing for a wide variety of applications. The course will cover discrete-time signal analysis, fast Fourier transforms, and the design and implementation of digital filters.

**EMTE 105 FUNDAMENTALS OF ENERGY MANAGEMENT
3 CREDITS**

The introductory course students will acquire the basics concepts of energy management. Be studied as process energy audit, analyze consumer bills and perform economic analysis in this field. Also, be analyzed as electrical and mechanical systems directly affect consumption and energy management. And in the final stages of the course, students will know how the control systems and other technologies can improve consumer spending.

**EMTE 110 ENERGY MANAGEMENT IN AIR CONDITIONING
3 CREDITS**

In the course the student acquires knowledge and laboratory skills in the area of direct digital control systems for ventilation, heating and air conditioning. The main topics in the energy management of buildings will be discussed and analyzed. Simple zone control systems, constant air volume systems and variable air volume systems will be applied. Techniques will be used in the handling of faults and the programmable controllers for air conditioning systems will be configured.

**ENGI 122 INTRODUCTION TO COMPUTER PROGRAMMING
3 CREDITS**

Three credit-hours. Three hours of lecture-workshops per week. This course is an introduction to computer programming and the Visual Basic (VB) programming language. The first half of the course covers VB for Applications using Excel and the fundamental programming structures of control statements, loops, operators, and functions. The second half of the course explores programming applications using other VB compiler options. Problem analysis, algorithms, flowcharts, and structured programming concepts are used throughout the course.

**ENGI 123 PROCEDURAL AND OBJECT-ORIENTED PROGRAMMING
3 CREDITS**

Introduction of computers and structured programming to undergraduate engineering students. Computer programming skills will be applied to solve engineering and mathematical problems, following and developing algorithms and implementing them in a high-level language. Skills in editing, compiling, and running a simple computer program in a high-level language will be developed through problems and projects, in addition to developing mobile applications efficiently. The course is structured through lectures, programming, projects, and problem solving to develop competencies such as use of technology, critical and creative thinking, and quantitative reasoning. One semester, three (3) credits per week.

**ENGI 160 ENGINEERING GRAPHICS
3 CREDITS**

Three hours of lecture/studio per week. The course centers on the principles of engineering graphics including free sketching and computer graphics (SolidWorks). Topics include fundamentals of 3D projections and multiview projections; sheet layout and scaling; dimensioning; tolerance; solid modeling; assembly of parts and engineering working drawings.

**ENGI 161 ENGINEERING TECHNO GRAPHICS
3 CREDITS**

The course centers on the principles of engineering drawing using sketching and computer graphics (Solid Work). It includes an introduction to descriptive geometry. The fundamentals of orthographic projections, pictorials, auxiliary views, sectioning, dimensioning, tolerance, and working drawings are also presented. In addition, the student will apply freehand techniques to sketch oblique and isometric 3D projections.

**ENGI 200 TECHNOLOGY, ENGINEERING, AND INDUSTRIAL DEVELOPMENT
3 CREDITS**

Introductory required course for all first-year associate degree students in engineering technology. Introduction to the various specialties within the engineering and technical profession. Basic concepts of engineering design and technical communication. Laws and ethics of the engineering and technical profession.

**ENGI 201 WIRING, SOLDERING, HARNESS
2 CREDITS**

Hands-on experience of wiring and harness techniques and the different types of connectors used in the field. Emphasis in wiring practice and the industry standards for networks, fiber optics and avionics. The students will learn to test, bond, shield and identify the assembled wires. The students will learn the harness assembly of wires in avionics from single unit to custom coax cable assemblies. One semester, 1 hour of lecture and 1 hour of Laboratory per week.

**ENGI 202 ELECTRONICS LABORATORY AND SIMULATION TECHNIQUES
2 CREDITS**

Study of practical concepts, such as safety, schematics diagrams, common discrete components, analog/digital ICs, datasheets familiarization, measurements instrumentation (oscilloscopes, multimeters, and virtual devices), required to succeed in electronic laboratories environment. Basic circuits will be developed, simulated and implemented using simulating software tools, electronic components and breadboards. Soldering/de-soldering techniques and converting the prototyped circuit into a printed circuit board (PCB) with all soldered components will be practiced as well. Higher thinking processes such as scientific and quantitative reasoning, responsible use of technology, and critical thinking will be developed through problem-solving and a special project assignment.

ENGI 210 ENGINEERING ECONOMY

3 CREDITS

Three credit-hours. Three hours of lecture per week. An introduction to the basic concepts, techniques, and methodologies of engineering economy, useful in evaluating the economic feasibility of engineering systems, projects, and services for effective decision making.

ENGI 223 INTERMEDIATE PROGRAMMING

3 CREDITS

Three credit- hours. Three hours of lecture per week. This is an intermediate level course in computer programming. It provides a wealth of current, real-world applications, and examples drawn from the scientific and engineering fields. It allows students to fully exploit the potential uses of the C++ programming language. This course includes problem analysis and design of algorithms, programming structures, modular programming, sorting, searching, pointers, multidimensional arrays, and string processing.

ENGI 224 OBJECT-ORIENTED AND WEB-BASED PROGRAMMING

3 CREDITS

Hands-on experience of wiring and harness techniques and the different types of connectors used in the field. Emphasis in wiring practice and the industry standards for networks, fiber optics and avionics. The students will learn to test, bond, shield and identify the assembled wires. The students will learn the harness assembly of wires in avionics from single unit to custom coax cable assemblies.

ENGI 244 ENGINEERING MATERIALS

3 CREDITS

Three hours of lecture per week. The course centers on the governing principles of material properties and behavior. Topics include atomic structures and bonding, crystalline structures, defects and dislocations. Diffusion, deformation, and material strengthening are also discussed. Other topics include phase transformations and diagrams, polymers, ceramics, and composites. Corrosion will also be discussed.

ENGI 250 ENGINEERING ECONOMICS

3 CREDITS

Introduction to the discipline of economics, in general, and principles of engineering economics in particular. The primary focus is the fundamentals for general engineering economics and business decisions for planning, design, construction, operation and maintenance, although quantitative tools are used throughout the course. Also, this course will present Basic Engineering Management tools, graphical and mathematical approach to topics such as market equilibrium, elasticity, costs of production, and market structure. The course is established through lectures, case studies, team collaboration, and problem solving to develop competencies such as effective communication, and critical and creative thinking. The course meets three hours per week.

ENGI 277 GENERAL STATICS AND DYNAMICS

3 CREDITS

Three hours of lecture per week. The course is a compendium for non-mechanical engineering majors. In the area of statics, topics include planar (2D) force/moment vectors and resultants, static equilibrium and free body diagrams. Topics include applications to particles, beams, trusses, and frames. Other topics discussed are friction, centroid and moment of inertia of composite areas, vectors, resultants, and equilibrium of a particle in 3D. In the area of dynamics, topics include planar kinematics/kinetics of particles using rectangular and normal and-tangential coordinate systems, projectile motion, free body diagrams and kinetic diagrams. Other topics discussed are kinematics of a rigid body rotating about a fixed axis, and velocity analysis of rigid bodies in general plane motion using relative motion analysis. Mass moment of inertia, as well as kinetics of a rigid body in translation and in rotation are also discussed.

ENGI 280 DATA ANALYSIS

3 CREDITS

Three credit-hours. Three hours of lecture per week. This course provides the tools to build insight, knowledge and understanding from a given set of data using applied probability and statistics. Business tools such as the Pareto principle and the fish-bone diagram are also introduced.

**ENGI 305 FLUID MECHANICS
3 CREDITS**

Three hours of lecture per week. The course centers on the fundamental concepts of fluid mechanics and their applications to engineering problems. Topics include fluid statics; integral form for control volumes (conservation of mass, momentum equation, Bernoulli equation); differential form (conservation of mass and an introduction to the Navier-Stokes equation), and dimensional analysis. The course also includes calculation of head loss in pipes, introduction to boundary layers, and lift and drag forces.

**ENGI 318 STRENGTH OF MATERIALS
3 CREDITS**

Three hours of lectures per week. The course centers on the analysis of stress and strain. Topics include stress-strain, torsional and flexural loading, bending moment and shear force diagrams. Other topics discussed include bending, combined loading, stress and strain transformation, beam deflection and the application of superposition. Elastic stability will also be discussed. Tres horas de conferencias semanales.

**ENGI 319L MATERIALS TESTING LABORATORY
1 CREDIT**

One three-hour laboratory per week. The course centers on standard physical tests of engineering materials, including tension, bending, micro-hardness and macrohardness. Basic metallurgy, including grinding, polishing, etching and microstructure identification are also discussed. Other topics include heat treatment of steel including quenching and the Jominy test.

**ENGI 333L MACHINE SHOP LABORATORY
1 CREDIT**

The course centers on the operation of drills, milling machines, lathes, power saws, and surface grinders. It includes an introduction to precision measuring techniques, as well as an introduction to welding.

**ENGI 398 ENGINEERING MATHEMATICS
3 CREDITS**

Three credit- hours. Three hours of lecture per week. This course provides advanced engineering mathematics necessary to analyze and design complex electrical and electronic devices, circuits, and systems. Selected topics from linear algebra, complex variables, and partial differential equations are presented. Topics include matrix algebra, determinants, inverses, eigenvalues and eigenvectors; complex numbers, functions of complex variables, complex integration, complex power series, residue integration; partial differential equations, diffusion equation, wave equation, and Laplace equation. Applications to analysis of linear circuits, control and communication systems, and electromagnetic waves are discussed.

**ENGI 400 CAPSTONE I
1 CREDIT**

Capstone Project in which groups of students will work on a project from the conception of the idea to the manufacture of the prototype related to Avionics. This will expose the student to problem situations and engineering design issues like those encountered in industry and research laboratories. To achieve this goal the students will propose Avionics and Electronic projects to the Faculty Capstone Committee for reviewing and approval. The student will apply project management techniques establishing a calendar logistic task for the semester. The designed final product of the project must be an original design of the group. As a member of a team, the student will develop and design possible solutions to the project problem, applying the knowledge and skills developed through previous approved courses and additional research.

**ENGI 401 CAPSTONE II
1 CREDIT**

This is the second part of the ENGI 400 Course, students will continue working on the same team, pursuing to complete the project previously presented to the Capstone Committee. During this semester, students will be prototyping and solving project problems. They will start to work on the design of the Printed Board Circuit (PCB) and soldering process. The course will conclude with the Beta testing of the completed project with a final report and oral presentation. The report will include details about the design, fabrication testing, time management of the semester and results. Students will identify disadvantages with their current projects and suggest improving ideas, recommendations based on the research experience

ENGI 406L FLUID MECHANICS LABORATORY

1 CREDIT

This course focuses on laboratory work that supplements classroom instruction in fluid mechanics phenomena. It includes measuring devices and techniques, as well as; testing of fluid machinery.

ENGI 478 FUNDAMENTALS OF ENGINEERING

3 CREDITS

Three hours of lecture per week. The course is a review for the Fundamentals of Engineering (FE) exam to aid student preparation and exam performance.

ENGY 103 ELECTRIC ENERGY BASIC CONCEPTS

1 CREDIT

One credit-hour. One hour of lecture per week. A basic course on energy with emphasis on electrical energy and power. It includes definitions, forms, and history, as well as energy and power concepts. Energy and energy sources are discussed according to characteristics such as: sustainability, reliability, efficiency, and costs.

ENGY 203 FUNDAMENTALS OF ELECTRICAL ENERGY SYSTEMS

1 CREDIT

One credit-hour. One hour of lecture per week. The course centers on the fundamentals of energy, with emphasis on electrical energy. Topics include units of measurement, conservation, and energy in various contexts. Energy transformations, renewable sources, and availability are also discussed.

ENGY 303 ENERGY AND ELECTRICAL POWER SYSTEMS

1 CREDIT

One-credit hour. One hour of lecture per week. The course centers on energy and electric power, power transmission, energy, and laws of motion. Measurements, limitation, integration of energy sources, losses, and efficiency are also discussed.

ETAP 300 ENGINEERING TECHNOLOGY APPLICATION PROJECT

1 CREDIT

The focus of the course is an application project-oriented course for the Electronic and Networking Engineering Technology Programs. This is a team-oriented project course. The students will select a real-world industrial or technical service project; forms teams as determined and/or approved by the instructor, apply the knowledge and skills developed through the courses taken earlier in the program study for solving the project problem, and formally present their proposal to the class. Industrial plant visit will be an integral part of the class.

ETRA 160 FUNDAMENTALS ELECTRIC CIRCUIT

3 CREDITS

The course introduces the basic concepts of electrical circuits and electric power. The student will have the opportunity to acquire the knowledges of electrical safety, Ohm's Law, Kirchhoff's Law, capacitive, resistive and inductive circuits, magnetism and electromagnetism. The three-phase system, transformers and power factor will be studied. In addition, the student will analyze the basic electrical circuits that are used in residential, commercial and industrial refrigeration and air conditioning equipment.

ETRA 160L LAB OF FUNDAMENTALS ELECTRIC CIRCUIT

1 CREDIT

The laboratory has the co-requisite course Technology ETRA 160 Fundamentals of Electrical Circuits. The course provides students with theoretical concepts and practical skills of electrical devices used in refrigeration and air conditioning. They analyze the concepts of voltage, current and resistance. The issues addressed the operating principles, selection and specifications of different electrical devices such as resistors, capacitors and inductors. Also, this course applies the principles of the power supply and transformer.

ETRA 190 FUNDAMENTALS OF ELECTRICAL SYSTEMS AND CONTROLS FOR REFRIGERATION AND AIR CONDITIONING

4 CREDITS

In the course students learn the basics concepts of electrical and control circuits used in refrigeration and air conditioning systems. The students will have the opportunity to learn skills that apply to contactors, thermostats, relays and pressure switches. They will analyze the electrical system related to residential, commercial and industrial cooling thermal systems. In addition, they will study the different electric motors that apply to these systems.

ETRA 190L LABORATORY OF FUNDAMENTALS OF ELECTRICAL SYSTEMS AND CONTROLS FOR REFRIGERATION AND AIR CONDITIONING

1 CREDIT

The course provides students with the theoretical and practical skills in analysis and troubleshooting for electrical and control circuits in refrigeration and air conditioning. It applies the concepts of electric motors and components. The themes are directed to the principles of operation, installation and specifications of different electrical devices such as thermostats, relays, pressure switches and other.

FADE 100 BASIC SEWING

3 CREDITS

This course is designed to help the student become familiar with the basics of machine sewing, get confident handling a machine, and develop a range of related skills, like looking at different needles suitable for fabric types, practicing standard stitches, seaming straight, curved and gathered edges, learning most common seam types (as French seams and flat fell seams), etc.

FADE 125 REPRESENTING THE BODY

3 CREDITS

This course focuses on the human form. Understanding human anatomy will be the point of departure for exercises that employ various media to represent the body in action and repose. In addition to developing research skills, students will focus on documenting the body through digital photography, drawing, collage and digital rendering, using Adobe Illustrator and various fashion Computer Aided Design programs.

FADE 131 FASHION CONCEPT DEVELOPMENT I

3 CREDITS

This is a core studio in this program. Each student's primary goal is the development of new fashion concepts. In the first semester students will use their local environment as the site from which ideas will be culled. These ideas will be applied in the development of a collection of a dozen looks. Women's wear will be stressed. Clothing designed in this course will be basis for clothing production undertaken in the second semester's Studio Methods and Structures. This course will focus on the economics and production standards of the prêt-à-porter industry.

FADE 132 FASHION CONCEPT DEVELOPMENT II

3 CREDITS

This is a core studio in this program. Each student's primary goal is the development of new fashion concepts. In the second semester, the research focus of this course will be on global trends in the sportswear and active wear industries and their niche markets. These ideas will be applied in the development of a collection of a dozen looks. Men's wear and children's apparel will be stressed. The collection designed in this course will be the basis for production in Studio Methods and Structures. This course will focus on the economics and production standards of the prêt-à-porter industry.

FADE 140 FASHION DRAWING

3 CREDITS

In this studio students will continue to build upon skills developed in Representing the Body and will employ those skills in special assignments related to the development and production of a collection of poses and bodies. Textiles illustration will be addressed. The primary work of this class will be drawing from the live clothed model to develop industry-standard fashion illustration skills. The maintenance of a sketchbook and the production of sketch drawing will be stressed.

FADE 150 STUDIO METHODS AND STRUCTURE

3 CREDITS

The basis of work in this course will be traditional tailoring techniques, from draping to the technology of using various materials. The creation of forms that interact with the human body will be explored. Experimental approaches suggested by students' designs produced in Fashion Concept Development I will also be explored. This course is a hands-on clothing construction studio. Sewing skills will be stressed and patternmaking skills will be introduced.

**FADE 200 PATTERNMAKING
3 CREDITS**

Traditional patternmaking skills will be the focus of this course. The instructor will take students through a series of exercises that develop these skills. Primary focus will be placed on the development of patterns for designs created by the students as part of program coursework.

**FADE 210 CONSTRUCTION TECHNIQUES I
3 CREDITS**

The work of this course will be linked to designs developed in Core Studio Concept Development and Realization I. Students will continue to develop their sewing, patternmaking and construction skill with a particular focus on collaboration with other technicians and craftspeople. This course taught the students the sewing techniques practiced in the finest haute couture ateliers around the world are introduced and provide the basis for understanding the couture. Learn couture techniques in cutting, hand stitching, seam and hem finishes, pocket construction, pressing, and finishing.

**FADE 215 DIGITAL FASHION DESIGN
3 CREDITS**

This course will focus on the range of digital technologies used in the fashion industry. With a primary focus on Computer-Aided-Design software, students will learn flat pattern drafting, and fashion illustration technologies that will enhance the accuracy of their construction skill and increase their ability to visualize color and other potential variations in their designs.

**FADE 230 FABRIC SCIENCE
3 CREDITS**

This lecture/lab course introduces students to the scientific qualities and properties of fashion fabrics. Through research and experimentation students will learn the basic knowledge to identify fabrics, their properties, construction, care, finishes and specific uses in the fashion industry. This course includes projects in the laboratory and provides demonstrations of basic methods for the development of textile designs, weaving techniques, printing and dyeing.

**FADE 240 PORTFOLIO STUDIO
3 CREDITS**

This studio will focus on the preparation and refinement of a portfolio that encompasses the student's work in the program and any other distinguishing activity. The goal will be the production of a refined, multifaceted presentation of the student's goals and creative vision, and his or her ability to engage in professional practice.

**FADE 255 CORE STUDIO: CONCEPT AND REALIZATION I
3 CREDITS**

This studio is a core studio in this program. Students continue to develop their awareness of specific markets within fashion and increase their ability to target their individual styles to a specific market segment. Students create portfolios of original design lines within the categories of the couture and high-priced industry. They apply knowledge of the couture to design, drape, fit, and construct a mini collection for a particular target market. Students also develop styles and images through fabric sourcing, market research, and inspirational research. Emphasis is placed on continuity of style within design, presentation and trend analysis through the study of collections showing in London, Milan, Paris and New York. Students learn the principles of draping as a method of designing original garments in three dimensional forms. Draping techniques and construction skills are developed for more advanced structured garments along with an understanding of silhouette, proportion and current style trends. Students work on developing their strengths in design to ensure establishment of a defined and strong personal design philosophy. This course expects students to produce innovative design solutions that reach beyond popular forecasts. Personal interpretation and risk-taking are emphasized. The collection designed in this course will be basis for production in Construction Techniques I.

**FADE 256 CORE STUDIO: CONCEPTS AND REALIZATION II
3 CREDITS**

Students will continue to develop their knowledge of specific markets in the fashion industry. They will increase their skills in order to direct their personal styles to specific segments of the market. This course focuses on the multi-departmental industry, applying the knowledge in textiles and the development of new fashion design concepts for the creation of a women's collection that includes from underwear, swimwear, sportswear, casual wear and evening gowns. During this course students will develop a multi-departmental collection for women and will work on the completion of two looks. Their draping, patternmaking, and construction skills will be developed for ready-to-wear industry garments.

**FADE 270 INTERNSHIP
3 CREDITS**

All students will be required to take part in a professional internship that employs a wide range of skills and knowledge developed in this degree program. Each student will work with a department advisor to fully realize the potential of this experience in a fashion design industry or by giving professional services to an industry in fashion realization.

**FADE 310 CORE STUDIO: CONCEPTS AND REALIZATION III
3 CREDITS**

The research focus of this course will be on conceptual and experimental design, leading to the creation of original and unique silhouettes and construction details that demonstrates how abstract concepts can be interpreted through fashion design. After the investigation phase, a short brief will be developed. These ideas will be applied in the development of a women's collection of a dozen looks: student will work on the complete realization of one look of this collection, so his draping, patternmaking techniques and construction skills will be developed for more advanced structured garments.

**FADE 315 CONSTRUCTION TECHNIQUES II
3 CREDITS**

Student will continue to develop his/her sewing, patternmaking and construction skills, focusing on the realization of a pant, a vest and a child dress. The whole production process will be analyzed: pattern realization (by draping and/or patternmaking), fabric cutting, sewing and grading.

**FADE 320 CONSTRUCTION TECHNIQUES III
3 CREDITS**

Student will continue to develop his/her sewing, patternmaking and construction skills. In this course the student will learn the sewing techniques practiced in the finest haute couture ateliers around the world. The whole process needed for garment construction will be analyzed for the realization of classic and casual jackets and coats: from draping and patternmaking to fitting, cutting, sewing, hand stitching, pressing, finishing and size grading.

**FADE 330 DIGITAL PATTERNMAKING
3 CREDITS**

This course focuses on the usage of computers and specialized software for the production of fashion patterns, according to fashion industry standards. Students will learn how to draft, manipulate and grading digital pattern for industrial production.

**FADE 400 SENIOR DESIGN PROJECT I
6 CREDITS**

Students will engage in a two-semester long process, based upon professional practices, that will result in the development of an interior design project. Students are required to develop and submit a programmatic project proposal with the approval and guidance of the Senior Design Project Committee and faculty. Emphasis is placed on a high degree of complexity and challenge within the design project.

**FADE 401 SENIOR DESIGN PROJECT II
3 CREDITS**

Students will improve their skills in using digital technology: fashion collections will be designed completely using software for Computer Aided Design (CAD), such as Adobe Photoshop and Adobe Illustrator. Students will also learn basic concepts of graphic design.

**FADE 405 DIGITAL FASHION DESIGN II
3 CREDITS**

Students will improve their skills in using digital technology: fashion collections will be designed completely using software for Computer Aided Design (CAD), such as "Adobe Photoshop" and "Adobe Illustrator". Students will also learn basic concepts of graphic design.

**FADE 440 PORTFOLIO STUDIO
3 CREDITS**

This studio will focus on the preparation and refinement of a portfolio that encompasses the student's best works with his academic career and through any other distinguishing activity. The goal will be the production of a refined, multifaceted presentation of the student's goals and creative vision and his ability to engage in professional practice. Final portfolio will be designed for both digital and printed format.

**FADE 470 INTERNSHIP
3 CREDITS**

All students will be required to take part in a professional internship (180 hours) that employs a wide range of skills and knowledge developed during his academic carrier in the Fashion Design program. Each student will work with a department advisor to fully develop the potential of this experience in a fashion design industry or giving professional services to an industry in fashion realization.

**GRAD 105 TYPOGRAPHY I
3 CREDITS**

Students will learn about the history of typography. Topics include classification, anatomy, and different types of typography. Students will study the different typographical expressions. They will analyze optical effects of typography, as well as the typographical measuring system. They will also learn to work with typographic composition and start to design their own typographies. Students will study the development of digital typography, from analog to digital processes and they will learn to convert these into vector images, using Bézier curves to create each character. Then using a conversion program, students will pass to True Type (TT), changing to a digital font. Students will learn about different international organizations that work in the development and study of typography.

**GRAD 130 IMAGE STUDIO-BLACK AND WHITE
3 CREDITS**

The objectives of this course include the introduction of digital image making and graphic design software; the development of image research skills; the development of narrative presentation skills; and a cross-cultural introduction of information organization systems. These skills will be applied in various forms required of industrial designers including, simple instruction manuals, research documents, user scenarios, and various forms of presentation boards. Particular attention will be placed on typography and photographic imagery.

**GRAD 131 IMAGE STUDIO-COLOR
3 CREDITS**

This course builds upon the curriculum of Image Studio - Black & White and introduces color into rendering and representation skills. Digital color imaging and printing skills are introduced and students will be taught basic digital and film photographic documentation skills. In addition, they will learn traditional product illustration techniques including marker and colored pencil techniques.

**GRAD 145 COMMUNICATION STUDIO
3 CREDITS**

This course introduces information design and live presentation skills to designers. Desktop publishing and graphic design skills employed in the development of documents and presentation materials ranging from business cards and announcements to booklets, research documents, concept presentations and exhibition materials will be focused upon. In addition, significant attention will be paid to students live presentation skills. These presentations will be coached, scripted, videotaped and critiqued. For this course Apple computers and video recording studio are required.

**GRAD 202 GRAPHIC DESIGN STUDIO 1
6 CREDITS**

The objective of the course is to provide students with basic knowledge about the history and evolution of graphic design up to the digital era. Students will learn how to work with design elements: image and typography. They will begin to differentiate between vector image and raster image. Students will use software to manage both types of images.

**GRAD 210 GRAPHIC DESIGN STUDIO II
6 CREDITS**

Students will learn to diagram a publication of multiple pages. They will study the entire component of a publication in books, magazines, newspapers, shoppers, and brochures. Importation and management of digital images to all types of publications will be taught. Topics include the design of master pages, layers, typographic styles, columns and other elements of a digital publication. Students will also study and create grids.

**GRAD 215 TYPOGRAPHY II
3 CREDITS**

In this course the student will learn how to manage the fonts in different platforms. The student will start to recognize the different existing digital fonts and how they are developed. The student will also learn how to manage the fonts on the different available media and will integrate the typography as a design element, and as an image. They will transport the text to the different software knowing all the specifications considered necessary to complete the work. The students will start to create their own font library/database and will use the internet as a searching tool to select the suitable fonts for the design.

**GRAD 310 GRAPHIC DESIGN STUDIO III
6 CREDITS**

In this course students will obtain knowledge in the area of interface design, beginning with the creation of a nonlinear conceptualization in the graphic design area. They will work with dynamic design principles. Students' previous courses had a static basis; this course has a dynamic basis. Students will begin to work with the design of button, menus, bars, links and graphics in movement, while applying basic knowledge of design to a multimedia project.

**GRAD 320 PACKAGING DESIGN
3 CREDITS**

In this course students learn components and principles of packaging design. Topics include the history of the package and the importance of design elements (image and typography) on the packaging design. Students will recognize the importance of art as a design element, as are color, space, shape, texture, and lines. They will obtain knowledge of managing the different materials available for the creation of a package that can be designed and created by students. They will also study some of the rules and regulations established for package design and will learn the different classifications that condition transportation and storage of packages.

**GRAD 325 VIDEO EDITING
6 CREDITS**

This course offers an introduction to linear and non-linear video editing. The students will learn about the RGB color mode used on computer monitors and commercial television. They will learn the logistics and techniques for video recording and the appropriate techniques for video editing. The students will know how to integrate text on the video screen and how to work with the programs for digital video editing. The student will know how to select from different system memories, storage systems and the appropriate format for the project.

**GRAD 410 SENIOR DESIGN PROJECT I
6 CREDITS**

Students begin in a process, based upon professional practices, that will result in the development and complete a graphic design proposal. Design processes employed in earlier courses will be applied in the ideation, research, design documentation, and prototyping of the new product. Investigation of design trends and market research will be undertaken as student work toward an innovation in their designs.

**GRAD 420 SENIOR DESIGN PROJECT II
6 CREDITS**

This course is a continuation of work begun in the first semester. Students continue a process based upon professional practices that will result in the development and completion of a graphic design proposal. Design processes employed in earlier courses will be applied in the ideation, research, design documentation, and completion of a graphic design proposal. Investigation of design trends and market research will be undertaken as students work toward innovation in their designs.

GRAD 430 PORTFOLIO STUDIO
6 CREDITS

This studio will focus on the preparation and refinement of a portfolio that encompasses the student's work within the program and in any other distinguishing activity. The goal will be the production of a refined, multifaceted presentation of the student's goals and creative vision, as manifestation of his or her ability to engage in professional practice.

GRAD 440 INTERNSHIP
3 CREDITS

All students will be required to take part in a professional internship that employs a wide range of skills and knowledge developed in this degree program. Each student will work with a department advisor to realize the potential of this experience fully, either in a graphic design company or by giving professional services to a graphic artist in a product realization.

HIDE 100 HISTORY OF ART
3 CREDITS

This course surveys the history of the representation of the human body as a record of the social, technological, environmental, and political circumstances of a period. The goal of this course is to establish among young designers an understanding of art as an expression of the desires, aspirations, needs, esthetics, and available resources of subjects/users throughout history. Human beings and their representations of the environment will be examined, from the earliest representations of humans, through current film and digital media that envision the future.

HIDE 105 FASHION HISTORY
3 CREDITS

This seminar course is tracing the development of fashion and body adornment in Asia, Africa, Europe, Greece and Roman Empire through the establishment of Paris, Milan, New York and Latin America as distinct fashion capitols, as well as the establishment of independent fashion centers across the globe. Economic, political, technological, environmental and cultural history will be discussed in relation to fashion's evolution.

HIDE 106 DWELLINGS: CONSTRUCTED ENVIRONMENT
3 CREDITS

This course examines the evolution of architecture and design as a production of human imagination. Through lectures, tutorials and research projects the students will understand the way in which architecture and design is always dominated by the exigencies of time and location and developed as a consequence of forces of economy, trade, war, political situations, religion, or the exchange of knowledge.

HIDE 110 REPRESENTING THE CULTURE: ART & ARTIFACT 1500-1850
3 CREDITS

This course will study the history of art and objects in the contexts of one another, economics, industry and technology, culture, politics and sociology. Beginning in 1500, the migration of ideas around the globe will be explored in relationship to the evolution of design and art. Particular attention will be paid to moments when cultures intersect and the impact of those moments on the course of ideas and material culture

HIDE 115 LANDSCAPE DESIGN HISTORY AND THEORY: NATURAL AND CONSTRUCTED ENVIRONMENTS, 1500-TODAY
3 CREDITS

This course offers a study of the history and theory of Architecture, Landscape Architecture and Urban Design since 1500. The course emphasizes the relationship between design of the natural and built environment and will pay close attention to socio-cultural, technological, aesthetics and environmental factors.

HIDE 200 HISTORY OF DESIGN 1800-TODAY
3 CREDITS

Through lectures, tutorials and research projects students will be introduced to the history of design, from the industrial revolution through the innovations of WWII. Relationships between design, art, industry, environment, and culture will be discussed as factors in the development of design. The rise of urbanism, history, politics and technological advances will be examined as pivotal influences in design.

**IMEN 205 PRINCIPLES OF ENGINEERING MANAGEMENT
3 CREDITS**

Three hours of lecture per week. An introduction to the principles of administration of engineering, including the management functions of planning, decision making, organizing, human aspects, leading, and controlling.

**IMEN 341 ACCOUNTING AND FINANCE FOR ENGINEERS
3 CREDITS**

Three hours of lecture per week. Study of the interrelationships between engineering and accounting. Theory and practical aspects of accounting principles and financial analysis from an engineering perspective. Understanding and analysis of the three main financial statements: balance sheet, income statement, and cash flow.

**IMEN 390 PROBABILITY FOR ENGINEERS
3 CREDITS**

Three hours of lecture per week. Introductory course on probability and data analysis with emphasis on engineering and management applications. Fundamental concepts of variability and uncertainty. Probability theory and models. Joint probability distributions. Data analysis and synthesis. Random samples, central limit theorem and sampling distributions. Use of computer software.

**IMEN 395 INFERENCE STATISTICS FOR ENGINEERS
3 CREDITS**

Three hours of lecture/laboratory per week. Fundamental concepts of statistical inference. Statistical inference for one or two populations. Simple linear regression. Introduction to multiple linear regression. Analysis of variance (ANOVA) for factorial experiments. Use of statistical software.

**IMEN 402 WORK MEASUREMENT
3 CREDITS**

Three hours of lecture/laboratory per week. Introduction to motion and time studies, including work design, productivity, job analysis, line balancing, and the techniques of setting time standards.

**IMEN 403 WORK SYSTEM DESIGN
3 CREDITS**

Three hours of lecture/laboratory per week. Introduction to ergonomics principles and work environments applied to workplace design.

**IMEN 404 INDUSTRIAL SAFETY & HEALTH MANAGEMENT
3 CREDITS**

Three hours of lecture per week. An introduction to concepts and techniques of industrial safety and health management, a modern perspective on compliance with mandatory standards for workplace safety and health.

**IMEN 405 STATISTICAL QUALITY CONTROL
3 CREDITS**

Three hours of lecture/laboratory per week. Application of engineering statistics to the control and improvement of manufacturing and service processes with an emphasis on quality.

**IMEN 406 OPERATIONS RESEARCH
3 CREDITS**

Three hours of lecture per week. Introduction to the operations research modeling approach with emphasis on linear programming and extensions, the simplex method and its applications.

**IMEN 407 PRODUCTION PLANNING AND CONTROL
3 CREDITS**

Three hours of lecture per week. Theory and practical aspects of production systems, problem solving, forecasting, aggregate planning, inventory, materials requirements planning, scheduling, integrated production planning and control and show how they can be applied in practice.

IMEN 408 FACILITIES PLANNING

3 CREDITS

Three hours of lecture per week. Use of heuristics and analytical methods in designing facilities for production and service systems. Impact of ADA Law on workspaces.

IMEN 409 DESIGN PROJECT

3 CREDITS

Three hours of seminar per week. Analysis, development of alternatives, and presentation of a design project of a company.

IMEN 411 SYSTEMS ANALYSIS AND DESIGN

3 CREDITS

Three hours of lecture/laboratory per week. This course centers on the analysis and design of computer-based information systems, including system analysis and design methodology, requirements analysis, systems analysis diagrams, user interface design, relational databases, query relational databases with basic SQL commands, and building a prototype in MS Access.

IMEN 413 PROBABILISTIC MODELS OPERATION

3 CREDITS

Three hours of lecture per week. Introduction to theory and use of stochastic models to represent industrial and service systems. It includes Markov Chains, Queueing Models and Decision Analysis.

IMEN 414 SYSTEMS SIMULATION

3 CREDITS

Three hours of lecture/laboratory per week. Application of discrete event-based simulation to the design, analysis, and improvement of production, logistics and service systems. The course includes techniques and methodologies for generation of random numbers and variables, data collection and analysis, model building using a commercial simulation software, model verification and analysis, and output analysis.

IMEN 416 DESIGN OF INDUSTRIAL EXPERIMENTS

3 CREDITS

Three hours of lecture/laboratory per week. Fundamental concepts of experimentation-factors, responses, levels, randomization, replication, random error, blocking. Use of statistical software.

IMEN 421 ENGINEERING PROJECT MANAGEMENT

3 CREDITS

Three hours of lecture/laboratory per week. Theory and practical aspects of project planning, organizing, scheduling, resources management, identifying the main components and life cycle of projects, and showing how they may be applied in practice. Application of project management software.

IMEN 425 ENTERPRISE CONTINUOUS IMPROVEMENT

3 CREDITS

Three hours of lecture per week. Fundamental concepts of Lean Manufacturing, Six Sigma and other contemporary performance improvement Industrial Engineering methodologies or quality management systems.

IMEN 495 SPECIAL TOPICS I

1 CREDIT

One hour of seminar per week. Analysis and discussion of relevant topics in Industrial and Management Engineering. The course can be used for different topics; the topic will be indicated in the course guide for that particular section and semester.

IMEN 496 SPECIAL TOPICS II

2 CREDITS

Two hours of seminar per week. Special topics in industrial and management engineering. Format will depend on course topic.

IMEN 497 SPECIAL TOPICS III

3 CREDITS

Three hours of seminar per week. Analysis and discussion of relevant topics in Industrial and Management Engineering. Course format depends on the specific topic to address. Special problems to be offered by the industrial and management engineering faculty.

IMEN 498 UNDERGRADUATE RESEARCH I

3 CREDITS

Three hours of seminar per week. This course introduces basic undergraduate research on specific industrial and management engineering topics.

IMEN 499 UNDERGRADUATE RESEARCH II

3 CREDITS

Three hours of seminar per week. This course expands the undergraduate research experience on specific industrial and management engineering topics.

IMEN 510 ENGINEERING MANAGEMENT

3 CREDITS

Three hours of lecture per week. This course focuses on key engineering management functions, providing conceptual frameworks for an engineer to transition into a management position. The systems approach, orientation to business applications, the integration of multiple knowledge domains, and value creation perspectives traverse the contents to be covered.

IMEN 551 ADVANCED ENGINEERING PROJECT MANAGEMENT

3 CREDITS

Three hours of lecture per week. Advanced concepts, methodologies, and tools for the management of engineering projects. Coverage of the Project Management Body of Knowledge, focusing on practical aspects of project planning, organizing, scheduling resources management, and project's life cycle. Application of project management software.

IMEN 610 STATISTICS FOR DECISION MODELING

3 CREDITS

Three hours of lecture per week. Concepts of probability, statistical analysis, and forecasting to support decision making, under conditions of uncertainty and risk, with emphasis on engineering management applications. Provide skills for effective spreadsheet model building and data analysis using Excel. The course covers analytics focusing on practical applications, via cases, of data analysis and decision modeling.

IMEN 620 ADVANCED ENTERPRISE CONTINUOUS IMPROVEMENT

3 CREDITS

Three hours of lecture per week. Advanced concepts and applications of contemporary quality management systems (e.g., ISO and GMP) and Lean Manufacturing. Integration of quality and management. Strategies to manage quality projects using quality management systems and methodologies. Six Sigma and other contemporary engineering management methodologies to designing or redesigning enterprise operations to maintain a competitive edge.

IMEN 630 SUPPLY CHAIN MANAGEMENT FOR ENGINEERS

3 CREDITS

Three hours of lecture per week. Concepts, framework, and analytical approaches for the management of supply chains. Through this course student will develop and understanding of the strategic role of a supply chain, the key strategic drivers of supply chain performance, and analytic methodologies for supply chain analysis.

IMEN 635 LOGISTICS METHODS AND STRATEGIES

3 CREDITS

Three hours of lecture per week. Principles, strategies and decision rules for the business practice and operations of logistic systems. View of logistics as an interdisciplinary science. Systematic planning of efficient logistic systems and solution alternatives of practical problems and tasks are presented. Configuration, structure and organization of logistic processes and performance systems. Foundation for analytical logistics: rules and methods for planning and scheduling of specific logistics tasks and algorithms for mathematical modeling and optimization of logistic processes and networks. The economics of logistics, logistic costs and logistic pricing, are presented.

IMEN 640 DESIGN AND OPERATION OF LOGISTICS NETWORKS

3 CREDITS

Three hours of lecture per week. Elements, structures and processes of logistics networks and its most important subsystems: storage systems, commissioning systems, and transport systems. Functions and specification of performance requirements of these subsystems. Methods and strategies for design, selection and operation of logistic networks. Analysis of characteristics of logistic service providers and transport systems.

IMEN 645 ANALYTICS FOR DECISION-MAKING

3 CREDITS

Three hours of lecture per week. Use of predictive modeling and optimization methods to support engineering management decision making, under conditions of risk and uncertainty. Students will build analytical, Excel-based, end-user models and perform analysis in support of the decision-making process. The course includes spreadsheet modeling (with Excel), Monte-Carlo simulation, stochastic decision making, queuing modeling, and optimization.

IMEN 650 GRADUATE PROJECT

3 CREDITS

Three hours of lecture per week. Development of a comprehensive study, reporting the solution of an engineering management problem, where different topics covered in the master program are used. The report includes a literature review of research or applied research related to the project.

IMEN 660 THESIS I

3 CREDITS

Three hours of seminar per week. Development and presentation of a research-based thesis proposal. Specific topic within the field of Engineering Management must be selected in consultation with thesis advisor. The proposal includes: 1. Justification and purpose of the research 3. Problem definition and research question 4. Hypothesis formulation 5. Literature review 6. Research methodology.

IMEN 661 THESIS II

3 CREDITS

Three hours of seminar per week. Development and presentation of a research -based thesis. Specific topic within the field of Engineering Management must be selected in consultation with thesis advisor. The proposal includes: 1. Justification and purpose of the research 3. Problem definition and research question 4. Hypothesis formulation 5. Literature review 6. Research methodology 7. Data Analysis and results 8. Conclusions.

INDI 140 INDUSTRIAL DESIGN STUDIO 1

3 CREDITS

This course focuses on the development of 3-dimensional forms. Issues of materiality, ergonomics, and user interface will be introduced through exercises that result in iterations of a series of familiar typologies. Masses, volumes, containers, shells, and skins will be explored in various materials, alone and in combination. Particular attention will be placed upon the history of form as a manifestation of culture, environment and technology.

INDI 150 INDUSTRIAL DESIGN STUDIO 2

3 CREDITS

In this design studio students will be introduced to design methodologies that will form the basis of their training as industrial designers. Through a series of design projects and exercises students will be introduced to issues of accessibility in relationship to ability, physical and psychological development, gender, culture and environment. Ergonomics will also be treated. An on-line component will tie studio work to related literature, historical precedents and research methodology. Furniture design will be developed.

INDI 160 TECHNICAL RENDERING AND PRODUCT ILLUSTRATION

3 CREDITS

This course will focus on the mastery of manual technical rendering skills as the basis for an understanding of the physical specificity of a designed object. Approached as a decision-making and communication process, students will be taught not only the tradition of manual drafting, but also the meaning of the language it embodies and the way that language translates in computerized terms. Students will develop portfolios of renderings that express a range of design decisions and construction specifications involved in the evolution of objects.

INDI 250 INDUSTRIAL DESIGN STUDIO 3

6 CREDITS

Through lectures, design exercises, individual and group projects, and other activities, students will delve further into the processes involved in the practice of industrial design. Students will be taught by means of professional methodologies as well as through pin-ups and desk critiques. This course is particularly focused on the development of user scenarios, ideation, and concept presentation through the design of hand tools and other simple objects. Students will also treat user interfaces and ergonomics. Design, art and social history will be referenced throughout the course and students will be expected to complete significant research project that address these factors in the development of their own work.

**INDI 251 INDUSTRIAL DESIGN STUDIO 4
6 CREDITS**

This course builds on the work done in DESI 250 – Industrial Design 3: Core Studio: Concept and Realization I, and further explores user-centered design, ergonomics, and legible interfaces, within the context of inclusive design. In addition, students will undertake projects that involve the inclusion of engineered mechanisms and external power sources.

**INDI 270 MODELS I
3 CREDITS**

This course introduces model making as a vehicle for the development and realization of design concepts. The uses of various forms of representation will be taught and contextualized, from sketch models to scaled representation to full scale appearance models. Professional standards will be stressed. Students will be instructed in choice of materials, assembly, milling, sanding, priming, and the use of the lathe, vacuum former, bending machines, and the hot belt.

**INDI 271 MODELS II
3 CREDITS**

This course builds upon the knowledge and skills learned in INDI 270 - Models I. Students will incorporate those skills in the production of models and working prototypes. Complex, contextualized models will also be built. These projects will be executed both individually and in teams.

**INDI 280 INTRODUCTION TO CAD AND CAID
3 CREDITS**

Students will be introduced to industry standard computer aided design and computer-aided industrial design software that will provide students with the ability to produce detailed two-dimensional renderings of objects for industrial production. Studio Tools, Alias, Rhinoceros, Solidworks, and Ashlar Graphite will be taught. Particular attention will be paid to the integration of skills taught in this class with manual drafting skills.

**INDI 281 CAD AND CAID
3 CREDITS**

In CAD and CAID II, students will be taught either Alias, a 3D modeling and rendering program using Silicon graphic workstation (SGI), the IRIX operating system and the Alias studio package, or Solidworks, a 3-D parametric modeling and surfacing program. Through sequences of tutorials, students will develop familiarity with these programs. Through the use of these programs in the execution of a studio project, they will have direct experience in their application within a design process. .

**INDI 300 INDUSTRIAL DESIGN STUDIO 5
6 CREDITS**

This studio course draws upon all skills and knowledge that students have acquired in studio to date. Employing a design process taught in their sophomore year students will develop mass-produced products for use by individuals in private life. Projects will include furniture, lifestyle accessories and electronics, as well as industry-sponsored collaborations. In this class students will research new materials and technologies and apply them in their designs, which in turn must address issues of utility, market niches, trends, inclusive design, sustainability and functionality.

**INDI 301 INDUSTRIAL DESIGN STUDIO 6
6 CREDITS**

This studio course continues the efforts of INDI 300, drawing upon all the skills and knowledge that students have acquired in studio to date. Employing a design process taught in the sophomore year students will develop mass-produced products for use by individuals in private life. Projects will include furniture, lifestyle accessories and electronics, as well as industry-sponsored collaborations. In this class students will research new materials and technologies and apply them in their designs, which in turn must address issues of utility, market niches, trends, inclusive design, sustainability and functionality.

**INDI 310 CONTEXTUAL RESEARCH METHODS
3 CREDITS**

This course is about understanding people and understanding the culture in which design solutions exist. Students experience various contextual research methods, including Contextual Inquiry, Interviews, Focus Groups, and Questionnaires, and develop and practice unique and innovative user research methodologies. Through these techniques, they learn how to synthesize large quantities of user research and allow research to drive design.

**INDI 400 SENIOR DESIGN PROJECT I
6 CREDITS**

Students will engage in a two-semester long process, based upon professional practices. The process will result in the development and prototyping of a complex, mass-produced product. Design processes employed in earlier courses will be applied in the ideation, research, design documentation, and prototyping of the new product. Investigation of design trends and market research will be undertaken as students work toward an innovation in their designs.

**INDI 401 SENIOR DESIGN PROJECT II
6 CREDITS**

This course is a continuation of work begun in the first semester. Students continue a process, based upon professional practices that will result in the development and prototyping of a complex, mass-produced product. Design processes employed in earlier courses will be applied in the ideation, research, design documentation, and prototyping of the new product. Investigation of design trends and market research will be undertaken as student work toward an innovation in their designs.

**INDI 410 PORTFOLIO STUDIO
3 CREDITS**

This studio will focus on the preparation and refinement of a portfolio that encompasses the student's work within the program and any other distinguishing activity. The goal will be the production of a refined, multifaceted presentation of the student's goals and creative vision and his or her ability to engage in professional practice.

**INDI 480 INTERNSHIP
3 CREDITS**

All students will be required to take part in a professional internship that employs a wide range of skills and knowledge developed in this degree program. Each student will work with a department advisor to fully realize the potential of this experience.

**INNO 300 SUSTAINABLE INNOVATION
3 CREDITS**

Three hours of lecture per week. This course examines the innovation process using a trans-disciplinary approach to provide a holistic view of innovation. It borrows on perspectives from the business, human sciences, design and art, as well as from the technical domains while trying to answer two fundamental questions: How innovation happens and how the process can be sustained and sustainable.

**INNO 303 PRODUCT DEVELOPMENT, PROTOTYPING AND IDEA VALIDATION
3 CREDITS**

Students will determine the technical and business feasibility of their ideas and use this information to make decisions crucial for their development. Using the customer and market feedback gathered, they will use agile development to rapidly iterate their product. The course will explore prototyping processes from initial process flow and sketching to prototype development. Students will apply techniques to build prototypes needed to validate the idea. Participants will work in focused teams to complete hands-on validation activities through instruction, exercises, and scenarios.

**INNO 400 STARTUP INTERNSHIP
3 CREDITS**

This course provides the students with a practical approach in preparing and presenting a comprehensive business plan. This involve integrating the concepts they have previously studied into a detailed plan for a new product/service developed in the final project or capstone course of any undergraduate program. Students will then present their business plan to a panel of faculty members and entrepreneurs. This course will be the final requirement for the option in Entrepreneurship and Innovation program.

**LAND 100 LANDSCAPE ARCHITECTURE DESIGN I
3 CREDITS**

This course offers an introductory overview of design fundamentals and the elements that comprise the basic units of the visual image. The course aims to involve the student on creative two-dimensional and three-dimensional projects. It includes an introduction to techniques of landscape architectural diagrams, plans and sections, manual drafting and design drawing skills, with an emphasis on the development of basic drafting capacity and graphic presentation literacy. It also includes an introduction to three-dimensional drawing: axonometric, perspectives, plus the use of architectural models as design tools. In addition, it provides a basic approach to shades and shadows (black and white) as well as color rendering techniques.

LAND 101 LANDSCAPE ARCHITECTURE DESIGN II

3 CREDITS

This course treats topics of residential and small-scale project design and master planning. It also includes a serious assessment of plant materials as well as architectural materials and graphic presentation. .

LAND 110 INTRODUCTION TO LANDSCAPE ARCHITECTURE: READING THE LANDSCAPE

3 CREDITS

The course is an introduction to the program as well as to information about recent topics related to the curriculum. It presents the discipline through the analysis of the built environment and ecological aspects, as well as through cultural and social issues. A variety of design issues are addressed through historical examples including the role of the Landscape Architect throughout history and how it has evolved. Topics related to the built environment and its effects on the natural systems are discussed including principles of sustainability, as well as land use plans, policies and strategies to improve urban concerns that impact quality of life. The course includes an approach to perception and how individuals construe and interpret the natural landscape. Topics include the landscape in art and literature, visual assessment techniques, use of maps, field sketching and photography.

LAND 150 INTRODUCTION TO SITE ANALYSIS

3 CREDITS

The course centers on discussions and project-based investigations of site inventory and analysis of existing conditions as well as grading, vegetation and drainage principles in landscape architecture projects.

LAND 200 LANDSCAPE ARCHIT DESIGN III

3 CREDITS

The course is a Landscape Architecture Design studio where the student is required to creatively develop recreational, institutional, commercial and/or residential facilities projects applying design principles learned and assessed in LAND 101.

LAND 201 LANDSCAPE ARCHITECTURE DESI IV

3 CREDITS

This course prepares the students to extensively explore the design process through spatial solutions. This learning experience includes topics on natural systems, such as landforms, water, vegetation, wildlife, and soils, as well as climate and its interaction with grey infrastructure, such as roads, buildings and utilities. Commercial and institutional design, as well as planning resource analysis and planting design are also approached. Projects will emphasize the principles of sustainable design solutions.

LAND 210 INTRODUCTION TO CAD FOR LANDSCAPE

3 CREDITS

The course is an introduction to Computer-Aided-Design (CAD) as a drafting and representation technique. The students will learn how to create landscape architectural drawings; use layers, dimension, line types and color to display drawings for plotting; use commands to draw and edit objects; and develop a symbol library. They will be working on plans, sections, elevations and site contours.

LAND 211 CAD LANDSCAPE ARCHITECTURE

3 CREDITS

In this course students will complete a typical design problem utilizing the Computer-Aided-Drawing (CAD) method and other software programs used in the landscape architecture industry. They will develop a two and three-dimensional set of drawings as part of a construction drawing set. In addition, they will be developing renderings and three-dimensional presentations.

LAND 250 LANDSCAPE CONSTRUCTION MATERIALS AND METHODS

3 CREDITS

The course is an introduction to the properties and production on man-made landscape building materials such as concrete, wood, and steel, among others. It includes an exploration of the performance of materials in exterior applications, construction detailing, recyclable materials, and its application in sustainable design.

**LAND 251 SITE DESIGN
3 CREDITS**

This course will study the aspects of land manipulation and consideration of earth bound natural and constructed elements in landscape design, contours, landform, grading design, hydrography, drainage principles and computations, as well as cut and fill calculations. Topics in site ecology and microclimate, and how these influences the design will be discussed. Plant material identification and assessment topics will also be discussed.

**LAND 252 ENVIRONMENTAL SYSTEMS, PLANT MATERIAL AND LANDSCAPE ECOLOGY
3 CREDITS**

This course offers a general level knowledge of basic biology and ecology concepts, environmental systems, landscape ecology and plant material in relation to the application for landscape architecture designs. In addition, the course introduces the concepts and practices of planting design, specifically through the selection and arrangement of plants using the basic principles of design.

**LAND 300 LANDSCAPE ARCHITECTURE DESIGN V
6 CREDITS**

This course offers a study of mixed-use projects. It focuses on communities' issues and individual privacy. It also treats topics on town and city planning, neighborhoods, circulation patterns for public, private and pedestrian movement, family dwellings and open green spaces: parks, recreational facilities, squares and plazas, and green corridors. These projects are of regional significance emphasizing on green infrastructures solutions taking into consideration the role of the ecology.

**LAND 301 LANDSCAPE ARCHITECTURE DESIGN VI: URBAN FOREST AND PLANNING ISSUES
6 CREDITS**

Design of large-scale projects. Emphasis on urban forest, large scale institutional, commercial or mixed-use locations. The objective is to accentuate the benefits of the Urban Forest. The design and planning process focus on how valuable and vital the Urban Forest and green spaces are for communities. The topics convey the beneficial attributes for health improvement, crime reduction, pollution related illnesses' and betterment quality of life, as they are an inspirational validation.

**LAND 340 CODES, REGULATIONS, ETHICS AND PROFESSIONAL PRACTICE
3 CREDITS**

This course offers an overview of the regulations and legal aspects in the practice of landscape architecture. Issues of code compliance, standards, regulations, ethics, licensure, practice types, professional services, business development, contracts, and project management will be addressed. Students will explore different roles and responsibilities and develop a project as a landscape architecture firm.

**LAND 350 METHODS FOR REGIONALS LANDSCAPE DESIGN
3 CREDITS**

This course focuses on the study of regional landscape design methods, their performance for sustainable design and the implementation of green infrastructure or green corridor. Topics emphasize on the different alternatives in methods available. It also includes a detailed discussion of plants material and how these are affected by different climates and environments.

**LAND 351 TECHNOLOGY IN CONSTRUCTION DOCUMENTS
3 CREDITS**

This course focuses on a detailed discussion and analysis of the development of the construction documents process throughout the study of simple structures pertinent to the landscape design such as bridges, retaining walls, pools, etc. The students will learn how to prepare detailed specification documents, working drawings, detailed drawings, and documents layout. The principles, theory and calculations of irrigation and lighting design are also studied. A portfolio of works is expected at the end of the semester.

**LAND 400 SENIOR DESIGN PROJECT I
3 CREDITS**

This course focuses on a detailed discussion and analysis of the development of the construction documents process throughout the study of simple structures pertinent to the landscape design such as bridges, retaining walls, pools, etc. The students will learn how to prepare detailed specification documents, working drawings, detailed drawings, and documents layout. The principles, theory and calculations of irrigation and lighting design are also studied. A portfolio of works is expected at the end of the semester.

LAND 401 SENIOR DESIGN PROJECT II
6 CREDITS

This course is a continuation of the work begun in the previous semester (LAND 400). Students begin a process, based upon professional practices that will result in the development of a landscape architecture design. Design processes employed in earlier courses will be applied in the ideation, research, design documentation, and implementation in the landscape. Investigation of design trends and market research will be undertaken as students work toward an innovation in their designs. A written work is required at the end of the semester.

LAND 410 SENIOR DESIGN PROJECT II
3 CREDITS

This studio will focus on the preparation and refinement of a portfolio that encompasses the student's work within the program and any other distinguishing activity. The goal will be the production of a refined, multifaceted presentation of the student goals and creative vision and his or her ability to engage in professional practice. The student will also learn to prepare a resume, presentations, letter preparation. The student is presented and coached on interviews techniques, preparation of design competition packages and a preview to the licensing exams.

LAND 440 INTERNSHIP
3 CREDITS

All students will be required to take part in a professional internship that employs a wide range of skills and knowledge developed in this degree program. Off campus professional practice under the supervision of a licensed Landscape Architect or related practitioner. A minimum of twelve weeks-part-time supervised employment. Each student will work with a department advisor to fully realize the potential of this experience in a landscape architecture industry or firm, or giving landscape architecture professional services in a product realization.

MEEN 312 KINEMATICS OF MECHANISMS
3 CREDITS

Three hours of lecture per week. Introduction to the kinematics principles of inversion, transmission of motion, and mobility. It includes the analysis of mechanism components such as four-bar linkages, cams, spur gears, and gear trains; synthesis of plane kinematics mechanisms. One or more design projects require the application of course topics.

MEEN 320 THERMODYNAMICS I
3 CREDITS

Three hours of lecture per week. The course centers on the first and second laws of thermodynamics, as well as; properties, equations of state and thermodynamic relations.

MEEN 340 COMPUTER AIDED DESIGN
3 CREDITS

Three hours of lecture/studio per week. The course is an introduction to Computer Aided Design. It includes an introduction to Finite Element Analysis. Other topics are finite element modeling using Cosmos Works software, and an introduction to dynamic analysis using the Working Model software.

MEEN 418 EXPERIMENTAL METHODS
1 CREDIT

One hour of lecture and one three-hour laboratory per week. The course centers on principles of measurement. Topics include operational characteristics and limitations of various transducers, error analysis, an introduction to Lab view and computer data acquisition.

MEEN 420 HEAT TRANSFER
3 CREDITS

Three hours of lecture per week. The course deals with basic principles and applications of the three heat transfer modes: conduction, convection, and radiation, in steady and unsteady states.

MEEN 421 THERMODYNAMICS II

3 CREDITS

Three hours of lecture per week. The course centers on extensions and applications of the first and second laws of thermodynamics including: real gases, psychometrics, power and refrigeration cycles, and combustion processes.

MEEN 425 DESIGN OF MACHINE ELEMENTS

3 CREDITS

Three hours of lecture per week. The course deals with static and fatigue failure theories. Topics include design of mechanical elements such as springs, threaded fasteners, bearings, gears, shafts, clutches, and brakes.

MEEN 460 CONTROL OF DYNAMIC SYSTEMS

3 CREDITS

Three hours of lecture per week. This course introduces fundamental concepts of classical control theory. Topics include dynamical system modeling, the Laplace Transform, representation of systems by means of block diagrams, variables of states, stability of system and control system characteristics, components of feedback control systems, performance of feedback systems, robustness, and stability. Design techniques such as the root locus method and Bode plots are also presented. The course is enriched by extensive use of computer software to design and simulate complex systems.

MEEN 461 CONTROLS LABORATORY

1 CREDIT

One credit-hour. One three-hour laboratory session per week. Application and practice of control systems. PLC Programming, MATLAB programming, Simulink Programming. Students explore concepts in feedback control systems through lab experiments (modeling, identification, and servomechanism control.) and open-ended projects.

MEEN 462 GRID INTEGRATION

3 CREDITS

Students will learn a variety of alternative energy sources, along with energy processing technologies required for power system connection. System integration issues will be addressed, with consideration given to impacts on current design philosophies and operating procedures. Topics will be covered at a level suited to establishing a broad understanding of the various technologies, and of the associated system implications.

MEEN 464 MECHANICAL VIBRATIONS

3 CREDITS

Three hours of lecture per week. The course is an introduction to vibration of mechanical systems. Topics include free vibration of undamped and damped systems, response to harmonic excitation of undamped and damped systems, vibration instrumentation, design and for vibration suppression, as well as free and forced vibration of two degree of freedom system.

MEEN 465 VEHICLE DYNAMICS FUNDAMENTALS

3 CREDITS

Three hours of lecture per week. The course centers on fundamentals of vehicle dynamics. Topics include acceleration and braking performance, road loads and ride, suspension, steering, rollover and tires.

MEEN 481 MECHANICAL SYSTEMS DESIGN

3 CREDITS

Three hours of lecture per week. The course consists of major experience in the design experience of an engineering system, including completion of a semester length design project, engineering design techniques and methodology.

MEEN 482 FAILURE OF MATERIALS IN MECHANICAL DESIGN

3 CREDITS

Three hours of lecture per week. The course centers on the design of structures to prevent mechanical failure. Topics include modes and theories of failure, as well as stress, strain, deformation, and their relationships. Fracture and fatigue analysis and prevention are also discussed, as are design against creep, fretting, wear, and corrosion failures.

**MEEN 484 CORROSION IN METALS
3 CREDITS**

Three hours of lecture per week. The course is an introduction to fundamental principles of corrosion; eight forms of corrosion. Topics includes; electromechanical test methods; corrosion environments; corrosion control methods; failure analysis and economics.

**MEEN 485 THERMAL SYSTEMS DESIGN
3 CREDITS**

Three hours of lecture per week. The course centers on the analysis and design of energy systems. Design content emphasizes sizing of components. Topics include piping networks, heat exchangers, prime movers, and solutions using numerical methods.

**MEEN 489 AIR CONDITIONING
3 CREDITS**

Three hours of lecture per week. The course deals with static and fatigue failure theories. Topics include design of mechanical elements such as springs, threaded fasteners, bearings, gears, shafts, clutches, and brakes.

**MEEN 497 SPECIAL PROBLEMS
3 CREDITS**

Course credit and format will depend on the specific problem. Special design problems will be offered by the engineering faculty.

**MEEN 498 UNDERGRADUATE RESEARCH I
3 CREDITS**

Three hours of seminar per week. This course introduces basic undergraduate research on specific mechanical engineering topics. The subjects covered in class are described in terms of experimental and/or numerical or analytical analysis.

**MEEN 499 UNDERGRADUATE RESEARCH II
3 CREDITS**

Three hours of seminar per week. This course expands the undergraduate research experience on specific mechanical engineering topics. The proposed subjects covered in class are related to experimental and numerical methods.

**MEEN 501 FINITE ELEMENT ANALYSIS
3 CREDITS**

Three hours of lecture/studio per week. Immersion into the use of the finite element method (FEM) to solve complex, real-world structural analysis and heat transfer problems. Applications using special-purpose finite element programs with emphasis on general-purpose (commercial) finite element software.

**MEEN 502 AIRCRAFT DESIGN
3 CREDITS**

Three credits. Three hours of lecture per week; 45 hours per semester. Required introductory course for the aerospace engineering specialization. The objective of the course is to familiarize mechanical engineering master's students with aeronautical engineering fundamentals and their application in aircraft design. Focus on steps in preliminary design of general aviation aircraft with emphasis on the iterative aspects of design.

**MEEN 503 FUNDAMENTALS OF AEROSPACE ENGINEERING
3 CREDITS**

Three credits. Three hours of lecture per week; 45 hours per semester. Required introductory course for the aerospace engineering specialization. The course initially covers basic concepts and nomenclature that are critical to the understanding of aerospace systems and applications. Throughout the semester, the students will be exposed to basic aerodynamic principles as applied in the analysis of flight vehicles and will be introduced to more advanced topics such as aircraft performance, stability, and control. The course concludes with an overview of propulsion devices that are typically used for aircraft applications.

**MEEN 601 ADVANCED MATHEMATICS
3 CREDITS**

This advanced course in mathematics analyzes the functions of a complex variable and the calculus of residues. It also covers subjects such as ordinary differential equations, partial differential equations, Bessel and Legendre functions, and the Sturm-Liouville theory. Applications to engineering problems are presented.

**MEEN 602 ADVANCED MECHANICS OF MATERIAL
3 CREDITS**

The present course presents an overview of stress analysis, strain analysis, the generalized Hooke's law, plain stress and strain, energy methods, unsymmetrical bending, torsion of thin walled beams and elastic stability. The present course presents an overview of stress analysis, strain analysis, the generalized Hooke's law, plain stress and strain, energy methods, unsymmetrical bending, torsion of thin walled beams and elastic stability.

**MEEN 603 ADVANCED FLUID MECHANICS
3 CREDITS**

This course studies the mass conservation, momentum, and energy equations for continua. Exact solution to the Navier-Stokes equations is presented. Circulation and vorticity theorems, potential flow, surface waves and an introduction to turbulence and compressible flow are also covered.

**MEEN 604 AERODYNAMICS I
3 CREDITS**

Three hours of lecture per week; 45 hours per semester. Required introductory course for all mechanical engineering master's students. Review of incompressible fluid mechanics. Aerodynamic performance of wings and bodies in sub-sonic regime. The contents divided into three components: subsonic potential flows, including source/vortex panel methods; viscous flows, including laminar and turbulent boundary layers; aerodynamics of airfoils and wings, including thin airfoil theory, lifting line theory, and panel method/interacting boundary layer methods.

**MEEN 611 COMPOSITE MATERIALS
3 CREDITS**

Properties and microstructure of high-strength fiber materials (glass, carbon, polymer, ceramic fibers) and matrix materials (polymer, metal, ceramic, and carbon matrices). Specific strength and stiffness of high-performance composites. Rule of mixtures. Stress, strain transformations. Elastic properties of a single orthotropic material. Laminated plate theory. Failure criteria. Design of composite structures and components. Manufacturing processes.

**MEEN 612 AEROSPACE STRUCTURAL ANALYSIS
3 CREDITS**

Beam structures under combined shear, bending and torsional loads. Semi-monocoque structures: idealizations involving wings, ribs and fuselage bulkheads. Effects of taper and cutouts in stiffened shell structures, shear deformations and warping, location of elastic axis in open and closed sections, torsion of multicell sections. Stability analysis of columns: elastic restraints, energy methods. Stability of plate structures, beam-column analysis, coupled bending torsion instabilities

**MEEN 613 FLIGHT MECHANICS
3 CREDITS**

Performance, stability, and control of airplanes. General equations of motion for rigid aircrafts, aerodynamic forces and moments, quasi-steady and non-steady flight paths. Generalized performance methods and flight envelopes. Small disturbance theory, stability derivatives, longitudinal and lateral static stability. Basic airplane motion, response to control actions and to atmosphere disturbances. Simulation of aircraft performance and dynamics.

MEEN 614 PROPULSION SYSTEMS

3 CREDITS

Analysis of thrust generation: propeller theory, combustion, reciprocating engines, gas turbines. One-dimensional compressible flow, Prandtl-Meyer expansions and oblique shock waves; application to diffusers and rocket nozzles. Linearized supersonic flow.

MEEN 615 AERODYNAMICS II

3 CREDITS

Three credits. Three hours of lecture per week; 45 hours per semester. This course studies the aerodynamic performance of wings and bodies in compressible flow. Study the theory of supersonic and hypersonic airfoil.

MEEN 616 INTRODUCTION TO AEROELASTICITY

3 CREDITS

Three hours of lecture per week; 45 hours per semester. Introduction to aeroelasticity and loads. Static aeroelasticity. Effect of wing flexibility on lift distribution, divergence, aileron reversal and control effectiveness. Unsteady aerodynamic oscillation of airfoil in incompressible flow. Dynamic aeroelasticity, flutter calculations. Testing techniques.

MEEN 617 DYNAMICS OF ROTATING MACHINERY

3 CREDITS

This course introduces students to the field of rotor dynamics. The course initially covers basic concepts in machinery vibration using simplified models for single-mass rotor systems and then progresses to the analysis of realistic multi-mass rotor-bearing systems using advanced analytical techniques. Throughout the course, an emphasis will be placed in the calculation of critical speeds, the calculation of lateral forced response, and the determination of dynamic stability in rotor-bearing systems. The analytical techniques will be complemented with a laboratory experience in rotor balancing. At the end of the course the students will be introduced to the torsional analysis of rotor systems.

MEEN 621 BOUNDARY LAYERS

3 CREDITS

Boundary Layer Theory. Concepts of laminar and turbulent flow. Boundary-layer approximations. Similarity and integral methods of solution. Internal flows, flow over surfaces, jets, rotating elements, and the effects of compressibility.

MEEN 622 COMPRESSIBLE FLOW

3 CREDITS

This course describes the fundamental concepts and results for the compressible flow of gases. Topics to be covered include: appropriate conservation laws; propagation of disturbances; isentropic flows; normal shock wave relations, oblique shock waves, weak and strong shocks, and shock wave structure; compressible flows in ducts with area changes, friction, or heat addition; heat transfer to high speed flows; unsteady compressible flows, Riemann invariants, and piston and shock tube problems; steady 2D supersonic flow, Prandtl-Meyer function; and self-similar compressible flows.

MEEN 623 MULTISCALE TURBULEN AERONAUTIC

3 CREDITS

Derivations of conservation laws for velocity field, temperature for turbulent flow from the perspective of multiscale applications including wind energy, the atmospheric turbulent boundary layer & aerodynamics (reentry, transonic flow, turbines). Asymptotic method & similarity transformations for high Reynolds number will be a major focus of the applications. The course will also deal with incompressible & compressible flow.

MEEN 624 COMBUSTION

3 CREDITS

The present course covers the fundamentals of combustion, flame structure, flame speed, flammability, ignition, stirred reaction, kinetics and nonequilibrium processes, and pollutant formation. Also, it is presented some applications to engines, energy production and fire safety.

MEEN 628 ADVANCED TOPICS AEROSPACE

3 CREDITS

Study of advanced topics in aerospace.

MEEN 629 INDEPENDENT STUDY IN AEROSPACE ENGINEERING

3 CREDITS

Individual study of specific topics in aerospace of academic and research interest.

**MEEN 630 ENGINEERING INTERNSHIP I
1 CREDIT**

This practice-oriented course is intended to provide students with an internship in industry (work practicum) or academia (research experience in another university), within their academic discipline.

**MEEN 631 ENGINEERING INTERNSHIP II
1 CREDIT**

This practice-oriented course is intended to provide students with an additional internship in industry (work practicum) or academia (research experience in another university), within their academic discipline.

**MEEN 641 SUSTAINABLE ENERGY
3 CREDITS**

Three credits. Three hours of lecture per week; 45 hours per semester. The present course study the current and potential future energy systems, and it includes topics on resources, extraction, conversion, and end-use, with emphasis on meeting regional and global energy needs in the 21st century in a sustainable manner. Different renewable and conventional energy technologies will be presented and their attributes described within a framework that aids in evaluation and analysis of energy technology systems in the context of political, social, economic, and environmental goals.

**MEEN 642 GRID INTEGRATION
3 CREDITS**

Three credits. Three hours of lecture per week; 45 hours per semester. Students will learn a variety of alternative energy sources, along with energy processing technologies required for power system connection. System integration issues will be addressed, with consideration given to impacts on current design philosophies and operating procedures. Topics will be covered at a level suited to establishing a broad understanding of the various technologies, and of the associated system implications.

**MEEN 643 ENERGY MANAGEMENT
3 CREDITS**

Three credits. Three hours of lecture per week; 45 hours per semester. Introduction to the concepts and applications of energy management practices. Learn how to perform energy use assessments and energy conservation plans.

**MEEN 644 PHOTOVOLTAIC ENERGY CONVERSION
3 CREDITS**

This course explains how solar cells convert light into electricity, how solar cells are manufactured, how solar cells are evaluated, what technologies are currently on the market, and how to evaluate the risk and potential of existing and emerging solar cell technologies. The present course scrutinizes what limits solar cell performance and cost, and the major hurdles — technological, economic, and political — towards widespread substitution of fossil fuels.

**MEEN 645 WIND ENERGY
3 CREDITS**

Main features of energy conversion by wind turbines. Emphasis on characterization of the atmospheric boundary layer, aerodynamics of horizontal axis wind turbines, and performance prediction. Structural effects, power train considerations, siting, and wind farm planning.

**MEEN 646 SOLAR REFRIGERATION AND AIR CONDITIONING
3 CREDITS**

This course offers fundamental knowledge on Radiant energy transfer and its application to solar exchangers; energy balances for solar exchangers, review of theory, economics, and practice of solar energy applications. Special attention is given to refrigeration and air conditioning systems.

**MEEN 648 ADVANCED TOPICS IN ALTERNATE ENERGY
3 CREDITS**

Study of advanced topics in alternative energy.

MEEN 649 INDEPENDENT STUDY IN ALTERNATIVE ENERGY

3 CREDITS

Individual study of specific topics in alternative energy of academic and research interest.

MEEN 651 OCEAN ENERGY

3 CREDITS

Three hours of lecture per week; 45 hours per semester. Learn ocean renewable energy technology principles and applications as well as the design considerations. Model and quantify the ocean energy sources and economic viability.

MEEN 652 BIOFUELS

3 CREDITS

Three hours of lecture per week; 45 hours per semester. Learn principles on the generation, production and use of biofuels. Understand the challenges and merits of using biofuels. .

MEEN 671 ADVANCED HEAT CONDUCTION

3 CREDITS

Analytical methods in conduction; Bessel functions, separation of variables, Laplace transforms, superposition, oscillating solutions; computer methods; finite differences, finite elements.

MEEN 672 MECHANICAL VIBRATIONS

3 CREDITS

Concepts of mechanical vibration, including free and forced vibration of single- and multi-degree of freedom systems. Modal analysis and matrix formulation of vibration problems. Approximate solution techniques. Vibration and modal analysis of continuous systems: beams, rods, and strings. Introduction to the response of linear systems to random excitation. Numerous examples and applications of vibration measurement and analysis.

MEEN 673 COMPUTATIONAL FLUID DYNAMICS

3 CREDITS

The present course study focuses on computational approaches to solve Navier-Stokes equations; which govern fluid flow in most engineering applications. Fundamental issues related with implementation of finite difference methods (FDM), finite volumes (FVM) and finite element methods (FEM) will be discussed. These issues include the discrete formulation, non-linear equation iterator (steady)/marcher (time-accurate), linear equation formulation, boundary condition prescription and linear equation solution.

MEEN 674 MICRO AND NANO HEAT TRANSFER

3 CREDITS

This course explores the methods and observations of thermophysical phenomena in size-affected domains. A study of various modern engineering applications, such as microchannel heat sinks, micro heat exchangers, and micro heat pipes is presented. Additionally, the course covers methods that range from discrete computation to optical measurement techniques for microscale applications. The fundamental of nanoscale thermal phenomena in fluids is also studied.

MEEN 675 MEMS AND ENERGY HARVESTING

3 CREDITS

Three hours of lecture per week; 45 hours per semester. Discussion of micromachining and microfabrication techniques (including planar thin-film process technologies, photolithographic techniques, deposition and etching techniques, and other technologies) used for MEMS fabrication. Since MEMS encompasses a multi-domain approach, this course will cover the fundamentals of mechanical, electrical, fluidic, and thermal energy/signal domains for the design and analysis of devices and systems. Basics of sensing and transduction mechanisms will be covered (conversion of non-electronic signals to electronic signals, including capacitive and piezo-resistive techniques). Multiple examples of sensors and actuators and their applications will be reviewed. Energy harvesting applications from MEMS technology will be discussed as well.

MEEN 676 DESIGN OPTIMIZATION

3 CREDITS

Three hours of lecture per week; 45 hours per semester. The course covers two fundamental issues in engineering design: design theory and design practice. The first half semester will be used for learning fundamental design theory, and topics include: fundamentals of engineering design, optimality conditions, linear and nonlinear programming, primal and dual theory, topology/sizing/shape design. The second half will be allocated for practicing engineering design problems, and topics include: response surface method, robust design using Taguchi method and Genetic Algorithm, introduction of multidisciplinary design optimization, engineering uncertainty in design.

MEEN 678 ADVANCED TOPICS

3 CREDITS

Study of advanced topics in mechanical engineering.

MEEN 679 INDEPENDENT STUDY

3 CREDITS

Individual study of specific topics in mechanical engineering of academic and research interest.

MEEN 681 INTRODUCTION TO BIOMECHANICS

3 CREDITS

Three hours of lecture per week; 45 hours per semester. The course provides an overview of the function and structure of the musculoskeletal system. It reviews the kinematic and kinetic concepts to be applied to biological tissues, and the strength of materials concepts for biological materials. Time dependent and independent mechanical behavior will be considered.

MEEN 682 SYSTEMS ENGINEERING

3 CREDITS

Three hours of lecture per week; 45 hours per semester. The course covers the theory and practice of the discipline of systems engineering, the system life cycle and stakeholder involvement, as well as the explanation of the systems design process. It provides the knowledge and skills to engineer multidisciplinary systems.

MEEN 683 FRICTION, WEAR AND LUBRICATION

3 CREDITS

Three hours of lecture per week; 45 hours per semester. The objective of the course is to familiarize fundamental wear mechanisms of adhesive, abrasive, corrosive and surface fatigue; boundary and hydrodynamic lubrication; friction theories; surface topography characterization; Applications in journal and ball bearings, clutches and brakes.

MEEN 684 ADVANCED TRIBOLOGY

3 CREDITS

Three hours of lecture per week; 45 hours per semester. The objective of the course is to be in depth study of selected topics in tribology, which includes wear and friction theories, oil film thickness calculations, contact mechanics, materials for tribology, and application in bearing and gear.

MEEN 685 MODERN APPLIED CONTROL

3 CREDITS

Three credit-hours. Introduction to State Space modeling which is the base for modern control theory. The course initially covers basic concepts in classical control using simplified transfer functions for single input-single output models. Then, the State Space representation is introduced and its main characteristics, such as controllability, observability, reachability and the principle of duality, are demonstrated. Pole placement, optimal control, and Kalman filters techniques are used. Emphasis placed on real problems of mechanical engineering with specific applications in alternative energy (fuel cells and wind turbines) and aerospace engineering (autonomous fixed wing airplanes and multirotors). The course will be complemented with the use of software tools available for theory validation.

MEEN 694 SPECIAL PROJECT

3 CREDITS

Comprehensive study of a mechanical engineering problem.

MEEN 697 THESIS

3 CREDITS

METE 250 PRINCIPLES OF PNEUMATICS AND HYDRAULICS
4 CREDITS

This course covers the theoretical and practical principles of hydraulics and pneumatics systems. The student acquires the knowledge in the design, installation and repair components such as valves, compressors, actuators regulators and other associate's components. Skills in blueprint reading and schematic related with industrial hydraulics and pneumatics field are developed. The student applies the safety rules and procedures in the laboratory.

METE 233 FUNDAMENTALS OF REFRIGERATION AND AIR CONDITIONING
3 CREDITS

In this course refrigeration and air conditioning the student will develop the knowledge on the following topics: characteristics of refrigerants, temperature, pressure, tools and equipment, welding, system components, compressors, evaporators, and metering devices. It also studied the burden and evaluation of systems and leak detection. Explore the basic system maintenance. Explains the use and care of oils and additives and troubleshooting of small commercial systems.

METE 233L LAB OF FUNDAMENTALS OF REFRIGERATION AND AIR CONDITIONING
1 CREDIT

In this laboratory course will apply the theoretical knowledge acquired in the course Fundamentals of Refrigeration and Air conditioning. The student will learn techniques for leak detection, evacuation, refrigerant charge and the recovery of refrigeration and air conditioning. The course also includes flowcharts, various thermodynamics appendices, conversion factors, coolant pressure and analysis of heating by pressure. Also, the student applies the Thermodynamics Laws in this course.

METE 235 FUNDAMENTALS OF PROPERTIES OF MATERIALS
3 CREDITS

The course centers on the fundamental principles of structure and properties of materials utilized in the practice of technology engineering. Properties of materials are related to atomic, molecular, and crystalline structures. Topics include metals, ceramics, multiphase systems, and polymeric materials. The relationship between structure and electrical, mechanical, thermal, and chemical properties will also be discussed.

METE 235L LAB OF FUNDAMENTALS OF PROPERTIES OF MATERIALS
1 CREDIT

In this laboratory course will apply the theoretical knowledges acquired in the course METE 235 Fundamentals of Properties of Materials. The student will have the opportunity to develop different types of tests to metals, plastics and wood. Be used: microscopes and hardness equipment among others. Also, in this course, students apply all safety rules established for Mechanical Engineering Laboratory.

METE 245 FUNDAMENTALS OF MANUFACTURING PROCESSES TECHNOLOGY
3 CREDITS

In this course the students learn the fundamentals to manufacturing processes, including interrelationships between the properties of the material, the manufacturing process, and the design of components. Is an overview of casting, forming, and metal removal process. Also, will be used manufacturing processes of plastics and wood. Emphasis on process selection for optimum design.

METE 245L LAB OF FUNDAMENTALS OF MANUFACTURING PROCESSES TECHNOLOGY
1 CREDIT

In this laboratory course will apply the theoretical knowledge acquired in the course METE-245 Principles of Manufacturing Processes Technology. The student will have the opportunity to acquire technical skills in the development of mechanical components. Be used: lathes, milling machines, drills and other specialized equipment to design industrial parts. The student applies the safety rules and procedures in the laboratory.

METE 248 WELDING OF PRINCIPLES
1 CREDIT

In this course the student will acquire knowledge and skills related to the field of welding. We will study the materials, techniques and procedures relating to this matter. The student will have the opportunity to work: oxy-acetylene soldering, shielded metal arc, gas metal and plasma cutting and more. Using all the safety rules that govern this field as well as the procedure used for the management and use of gas. Lecture, labs, team collaboration, and problem solving will be used to develop technological competencies, quantitative reasoning, and mechanical systems design. The course meets three hours a week.

**NETP 400 COMPUTER NETWORKS AND INTERNET OF THINGS
3 CREDITS**

Study of Networking basics concepts and terminology, protocols and skills on computer networks. The student will learn local-area networks (LANs), wide-area networks (WANs), Open System Interconnection (OSI) models, cabling, cabling tools, routers, routers programming, Ethernet, Internet Protocol (IP) addressing, and network standards. Students will learn about Internet of Things applications, protocols and technology.

**NETP 401 CAPSTONE II
0 CREDITS**

This is the second part of the ENGI 400 Course, students will continue working on the same team, pursuing to complete the project previously presented to the Capstone Committee. During this semester, students will be prototyping and solving project problems. They will start to work on the design of the Printed Board Circuit (PCB) and soldering process. The course will conclude with the Beta testing of the completed project with a final report and oral presentation. The report will include details about the design, fabrication testing, time management of the semester and results. Students will identify disadvantages with their current projects and suggest improving ideas, recommendations based on the research experience.

**RAEM 240 FUNDAMENTALS OF AUTOMOBILE A/C
2 CREDITS**

In this course the student will acquire the basics concepts of automobiles air conditioning. They will study their functioning, parts, maintenance and breakdowns of these cooling systems. It applies the concepts of compressors, evaporators and condensers as well is work with the electrical system and controls for these equipment's. In addition, students will learn the rules and regulations governing this technology.

**RAEM 115 FUNDAMENTALS OF REFRIGERATION AND AIR CONDITIONING
3 CREDITS**

The course students will acquire the introductory concepts of refrigeration and air conditioning. They will study the history, the branches of this field and the thermodynamic principles that apply. The student will develop the theoretical knowledge in the following topics: characteristics of refrigerants, compressors, condensers, evaporators and metering devices. It will study, the loading and evacuation system and refrigerant leak detection. They will explain the use and care of oils and additives used in compressors and analyze the different mechanical and electrical problems of small refrigeration and air conditioning systems. In addition, the basics concepts of sicrometry will be studied.

**RAEM 155L LAB OF FUNDAMENTALS OF REFRIGERATION AND AIR CONDITIONING
1 CREDIT**

The course students will acquire the introductory concepts of refrigeration and air conditioning. They will study the history, the branches of this field and the thermodynamic principles that apply. The student will develop the theoretical knowledge in the following topics: characteristics of refrigerants, compressors, condensers, evaporators and metering devices. It will study, the loading and evacuation system and refrigerant leak detection. They will explain the use and care of oils and additives used in compressors and analyze the different mechanical and electrical problems of small refrigeration and air conditioning systems. In addition, the basics concepts of sychrometry will be studied.

**RAEM 210 PRINCIPLES OF RESIDENCIAL REFRIGERATION AND AIR CONDITIONING
3 CREDITS**

In the course the student will learn the operation, installation and maintenance of residential refrigeration and air conditioning equipment's. They will acquire knowledge to work with control systems for refrigeration and air conditioning such as, relays, thermostats, defrost and heaters. They will learn the operation of hermetic compressors, condensers and evaporators used in refrigeration and air conditioning systems. In addition, its operation, installation and maintenance will be discussed. Also, the rules and regulations governing this technology will be learned.

RAEM 210L LAB OF PRINCIPLES OF RESIDENCIAL REFRIGERATION AND AIR CONDITIONING

1 CREDIT

The laboratory course will apply the theoretical knowledge acquired in the course RAEM 210, Principles of Residential Refrigeration and Air Conditioning. The student will learn electrical-mechanical operation of refrigerators, freezers, ice machines and other residential equipment. The student will apply troubleshooting and use the techniques for detecting leaks, the evacuation of refrigerant recovery and refrigeration systems and air conditioning residential.

RAEM 220 PRINCIPLES OF COMMERCIAL AND INDUSTRIAL AIR CONDITIONING

3 CREDITS

In the course students will acquire the knowledge's in commercial and industrial, refrigeration and air conditioning systems. They will study their parts, operation, installation and maintenance of this equipment. They will learn the operation of compressors, condensers and evaporators used in commercial and industrial cooling systems. The students will acquire the knowledges to work with control systems such as; relays, thermostats and other components. The rules and regulations governing this technology will be included and applied.

RAEM 220L LAB OF PRINCIPLES OF COMMERCIAL AND INDUSTRIAL AIR CONDITIONING

1 CREDIT

The laboratory course will apply the theoretical knowledge acquired in the course RAEM 220, Principles of Commercial and Industrial Refrigeration and Air Conditioning. The student will learn the practical techniques for leak detection, evacuation, refrigerant charging and recovery of cooling systems for commercial and industrial air conditioning. The course also includes flow charts, various annexes, conversion factors, refrigerant pressure and analysis of pressure reheating. The student will apply the laws of thermodynamics involve in these equipment's.

RAEM 250 PROFESSIONAL SEMINAR

4 CREDITS

Study and analysis of knowledge's and skills of the previous courses with the RAEM, ETRA, MATH and EMTE codes. The students will discuss theoretical concepts, implementation, operation and maintenance of refrigeration and air conditioning systems. Problems found in cooling systems of residential, commercial, industrial and automobile will be analyzed. The student will have the knowledge and the skills necessary to take the exam offered by the Board of Examiners for technicians in refrigeration and air conditioning of the Government of Puerto Rico. This course will also provide the students with the necessary knowledges to develop their own business.

SEDE 300 MATERIAL SURVEY, PROPERTIES AND PRODUCT PROCESS

3 CREDITS

This course builds on the curriculum of Material Survey and Properties I and provides more in-depth analysis of material properties and their uses. Through lectures and research projects student will deepen their knowledge of material, paying attention to the way they behave when utilized with various material processes.

TCOM 335 PRINCIPLES OF TELECOMMUNICATIONS AND NETWORKING

3 CREDITS

This course covers the key concepts of telecommunications and networking. It provides a solid introduction to networking fundamentals including key acronyms, protocols, and components that are essential to understanding how networks operate today. It covers the basic concepts of telecommunications such as analog/digital communications, basic encoding, bandwidth and capacity and serves as a solid foundation for in-depth study of networking. It identifies the types of communications networks that have evolved based on the various technological configurations and the internetworking process behind data communications. Upon completion, the participant will have a solid understanding of how information travels from a computer to another computer across a network.

TCOM 335L LABORATORY OF PRINCIPLES OF TELECOMMUNICATIONS AND NETWORKING

1 CREDIT

This laboratory course provides students with theoretical concepts and practical skills in telecommunications and networks. It discusses the concepts of data transmission, wireless communication protocols and standards among others. The issues are addressed to the operating principles, selection and specification of networking systems. Also, in this laboratory the students apply of voice communications technologies. The course prepares students to take the certification exam for Network Systems Network +.

TCOM 350 FUNDAMENTALS OF NETWORKING INFRASTRUCTURE MANAGEMENT

3 CREDITS

This course concentrates on the Windows/2000 infrastructure management protocol, which is the largest in used at a Global scale. It covers in detail the procedures for planning and servicing network infrastructure. Covers areas such as protocols, services required calculation in the light of the organization needs, packet exchange and sequential packet exchange IPX/SPX, integration with Novell network, TCP/IP. Netbios, WINS, DHCP and DNS maintenance and configuration issues are covered. Routing, remote access and VPNs are also covered from an infrastructure and management perspective.

TCOM 350L LABORATORY OF FUNDAMENTALS OF NETWORKING INFRASTRUCTURE MANAGEMENT

1 CREDIT

This laboratory course provides students with theoretical concepts and practical skills Infrastructure Management Network Systems. Network Implementation Plan are analyzed Hardware / Software Considerations and protocols (possible configurations) 2nd and 3rd. The issues are addressed to the operating principles, selection and specification of networking systems. Also, in this lab, students apply the technologies of voice communication. The course prepares students to take the certification exam for Network Systems Network +.

TCOM 500 APPLIED MATHEMATICS IN TELECOMMUNICATIONS

3 CREDITS

This course covers elementary discrete mathematics for computer science and engineering. It emphasizes mathematical definitions as well as applicable methods. Topics include formal logic notation; sets, functions, relations; elementary graph theory; Number theory; growth of functions; permutations and combinations, counting principles; discrete probability. Further selected topics may also be covered, such as state machines and invariants.

TCOM 503 INTRODUCTION TO TCP / IP

3 CREDITS

The Internet is also one of the world's most powerful communication tools. This course will discuss and present the underlying applications, components and protocols of TCP/IP and its necessary link to the Internet. The Introduction to TCP/IP course will help participants learn how to identify TCP/IP layers, components and functions. Navigation tools, TCP/IP services and troubleshooting methodologies are also covered in this course.

TCOM 507 CONVERGENCE OF TECHNOLOGIES

3 CREDITS

The course deals with functional requirements of a converged network and how various technologies make convergence possible by providing each of those functions. Emphasis is placed on the critical need for increased bandwidth by reviewing the standard LAN and WAN protocols used in the most common networking configurations. Several emerging protocols and technologies that promise to provide the quality of service necessary for the transmission of time-sensitive information will be introduced. Practical applications of convergence will also be discussed.

TCOM 513 IT PROJECT MANAGEMENT

3 CREDITS

Information Technology (IT) Projects are major organizational investments. In today's Global Economy the level of success of these projects is paramount to Enterprise Sustainability and continued business. This class will concentrate on providing not only the basic PM skills but will concentrate on the particular techniques designed for technology-based projects, ITPM. It will discuss and explain PMBOK techniques (Project Management Body of Knowledge), the ITPM cycle, tools and processes, scope definition, verification and control. ITPM estimation techniques, risk management, analysis, assessment, monitor and control methods will be covered also. Implementation, closure and evaluation techniques specifics for ITPM projects will also be presented and discussed.

TCOM 514 TELECOMMUNICATION GOVERNANCE I

3 CREDITS

IT governance is an integral part of the business and an integral part of corporate governance. IT governance consist of the leadership, organizational structures and processes that ensure that the organization's IT sustains and extends the organization strategies and objectives. The key goal of technology governance is enterprise sustainability. This series of two courses will cover the framework elements, areas of focus, risk management, strategic alignment, performance measures, IT value delivery and resource management in the design of an effective IT governance plan and strategy. This first course will focus on the basics of IT governance including the legal framework, global standards and considerations, governance archetypes and will study practical cases in various organization types.

TCOM 515 TELECOMMUNICATIONS GOVERNANCE II
3 CREDITS

IT governance is an integral part of the business and an integral part of corporate governance. Its governance consists of the leadership, organizational structures and processes that ensure that the organization's IT sustains and extends the organization strategies and objectives. The key goal of technology governance is enterprise sustainability. This series of two courses will cover the framework elements, areas of focus, risk management, strategic alignment, performance measurements, IT value delivery and resource management in the design of an effective IT governance plan and strategy. This second course will focus on the mechanisms for implementing IT governance, linking strategies and performance, leadership principles, business intelligence, real time business intelligence, changing landscape of the telecommunications industry. Multiple cases will be presented, and the students will create a BI based strategy and roadmap.

TCOM 521 NETWORKING FUNDAMENTALS
3 CREDITS

This course introduces participants to the key concepts of data communications, telecommunications and networking. It introduces networking fundamentals including key acronyms, protocols, and components that are essential to understanding how networks operate. Students will gain a high-level understanding of the OSI model, networking protocols, networking components, local area networks and wide area networks. Upon completion, the participant will have a basic understanding of how information travels from a source computer to a destination computer across a complex network.

TCOM 523 WIRELESS NETWORKS
3 CREDITS

This course covers fundamental concepts related to wireless networks including wireless channel characteristics, wireless data transmission, multiple access protocols, error control, wireless standards, and cellular concepts and resource allocation. It provides a broad understanding of modern wireless networks, local area networks and cellular networks. Students are exposed to design and analysis concepts that are essential in the development of wireless networks.

TCOM 524 TECHNOLOGICAL & SCIENTIFIC INNOVATION
3 CREDITS

Innovation; practical creativity; effective creative scientific thinking methods and procedures; new ideas development are all key elements of a successful scientist. This course will introduce and cover the scientific methods used in innovation and creative thinking. Will introduce innovation from the standpoint of the modern school of innovation scholars such as, Schumpeter, Eric Rogers, Von Hippel, Altshuller (the engineer that created TRIZ or theory of inventive problem-solving), Alex Osborn, Robert Sternberg and others. Will cover innovation toolkits such as Altshuller's innovation pyramid, Burgelman and Seigel's minimum winning game, Osborn and Parnes' creative problem-solving (CPS), Altshuller's TRIZ, Amabile's internal and external motivation, Guilford's convergent and divergent thinking and Ries' build-measure-learn wheel. Will also cover Christensen's disruptive innovation process, Usher's path of cumulative synthesis, Van de Ven's leadership rhythms, d.school's design thinking modes, Henderson and Clark's four types of innovations, Rogers' adoption and diffusion curve, Abernathy and Utterback's three phases of innovations, Chesbrough's open innovation, March's exploration vs exploitation, Powell and Grodal's networks for innovation and Boyd's OODA loop.

TCOM 556 IP TEL & DESIGN AND IMPLEMENTATION OF VOICE NETWORKS
3 CREDITS

The course presents and explains the many and varied techniques, solutions, principles, and challenges both carriers and end users utilize, experience, and overcome in implementing voice-over IP services. This course explores the various protocols involved, the QoS challenges we face and their solutions, engineering principles to consider when designing a VoIP solution, market drivers and applications, security issues, and carrier options. The course deals with structure and design of telecommunication networks, both large and small. Topics include an overview of the public telephone network, and a description of the large networks and transmission facilities that switch telephone calls. PBX switching systems and an introduction to the science of traffic engineering will also be presented. The three most common methods of estimating the optimum trunk capacity of a phone system will be discussed, as well as practical advice for gathering the raw data necessary for traffic engineering calculations.

TCOM 606 NETWORK DESIGN PROJECT
3 CREDITS

Development, analysis, simulation and implementation of a significant design project related to the area of Computer Networks. Discussion of design constraints and manufacturing cost, compatibility with the environment, aesthetics, safety, possible social, political, or ethical implications. Development of a prototype including discussion of the design cycle and experimental verification or simulations. A detailed written report and final presentation are required.

TCOM 607 THESIS I
3 CREDITS

The purpose of this course is to establish the relationship and working environment between the student and thesis advisor. The student must select a subject matter and obtain advisor's approval. The thesis advisor will provide feedback and guide the student through the process of writing his thesis including guiding the student through the investigation proposal and process and is course studies the principles and methods and techniques of scientific investigation and proper academic redaction. At the end of the course the student will have the written thesis proposal. Of not finishing it he will be to register the course again to culminate properly his proposal. For more details on the matter the student will have to be read to the Graduate Catalog and Academic Norms.

TCOM 609 THESIS II
3 CREDITS

The purpose of this course is to establish the relationship and working environment between the student and thesis advisor. The student must select a subject matter and obtain advisor's approval. The thesis advisor will provide feedback and guide the student through the process of writing his thesis including guiding the student through the investigation proposal and process and is course studies the principles and methods and techniques of scientific investigation and proper academic redaction. At the end of the course the student will have the written thesis proposal. Of not finishing it he will be to register the course again to culminate properly his proposal. For more details on the matter the student will have to be read to the Graduate Catalog and Academic Norms.

TDGD 330 3D MODELING ANIMATION
3 CREDITS

The student will apply the concept of three –dimensional (3D) or “CGI” (Computer Generated Imagery) to integrate their Graphic Design projects. The student will develop 3D modeling using poly tool, scene, organic poly modeling, mapping, texture and lights for excellent rendering. It will work with the tools and techniques used in the industry, in order to prepare students with the essential skills needed today.

WEDE 100 WEB DESIGN AND GRAPHICS STUDIO I
3 CREDITS

This course covers elements as computers versus software, performance issues, types of connections to the Internet are discussed in detail. Safety, security troubleshooting, composing effective mail, net-etiquette, organizing information, introduction to e-commerce, customizing tools, chat and online synchronous communications, forums, blogs. Finally, it covers the basic design publishing language, HTML and XHTML and introduces the Web design and publishing concepts.

WEDE 200 WEB DESIGN AND GRAPHICS STUDIO II
3 CREDITS

This course focuses on the principles of Web Usability, client purpose and needs as the key element in successful Web Design. Simplicity of design is introduced as a practical Web Design principle. Page Loading time, graphics

design for the Internet, writing for the web, document size and readability, fonts for the web, color schemes and visual impact, site architecture vs. content are some of the subject covered. Introduced to some software tools and effective web site navigation strategies.

**WEDE 250 WEB DESIGN AND GRAPHICS STUDIO III
3 CREDITS**

The student begins the course learning the fundamentals of digital imaging, audio combined with Web technologies. Also, this course will introduce the student to the interactive media authoring, video technology, learning programming and scripting techniques using Flash, JavaScript and ActionScript for design, animation, and data handling. A study of 2D and 3D animation using computer modeling and animation software program as the primary tool. This course will emphasize the creation of animated sequences and GIF animation for multimedia applications.

**WEDE 260 WEB DESIGN AND GRAPHICS STUDIO IV
3 CREDITS**

This course will teach the student through the methods used in dynamic websites integration. Will create content types and management, social media and mobile applications.

**WEDE 270 INTERNSHIP
3 CREDITS**

All students will be required to take part in a professional internship that employs a wide range of skills and knowledge developed in this degree program. Each student will work with a program advisor to fully realize the potential of this experience in a web design industry.

**WEDE 280 PORTFOLIO STUDIO
3 CREDITS**

This studio will focus on the preparation and refinement of a portfolio that encompasses the student's work with in the program and any other distinguishing activity. The goal will be the production of a refined, multifaceted presentation of the student goals and creative vision and his or her ability to engage in professional practice.

SPECIALIZED SCHOOL OF DENTAL MEDICINE

**DENT 200 HEAD AND NECK ANATOMY
3 CREDITS**

This course will emphasize the study of the head and neck with emphasis on study of the structures of the oral cavity, the anatomy of the skull and temporomandibular joint. Includes the study of muscles of mastication, facial expression and its relation to dentistry.

**DENT 202 DENTAL ANATOMY AND ORAL HISTOLOGY
3 CREDITS**

This course emphasizes in the anatomy of the tooth and tissues and the study of the structure of the teeth in relation to their functional alignment with the dental arches in both dentitions: deciduous and permanent. In histology area, emphasizes in the development of the skull, the tooth and surrounding tissue and tooth eruption process.

**DENT 205 DENTAL MICROBIOLOGY
4 CREDITS**

This course presents the basic principles of microbiology and sterilization. Provides special attention to microorganisms and their relation to sterilization procedures and disinfection. The regulations of the Occupational Safety and Health Agency Administration (OSHA), related to the occupation, will be emphasized. The student will learn the methods for infection control and to prevent disease transmission.

**DENT 205L DENTAL MICROBIOLOGY LAB
0 CREDITS**

This course presents the basic principles of microbiology and sterilization. Provides special attention to microorganisms and their relation to sterilization procedures and disinfection. The regulations of the Occupational Safety and Health Agency Administration (OSHA), related to the occupation, will be emphasized. The student will learn the methods for infection control and to prevent disease transmission.

DENT 207 ORAL PATHOLOGY

3 CREDITS

The student will learn the most effective methods used to recognize oral diseases. This course provides basic knowledge in the area of oral pathology. The course prepares the student to identify signs and symptoms of oral diseases and how to distinguish them.

DENT 213 DENTAL INSTRUMENTS AND MATERIALS

3 CREDITS

This course is designed to introduce students with the terminology and procedures of the odontology field and prepares them to identify and understand the use of dental instruments for different procedures, as well as the use, composition and application of dental materials.

DENT 219 RADIOLOGY I

4 CREDITS

Introduction to principles for developing radiological images needed for the diagnosis and treatment of dental conditions. It emphasizes the basics of radiology and intraoral radiography techniques used to obtain diagnostic images. Requires clinical laboratory experiences. The radiographic exposures obtained using the dummy will be part of the student's assess.

DENT 229 PRE-CLINIC I

5 CREDITS

This course will complement the learning experiences with laboratory techniques to prepare students in four-handed dentistry. The course includes the adequate handling of dental materials, their properties and techniques required for the proper handling of instruments used. Requires laboratory and clinical experience.

DENT 230 RADIOLOGY II

4 CREDITS

Course designed for students to make proper use of the bisecting angle technique of intra-oral radiographs with an excellent diagnostic value for the dentist. This course will discuss the extra-oral radiography techniques most often used in dental procedures to diagnose pathological conditions. Requires experience in clinical laboratories. The radiographic exposures obtained using the dummy will be part of the student's assess.

DENT 230L RADIOLOGY II LAB

0 CREDITS

Course designed for students to make proper use of the bisecting angle technique of intra-oral radiographs with an excellent diagnostic value for the dentist. This course will discuss the extra-oral radiography techniques most often used in dental procedures to diagnose pathological conditions. Requires experience in clinical laboratories. The radiographic exposures obtained using the dummy will be part of the student's assess.

DENT 245 PRE-CLINIC II

5 CREDITS

In this course students will be exposed to selective laboratory experiences that are performed in different specialties of dentistry. Students will apply theoretical concepts to problem solving. It gives importance to the manipulation of dental materials used in these specialty areas and teaches the student how to give post-operative instructions to patients after a procedure is completed. Requires laboratory and clinical experiences.

DENT 267 DENTAL PRACTICE SEMINAR AND ETHICS

3 CREDITS

Seminar aimed at the analysis and evaluation of experiences during the internal and external clinics, and how these helped the student in their professional development. Principles related to ethics in working with patients and the application of relevant theoretical frameworks to the clinical area are discussed. It includes proper communications by phone, appointment control and inventory management systems. It emphasizes the development of communication and information skills as well as ethics and diversity competencies.

DENT 271 INTERNAL CLINIC

5 CREDITS

This course will expose the student to clinical experiences in our dental facilities at the institution. It will assess the student in the performance of their clinical skills in the area of preventive dentistry, restorative, radiographic exposures, procedures of four-handed dentistry, taking vital signs, charting, post-operative instructions to patients, control and manage appointments by phone.

DENT 281 EXTERNAL CLINIC PRACTICE

4 CREDITS

This course exposes the student to clinical experiences in the general dentistry area or other specialty area to apply their knowledge of four-handed dentistry, radiology and interpersonal relations with patients. It will assess the students in the performance of their skills with patients in clinical procedures performed in the area of maxillofacial surgery, pediatric dentistry, endodontic, periodontics, orthodontics, prosthodontics, and administrative procedures of the dental office.

DETA 100 ORAL ANATOMY

5 CREDITS

In this course the students will have the opportunity to learn the morphology and anatomy of the human teeth, their function and the immediate associated parts. Also, the students will have the opportunity of learn the basic knowledge of occlusion.

DETA 100L ORAL ANATOMY LAB

0 CREDITS

In this course the students will have the opportunity to learn the morphology and anatomy of the human teeth, their function and the immediate associated parts. Also, the students will have the opportunity of learning the basic knowledge of occlusion.

DETA 101 COMPLETE DENTURE

5 CREDITS

This lectures course provides the Dental Technology students with the necessary knowledge in order to design and construct complete and immediate removable dentures according to physiological and anatomical knowledge of head and neck anatomy. The teaching material is presented in a sequential and integrate manner, combining and relating it to laboratory procedures which are pertinent to the discipline of complete dentures. Preventive techniques in design, coupled with sound bio-mechanical principles in the construction of removable appliances are stressed in this course. Student are also required to independently study in order to expand their knowledge and correlate with the laboratory environment.

DETA 101L LAB FOR COMPLETE DENTURE

0 CREDITS

This laboratory will develop in the student the technical skills for the design, elaboration and application in the manufacturing process of a fixed prosthesis.

DETA 102 DENTAL MATERIALS

3 CREDITS

The course is to present the students the basic chemical and physical properties of the dental materials used in the construction of dental appliances. It is intended to bridge the gap between the knowledge in the basic courses of chemistry and physics. The discussion emphasis the manipulation of dental material based on sound scientific principles.

DETA 103 REMOVABLE PARTIAL DENTURES

5 CREDITS

This lectures course provides the dental technology students with the necessary knowledge in order to design and construct removable partial according to physiological and anatomical knowledge of head and neck anatomy. The teaching material is presented in a sequential and integrate manner, combining and relating it to laboratory procedures which are pertinent to the discipline of removable partial dentures. Preventive techniques in design, coupled with sound bio-mechanical principles in the construction of removable appliances are stressed in this course. All the design and classification are presented in this course.

DETA 103L LAB RENOVABLE PARTIAL DENTURES

0 CREDITS

This lectures course provides the dental technology students with the necessary knowledge in order to design and construct removable partial according to physiological and anatomical knowledge of head and neck anatomy. The teaching material is presented in a sequential and integrate manner, combining and relating it to laboratory procedures which are pertinent to the discipline of removable partial dentures. Preventive techniques in design, coupled with sound bio-mechanical principles in the construction of removable appliances are stressed in this course. All the design and classification are presented in this course.

DETA 104 FIXED PROSTHESIS

5 CREDITS

In this laboratory course the student will carry out the process of construction the different fixed partial dentures. In this course present the theory behind investing, structural durability, casting the wax pattern, soldering and finishing. The student also develops the technical skill in principle of the dental material ant technique to construct metal, acrylic, porcelain fused to metal and full porcelain restoration.

DETA 104L LAB FIXED PROSTHESIS

0 CREDITS

In this laboratory course the student will carry out the process of construction the different fixed partial dentures. In this course present the theory behind investing, structural durability, casting the wax pattern, soldering and finishing. The student also develops the technical skill in principle of the dental material ant technique to construct metal, acrylic, porcelain fused to metal and full porcelain restoration.

DETA 205 ETHICS AND LEGAL ASPECTS FOR DENTAL TECHNOLOGY

3 CREDITS

This course trains the student in the ethical aspects, responsibility and duties of the profession, as well as in the parameters established by the Technological Examiners Board to deny, suspend, cancel or revoke the license.

DETA 206 DENTAL CERAMICS

5 CREDITS

This course will prepare students in scientific knowledge of the virtual properties of dental ceramic. The student learns to create bio-compatible lifelike dental restoration such as crown, bridges and veneers using the different micro-structure of dental ceramic in order to procedures more natural translucent restoration.

DETA 206L LAB DENTAL CERAMICS

0 CREDITS

In this laboratory course that the student will carry out the process of construction the different ceramic dental restoration. They will learn the firing, staining, glazing and the new CAD-CAM technology in this matter.

DETA 207 ORTHODONTIC PROSTHESIS

5 CREDITS

In this course the students will learn the design and construction of removable orthodontic active appliances in order to help the dentist in archive an ideal tooth position for better bite. Also, they learn the use of different materials like nickel-titanium, stainless steel, ceramic, composite, resin for the construction of the appliances.

DETA 207L LAB ORTHODONTIC PROSTHESIS

0 CREDITS

In this course the students will learn the design and construction of removable orthodontic active appliances in order to help the dentist in archive an ideal tooth position for better bite. Also, they learn the use of different materials like nickel-titanium, stainless steel, ceramic, composite, resin for the construction of the appliances.

DETA 208 DENTAL ENTREPRENEURSHIP

3 CREDITS

This course will prepare students with the basic knowledge and skill to be employed as dental technicians in this field. Also, this course promotes the students understanding of employment expectation and responsibility of their own dental laboratory. The students will learn to develop a business plan and comply with all health and safety standards in dental laboratory.

SPECIALIZED SCHOOL OF NATUROPATHIC MEDICINE

NMDP 700 PRINCIPLES AND PHILOSOPHY OF NATUROPATHIC MEDICINE

3 CREDITS

This course introduces the philosophical basis of naturopathic medicine and the role of the naturopathic physician in today's world. Students will examine the roots of naturopathic medicine and the historical development of naturopathic philosophy. Emphasis is placed on the six guiding principles of naturopathic care: the healing power of nature, treat the whole person, first do no harm, identify and treat the cause, prevention, doctor as teacher.

NMDP 702 CLINICAL ANATOMY I

5 CREDITS

In this course study of a strong foundation of Human Anatomy and Embryology with special emphasis on clinical correlations and integrations with other courses like physiology and pathology. Anatomical structures will be studied systemic-based and regional level. Each section will begin with the embryological development and congenital malformations. The course will continue with the anatomical structural regions of back, upper limb, thorax region, immunological system, and the abdominal region with all its organs. Special emphasis on anatomical correlations of clinical medicine with physical diagnosis will be provided on each of the regions or systems under study.

NMDP 702L CLINICAL ANATOMY LABORATORY I

0 CREDITS

The course is designed for the student to learn the characteristics, development, functions and clinical aspects of the human body through dissection of human cadaver. The course will prepare the students to apply their knowledge of macroscopic anatomy to resolve clinical cases.

NMDP 704 MEDICAL PHYSIOLOGY I

3 CREDITS

This course discusses the basic concepts of cellular structure and its function, the membrane physiology, nerves and muscles.

NMDP 706 NEUROANATOMY

4 CREDITS

This course provides a detailed study of the different structures and functions of the nervous system. The course will place a special emphasis on the: central nervous system (CNS), peripheral nervous system (PNS), somatic and autonomic nervous system (ANS) in function on their interrelationship with the most common clinical scenarios. The integrative functions and complexities of the cerebral cortex and pathways will be emphasized in function of their relevancy for clinical practice and will be demonstrated through the use of clinical correlations and common problems of patients.

NMDP 708 MEDICAL PHYSIOLOGY II

3 CREDITS

This course focuses on cardiac, heart, and circulatory system physiology.

NMDP 710 MEDICAL HISTOLOGY

4CREDITS

In this course the microscopic structure, function of human cells, and tissues that make up the organ and systems will be studied. The organization of cells and tissues will be presented through the observation of microscopic slides or images from normal and pathological tissues. Histopathological images will reinforce the diagnosis of clinical correlations.

NMDP 712 PRINCIPLES AND PHILOSOPHY OF HOMEOPATHIC MEDICINE

2 CREDITS

In this course an introduction to the introductory principles of homeopathy. Topics include the history and philosophy of homeopathy and homeopathy in naturopathic medicine. Diverse remedies will be presented and the essential elements of homeopathic practice. Remedies for acute conditions will be covered during this course.

NMDP 714 CLINICAL ANATOMY II

5 CREDITS

In this course the anatomic structural regions of the endocrine system, pelvis and perineum, reproductive system, and lower limbs are studied. In addition, the head and neck region including the cranial nerves and special senses will be presented. Emphasis will be given to anatomical correlations and clinical medicine of each of the regions or systems under study.

NMDP 716 MEDICAL PHYSIOLOGY III

3 CREDITS

In this course the study of human medical physiology is taught. It emphasizes the study of the kidney, corporal fluids, and respiratory physiology.

NMDP 718 BIOCHEMISTRY I

3 CREDITS

This course covers biochemical structures and passages of metabolism including the role of carbohydrates, proteins and the functions of the DNA. Discussion on the chemical and biological fundamentals of biochemistry. It emphasizes the gene expression and protein synthesis.

NMDP 720 CLINICAL NUTRITION I

2 CREDITS

In this course study of the foundation of the forms, sources, metabolism, functions, recommended intake, and therapeutic uses of macronutrients (carbohydrates, fats, protein and macro-minerals), micronutrients (vitamins and microminerals) and accessory nutrients. Deficiency, toxicity, interactions and laboratory assessment of each nutrient (if applicable) will be discussed.

NMDP 722 MIND AND BODY MEDICINE I

2 CREDITS

This course explores the field of mind-body medicine from a biopsychosocial perspective. The impact on health of interactions between biological systems and psychological dimensions receives special attention in the discussion. The course also guides the students through the practice and analysis of different mind-body practices.

NMDP 724 MEDICAL PHYSIOLOGY IV

3 CREDITS

This course focuses on the physiology of blood cells, immunity, and blood coagulation. Mayor topics of discussion are cellular respiratory process, basic immunology and types of cells, and particular focus is given to blood coagulation and formation of fibrin and thrombin following injury. Focus is also given to the study of carbohydrates and lipids.

NMDP 726 CLINICAL NUTRITION II

2 CREDITS

This course explores diet and its relationship to health and disease. Emphasis is on the health effects of different foods and special diets. Diet assessment and counseling are presented.

NMDP 728 HOMEOPATHIC REPERTORIZATION AND POLYCREST REMEDIES

2 CREDITS

This course presents the discussion in constitutional homeopathy. Emphasizes the study and case analysis, evaluation of remedial action and the follow up interview. It is estimated and classified on the Repertoire of Kent, it's arrangement, scheme of the first 67 remedies.

NMDP 730 MIND AND BODY MEDICINE II

2 CREDITS

This course analyzes social and ecological factors related to health from a biopsychosocial perspective. The study of the importance of behavior for health and of models of behavior change serves as a starting point for the consideration of social determinants of health. The course also provides students the opportunity to develop and self-implement their own mind-body research project.

NMDP 732 HEALTH PROMOTION AND DISEASE PREVENTION

3 CREDITS

In this course the health priorities according to Healthy People 2020 will be discussed. The planification and citizens participation in Healthy People 2020 will be presented. Discussion of demands made by changing lifestyles and disease patterns, new and complex technologies, shifting demographics, global economies, dramatic health system changes and sociobiological and environmental threats to health and safety.

NMDP 734 BIOCHEMISTRY II

3 CREDITS

This course deals with the metabolic reactions of lipids and nitrogen. It details the reactions between amino acids and the urea cycle, among other substrates. The metabolism of lipids is explained from a clinical point of view, with emphasis on the chemical reactions between the substrates in the liver. Emphasis is given in the state of hyperlipidemia and beta oxidation of lipids.

NMDP 736 CLINICAL NUTRITION III

2 CREDITS

This is the third of a four-course sequence on clinical nutrition. This course integrates clinical nutrition courses NMDP 720 and NMDP 726 content in the clinical setting. The course focuses on the use of nutritional therapies (including dietary manipulation, vitamin and mineral supplements use, and the use of accessory nutritional supplements) for the prevention and treatment of endocrine, cardiovascular, neuropsychiatric, rheumatological, musculoskeletal, and respiratory conditions, in addition to anemia and other blood disorders.

NMDP 738 MENTAL AND GENERAL SECTION IN

2 CREDITS

In this course we study the general and mental sections of constitutional homeopathy. Emphasis on case analysis and remedies, of the second group of remedies of Kent. It continues with the application of poliocrest remedies.

NMDP 740 MIND AND BODY MEDICINE III

2 CREDITS

In this course study of the biopsychosocial model to the analysis of common and chronic conditions in the Puerto Rican society. Moreover, their treatment with mind-body therapies. The course prepares students to explore rigorously a mind-body topic of their choosing.

NMDP 742 HUMAN PATHOLOGY I

3 CREDITS

This course discusses the response of the cell to hemodynamic and immunologic disorders and presents the study of the reactions of cells and tissues to abnormal stimuli and inherited defects, which are the main causes of the disease. Examines the environmental, infectious and diseases of infants and children are examined through its pathological characteristics.

NMDP 744 INTEGRATED HEALTH ASSESSMENT I

6 CREDITS

In this course study of the naturopathic perspective the format of a History and development of vital signs, behavior and mental status, skin, head, neck, thorax and lungs.

NMDP 744L INTEGRAT HEALTH ASSESSMENT LAB I

0 CREDITS

Practice of the health history intake and performing the physical exam skills needed for assessment of vital signs, behavior and mental status, and selected regional examinations.

NMDP 746 LABORATORY DIAGNOSIS I

2 CREDITS

In this course we discuss and analyze the most common diagnostic tests. Introduction to blood studies and coagulation and their clinical correlates and study of basic chemistry, microbiology, immunodiagnostic studies and their correlation with pathological state of diseases.

NMDP 748 DIAGNOSTIC IMAGING I

3 CREDITS

In this course the study of the history of radiology and it's different diagnostic imaging. Also, the study of the functioning of the equipment of x-rays and how to order diagnostic imaging. Other diagnostic imaging is discussed such as ecograms, nuclear medicine, computerized tomography, magnetic resonance.

NMDP 750 CLINICAL NUTRITION IV

2 CREDITS

This course focus on nutritional therapies (including dietary manipulation, vitamin and mineral supplementation, and the use of accessory nutritional supplements) for the prevention and treatment of urological, dermatological, gynecological, men's reproductive system, Ears, Nose and Throat, hepatic, biliary, pancreatic, gastrointestinal disorders, and cancer.

NMDP 752 CASE STUDIES IN HOMEOPATHIC MEDICINE

2 CREDITS

This course focus on nutritional therapies (including dietary manipulation, vitamin and mineral supplementation, and the use of accessory nutritional supplements) for the prevention and treatment of urological, dermatological, gynecological, men's reproductive system, Ears, Nose and Throat, hepatic, biliary, pancreatic, gastrointestinal disorders, and cancer.

**NMDP 754 HUMAN PATHOLOGY II
3 CREDITS**

In this course describes the most common pathologies encountered in cardiorespiratory and hematological systems.

**NMDP 756 INTEGRATED HEALTH ASSESSMENT II
6 CREDITS**

In this course, interventional strategies with patients are studies and physical examination are made with the application of reasoning to find the cause of the condition. The course all provides initial practice to the differential diagnosis of symptom relevant to the systems covered.

**NMDP 756L INTEGRATED HEALTH ASSESSMENT II LAB
0 CREDITS**

In this course skills necessary for the evaluation of selected organ systems. Emphasis is given in the learning and application of the skills of the physical exploration of selected organs.

**NMDP 758 LABORATORY DIAGNOSIS II
3 CREDITS**

In this course in-depth discussion of diagnostic tests that reflect the current trends in clinical pathology and laboratory medicine. Each discussion starts with a general description of the test, its purpose and relative cost, patient preparation, normal findings and reference values, abnormal findings and their significance, and factors that can interfere with proper test administration and accuracy.

**NMDP 758L LABORATORY DIAGNOSIS II PRACTICUM
0 CREDITS**

In this course discussion of clinical cases of most common diseases, with an emphasis on the human body organ systems. Emphasis is given in the correct referral of patients.

**NMDP 760 DIAGNOSTIC IMAGING II
3 CREDITS**

In this course study of the various pathologic conditions affecting the GI system and their radiographic manifestation. It will focus on the various pathologic conditions affecting the urinary system, endocrine and their radiographic manifestations. In addition, contrast of various pathologic conditions affecting the reproductive system and their radiographic manifestations.

**NMDP 762 HUMAN PATHOLOGY III
3 CREDITS**

In this course discussion of the endocrine and gastrointestinal physiopathology with a holistic focus.

**NMDP 764 INTEGRATED HEALTH ASSESSMENT III
6 CREDITS**

In this course study of the health narrative of patients, performing physical examinations, and applying clinical reasoning to assess patient concerns. Particular attention is given to learning the emphasis of health history and physical exam skills needed for assessment of selected systems, life stages and special populations. The course also provides initial practice with differential analysis of symptoms relevant to the systems and populations covered. Finally, the course continues to coach learners to avoid the pathologizing attitude that may accompany the term diagnosis and promote a collaborative understanding of the experience of the patient as a person.

**NMDP 764L INTEGRATED HEALTH ASSESSMENT LABORATORY III
0 CREDITS**

In this course is about the practice the physical exam skills needed for assessment of selected organ systems, life stages, and special populations. The emphasis is on the evaluation of the systems of organs, stages of life and special populations.

NMDP 766 BOTANICAL MEDICINE I

3 CREDITS

In this course, study of the use of botanicals in a naturopathic medicine. Explanation of the traditional, historical, and scientific uses of plants are explained. An introduction to alternative herbs is included and emphasis is given to the clinical application of the studied plants.

NMDP 768 DIAGNOSTIC IMAGING III

3 CREDITS

In this course studies the radiographic manifestations of conditions affecting the musculoskeletal and nervous systems. The course focuses on the radiographic pathology of head and neck, with a focus on the selection of appropriate imaging modality. Radiological Anatomy is examined to recognize common x-ray findings.

NMDP 770 FUNDAMENTS AND THEORY OF ORIENTAL MEDICINE

2 CREDITS

This course introduces the fundamental concepts of oriental medicine, including Yin Yang, five elements theory, Zang-Fu organ systems, Qi, blood and body fluid, meridian systems, traditional Chinese medicine (TCM) etiology, treatment principles and eight phases theory.

NMDP 772 CLINICAL MICROBIOLOGY

3 CREDITS

In this course study of the major concepts in microbiology and infectious diseases in a pathobiological framework and within the context of clinical cases. The basic concepts of microbiology, immunology, and pharmacology are introduced and how these disciplines are related to infections. A description of the major infection agents and the diseases they cause is presented. How the major systems of the body are affected by an infection is discussed.

NMDP 774 IMMUNO - GENETICS

4 CREDITS

In this course the study of the basic functions, concepts and physiology of the immune system with emphasis on its role in protecting against microbial infections and tumors, immune deficiency states, autoimmunity, allergies, and viruses. It also covers the basis, diagnosis, and transmission of genetic disorders. An emphasis is given to the genetic basis of the immune response.

NMDP 776 FUNCTIONAL MEDICINE

1 CREDIT

This course is about the study of the chronic dysfunctional states associated with physiological processes and the basic principles of functional medicine. This course provides the student a new philosophical base as the cause of the disease, which is not pathological, but a process of deregulation of the inflammatory and sometimes psychosomatic response.

NMDP 778 HUMAN PATHOLOGY IV

3 CREDITS

In this course studies the pathology of the integumentary, musculoskeletal, and nervous system with a special focus on functional pathophysiology. The interaction of the different systems is discussed. Clinical cases are discussed and their pathophysiology.

NMDP 780 BOTANICAL MEDICINE II

3 CREDITS

This course studies the medical matter with a focus on the musculoskeletal, immune, urinary, respiratory and endocrine systems, EENT conditions, and on anti-inflammatory and anti-rheumatic plants. Emphasis is given to the clinical application of the studied plants.

NMDP 782 TRADITIONAL CHINESE MEDICINE DIAGNOSIS

2 CREDITS

The study of the principles and practices of diagnosis in Chinese medicine. The course studies the basic concepts of Taoist philosophy as they relate to the understanding of causes of disharmony and delves into the 4 pillars of Chinese diagnostic methods. Special emphasis is placed on the practice of the techniques discussed.

NMDP 782L TRADITIONAL CHINESE MEDICINE DIAGNOSIS LAB

0 CREDITS

This course demonstrates the principles and practices of diagnosis in Chinese medicine. The course is focused on the basic concepts of taoist philosophy as they relate to the understanding of causes of disharmony, and delves into the 4 pillars of Chinese diagnostic methods.

**NMDP 784 MERIDIANS AND POINTS I
2 CREDITS**

This course studies the comprehensive study of acupuncture meridians and points of the human body with reference to Traditional Chinese medicine. The traditional indications, precautions, and physiological responses according to modern research are emphasized. Palpation skills are introduced, and demonstrated.

**NMDP 784L MERIDIANS AND POINTS I LAB
0 CREDITS**

This course studies the comprehensive study of acupuncture meridians and points of the human body with reference to Traditional Chinese medicine. The traditional indications, precautions, and physiological responses according to modern research are emphasized. Palpation skills are introduced, and demonstrated.

**NMDP 786 BOTANICAL MEDICINE III
3 CREDITS**

Discussion of medical material with a focus on: the nervous, gynecological, male reproductive and cardiovascular systems; plants for dermatological disorders, plants for first aid and antimicrobial plants in general. Emphasis is given to the clinical application of the studied plants.

**NMDP 786L BOTANICAL MEDICINE III LAB
0 CREDITS**

Laboratory experience with the purpose of applying the content of the botanic course sequence. Emphasis is given to clinical application of the plants studied.

**NMDP 788 CLINICAL PHARMACOLOGY I
3 CREDITS**

Discussion of the principles of pharmacodynamics and pharmacokinetics (absorption, metabolism, distribution, excretion) of drugs. The classification and description of the pharmacodynamics, side effects, and the therapeutic uses of drug prototypes is studied. Special attention is given to drugs contained in the Caribbean and other naturopathic medicine formularies. Study of drugs acting at synaptic and neuroeffector junctional sites, central nervous system, and cardiovascular.

**NMDP 790 MERIDIANS AND POINTS II
2 CREDITS**

Advanced study of palpation skills. Comprehensive study of meridians and acupuncture points in the human body according to traditional Chinese medicine.

**NMDP 792 HYDROTHERAPY
2 CREDITS**

Study of the art and science of hydrotherapy. The course includes the history from water cures to constitutional hydrotherapy. The understanding of the physiological principles involved in the therapeutic use of water is emphasized.

**NMDP 792L HYDROTHERAPY LAB
0 CREDITS**

This course uses a variety of techniques of hydrotherapy including safety precautions and training on physiological effects.

**NMDP 794 INTRODUCTION TO PHYSICAL MEDICINE
2 CREDITS**

Introduction to the study of physical medicine as a diagnostic and therapeutic tool. The theories of injury, inflammation and brosis repair are discussed. The orthopedic biomechanics and goals of various therapeutic treatments of common acute and chronic disorders.

**NMDP 796 PHYSIOTHERAPY MODALITIES
2 CREDITS**

Study of the principles of using exercise as a preventive and therapeutic tool. Students gain knowledge about doing health assessment, patients goals setting, and exercise programs prescriptions.

**NMDP 798 NATUROPATHIC MANIPULATIVE THERAPY I
2 CREDITS**

Evaluation of normal and abnormal findings of the spinal cord and extremities and emphasis on regional orthopedic physical exploration and osseous manipulation.

**NMDP 800 CLINICAL PHARMACOLOGY II
3 CREDITS**

This course includes the study of the pharmacology of medications used to treat the most common diseases of kidneys, and inflammation, such as autacoids, immuno-modulators, blood and blood forming organs medications as well and those for gastrointestinal diseases.

**NMDP 802 GYNECOLOGY
2 CREDITS**

Study of Differential diagnosis, and management of the most common gynecological problems. Evidence-based naturopathic treatment protocols are discussed. Criteria for referral to the specialist and the integration of naturopathic medicine with conventional medicine is covered.

**NMDP 804 OBSTETRICS
2 CREDITS**

Study of the basic healthcare appropriate for the pregnant woman till birth. The student is prepared to screen for risks and to offer patients referrals and informed options related to hospital or out-of-hospital birthing process.

**NMDP 804L OBSTETRIC LAB
0 CREDITS**

In this laboratory students are trained to provide healthcare appropriately for pregnant woman till birth. The student is prepared to screen for risks and to offer patients referrals and informed options related to hospital or out-of-hospital birthing process.

**NMDP 805 NPLEX REVIEW I
2 CREDITS**

The purpose of the NPLEX Part I - Biomedical Science Examination is to ensure that the student has acquired the foundation in biomedical sciences that is essential to clinical training as well as for practice as a naturopathic doctor.

**NMDP 806 CARDIOLOGY
2 CREDITS**

This course focuses on the differential diagnosis and treatment of conditions affecting the heart and circulatory system. Students gain knowledge about the estimate and treatment of the most common cardiac conditions and of appropriate referrals when needed.

**NMDP 808 NATUROPATHIC MANIPULATIVE THERAPY II
2 CREDITS**

Study of the techniques of assessment of positional deviations and assessment of joint mobility through static and motion palpation. Discussion and study of the grading of muscular strength and joint range of motion, differential diagnosis, and evaluation of disease and injury of the musculoskeletal system. Emphasis of the manipulative treatment of the sacro-iliac, lumbo-sacral, lumbar, thoracic, ribs, cervical and occipital spinal areas, extremities, and visceral manipulative techniques.

**NMDP 810 SPORTS MEDICINE AND ORTHOPEDICS
2 CREDITS**

Diagnosis and treatment of sports injuries likely to be seen by a general practice naturopathic physician. Methods of health tests, exercise prescription and the use of exercise as therapeutic modality are studied. Emphasis in the use of diet, exercise, soft-tissue therapies, physiotherapy, manipulative techniques, and medicine used as treatment of sports and orthopedic injuries. Students evaluate sports and orthopedic injuries and analyze the appropriate treatments.

NMDP 812 PEDIATRICS

2 CREDITS

Study of the differential diagnosis of the pediatric conditions with emphasis on the referral to the allopathic primary doctor.

NMDP 814 EARS, EYES, NOSE AND THROAT

2 CREDITS

Study of the concepts required for diagnosing, treating, and the referral related to ophthalmologic and otolaryngeal problems. Emphasis is placed on the integration of naturopathic and conventional therapeutics according to naturopathic medicine philosophy and evidence-based practice.

NMDP 815 NPLEX REVIEW II

2 CREDITS

This course is designed to review the basic competencies for the NPLEX II Core Clinical Science Examination. The objectives are derived from the Naturopathic Physician Licensing Examination on Clinical Science Blue print and Study Guide.

NMDP 816 RHEUMATOLOGY AND PAIN

2 CREDITS

Discussion of the inflammatory conditions involving the connective tissue structures of the body, including muscles and joints. Emphasis is placed on autoimmune disorders and their treatment, with conventional and naturopathic therapeutics.

NMDP 818 TRADITIONAL CHINESE MEDICINE

2 CREDITS

Study of the theoretical concepts necessary to identify key symptoms of the Zang-Fu organ patterns and the method of syndrome differential diagnosis of Traditional Chinese Medicine (TCM) according to the Zang-Fu organ system theory. Therapeutic principles and acupuncture treatments according to individual patterns are discussed.

NMDP 818L TRADITIONAL CHINESE MEDICINE LAB

0 CREDITS

Application of the practical concepts to identify key symptoms of the Zang-Fu organ patterns and the method of syndrome differential diagnosis of Traditional Chinese Medicine (TCM) according to Zang-Fu organ system theory. Lab experiences in the application of therapeutic principles and acupuncture treatments for individual patterns will be provided.

NMDP 820 CLINICAL PHARMACOLOGY III

3 CREDITS

Study of chemical treatments of parasitic infections, microbial disease, neoplastic disease, hormones, dermatology, ophthalmology, and toxicology.

NMDP 822 ENVIRONMENTAL MEDICINE AND TOXICOLOGY

3 CREDITS

Study of the fundamentals of toxicology including the principal groups of environmental xenobiotics. Human metabolism, excretion, and the obstacles to excretion of xenobiotics are discussed. The course covers assessment and treatment of xenobiotic overload-related illnesses.

NMDP 824 ACUPUNCTURE TECHNIQUES

2 CREDITS

Study of the basic needling techniques used in acupuncture including the topics of needle, tonification, reduction, moxibustion, and scalp acupuncture. Study of the use of needling maintaining aseptic and safety measures.

NMDP 824L ACUPUNCTURE TECHNIQUES LABORATORY

0 CREDITS

Laboratory of the basic needling techniques used in acupuncture. Includes needle insertion, tonification, reduction, moxibustion and scalp acupuncture. Practical experience in needling technique and needling maintaining. Aseptic measure and safe needling techniques are emphasized.

NMDP 825 CLINICAL ENTRY I

1 CREDIT

In this course the student under direct supervision evaluates standardized patients in a clinical setting for the following conditions: Blood and Lymphatic System, cardiovascular system, endocrine system, GI and Hepatobiliary System, Head and Neck, Immune System, Musculoskeletal System, Nervous System and manage different pathology under the principles and philosophy of naturopathic medicine and all of its modalities.

NMDP 826 ONCOLOGY

2 CREDITS

In this course discussion of the diagnostic, etiologic, prognostic, preventive, and epidemiologic information for cancer of common sites. Conventional, naturopathic, and innovative treatment approaches are discussed. Addresses co-morbidities, lifestyle and emotional factors, thus leading to an improved quality of life and increased survival of the oncology patient.

NMDP 828 DERMATOLOGY

2 CREDITS

In this course the study of the pathophysiology, strategies for diagnosis and treatment considerations of skin disorders. The principles of non-suppressive and curative therapies based on scientific evidence are discussed. Emphasis is given on the relevant clinical aspects focused on the integration of conventional and naturopathic medicine are presented.

NMDP 830 ENDOCRINOLOGY

2 CREDITS

In this course study of the complex interactions of the body's hormonal systems. The causes and effects of hormonal imbalance is discussed. Diagnosis and treatment of the most common endocrine disorders are presented.

NMDP 832 GERIATRIC AND AGING

2 CREDITS

This course covers the process of aging and the social behavior related to the most common medical diagnosis of older populations. Interpretation and discussion of the most common strategies in diagnosis and treatment. Emphasis is placed on preventing, reversing, or retarding degenerative changes and the empowerment toward maximum wellness.

NMDP 834 GASTROENTEROLOGY PROCTOLOGY

2 CREDITS

Study of the diseases of the digestive tract (including those of the anus and rectum) and associated organs. The course emphasizes risk factors, diagnosis, and treatment of such conditions (oral pharynx and distal esophagus, stomach, small and large intestine, rectum, liver, gallbladder and pancreas).

NMDP 835 CLINICAL SPECIALTY SHIFT IV THERAPY

2 CREDITS

In this course, the student evaluates and demonstrate supplements via intravenous line, in accordance with the principles and philosophy of naturopathic medicine. Emphasis is in the prelaminal evaluation of nutrition therapy, formulation of isotonic and hypotonic solutions, anaphylaxis, hypoglycemic, prevention of air embolism in peripheral catheterization in the insertion of catheter. 40 hours of practice are required.

NMDP 836 BASIC SCIENCE RESEARCH

3 CREDITS

In this course students will prepare a proposal for a research in naturopathic medicine that complies with the ethical aspects and legal profession. Also develop competencies to develop a research project: understanding of ethical and legal aspects critical review of scientific literature, development and selection of the design of the study, methodology, planning, administration and budget, data analysis and contributions to future research based on health promotion and disease prevention.

NMDP 838 MINOR SURGERY

2 CREDITS

This course discusses the procedures to diagnose conditions that can be safely treated with security through minor surgery in the doctor's office.

NMDP 840 EVIDENCED-BASED PROJECT

3 CREDITS

In this course we study the practice based on evidence, in the care of the health of individuals. Evaluate the following procedure: the way to identify, estimate critically and use the best evidence for patients in their health care. In this course, the student research project is implemented.

NMDP 842 EMERGENCY MEDICINE

2 CREDITS

In this course, the students learn how to recognize and respond to medical emergencies with conventional and naturopathic techniques, while making appropriate decisions for referral. The course provides a brief history of emergency medicine and basic principles of resuscitation and shock. Clinical case studies are utilized as a tool to help students find ways to relate the basic science content from previous courses to its clinical application in the emergency medicine setting.

NMDP 844 UROLOGY

2 CREDITS

In this course students obtain knowledge about diagnoses, management, and treatment of urological disorders. Emphasis is given on the Naturopathic and conventional diagnosis and treatment of diseases affecting the urinary tract and the male genital system.

NMDP 845 CHINESE BOTANICAL MEDICINE

2 CREDITS

In this course the history of the use of the herbs in the Chinese medicine, botanical classification and taxonomy, medicinal properties of herbs, major groups and formulation principles, and the 55 most commonly used herbs. Also, commonly commercially available herbal preparations which are often used as therapies in Traditional Chinese Medicine are discussed.

NMDP 846 PNEUMOLOGY

2 CREDITS

This course has the study, knowledge and skills needed to diagnose and treat the most common respiratory diseases. A brief background on the anatomy and physiology of the respiratory system is discussed. Emphasis is placed on the study of the model conventional therapeutic and naturopathic treatments.

NMDP 848 NEUROLOGY

2 CREDITS

In this course analyzes the diagnosis of neurological disorders. Naturopathic and conventional treatments for the nervous system diseases are discussed. Appropriate collaboration with specialists is emphasized.

NMDP 850 MENTAL HEALTH PSYCHIATRY

2 CREDITS

In this course, there is study and evaluation from a perspective of someone in the environment of mental health. Discussion and classifications of mental disorders and behavioral, how to recognize them and identify the natural methods for their treatment. The course analyses in a manner critical attention; patients in the psychiatric wards and institutions of mental health.

NMDP 852 BUSINESS PRACTICE

2 CREDITS

In this course discussion and analysis of the necessary competencies to obtain success as an entrepreneur. Explanation and application of the foundation to establish and operate a business: Develop a business plan.

NMDP 855 FUNDAMENTALS OF AYURVEDIC MEDICINE

2 CREDITS

This course discusses the fundamental principles and practices of ayurveda as an introduction to Ayurvedic medicine. It considers the concepts of recognizing the different Ayurvedic body-type and psychological personality, customizing the health plan suited to the unique constitution of the individual, Ayurvedic nutrition and diet therapy, Ayurvedic herbology and detoxification through Ayurvedic Pancha-Karma therapy.

NMDP 856 MEDICAL JURISPRUDENCE AND NATUROPATHIC ETHICS

1 CREDIT

This course examines the legal aspects of the law that regulates the practice of medicine in general and in particular naturopathic medicine. Discusses universal ethical principles in all branches of medicine, its root, ethical principles applicable to naturopathic medicine. Analyses ethical dilemmas generated by students, as well as studies of actual cases resolved by the Board of Examiners of doctors in naturopathy in Puerto Rico.

**NMDP 900 ACUPUNCTURE ROTATION I
2 CREDITS**

In this course discussion and explanation of the principles of oriental medicine and acupuncture. Provide to the students opportunities under supervision to discuss theory and principles of clinical practice and diagnosis of oriental medicine and acupuncture.

**NMDP 903 PATIENT CARE ROTATION I
6 CREDITS**

In this course discussion of patient medical history founded in the principles and philosophy of naturopathic medicine. Under supervision, physical examination of real patient, with cardiac, respiratory, abdominal, pelvic, neurologic, gynecologic and of breast, masculine genital and musculoskeletal.

**NMDP 906 PHYSICAL MEDICINE ROTATION I
2 CREDITS**

In this course the student under supervision develops the competencies of the principles of naturopathic medicine and the theory of practice with the focus on the implementation of the following tools: Tens Unit, Therapeutic Ultrasound, Diathermy, Sine (Interferential Wave), Low Level Laser Therapy.

**NMDP 909 CLINICAL ENTRY II
1 CREDIT**

In this course the student under direct supervision evaluates standardized patients in a clinical setting for the following conditions: respiratory, skin and nails, breast and axillae, pregnancy, pediatrics, geriatrics and psychiatry and manage different pathology under the principles and philosophy of naturopathic medicine and all of its modalities.

**NMDP 912 ACUPUNCTURE ROTATION II
2 CREDITS**

In this course, the student interprets diagnosis of oriental medicine and acupuncture, theory and principles of clinical practice under supervision.

**NMDP 915 PATIENT CARE ROTATION II
6 CREDITS**

In this course interpretation of the evaluation and management of patient, with foundation in the principles and philosophy of naturopathic medicine. The students will perform under supervision complete physical exams, with designated cardiac, respiratory, abdominal, pelvic, neurologic, gynecologic and breast, genital masculine and musculoskeletal. The course contains 120 clinical hours of practice.

**NMDP 918 PHYSICAL MEDICINE ROTATION II
2 CREDITS**

In this course of physical medicine competencies of development and application are given to develop proficiency in applying both principles and naturopathic philosophies and clinical theories in clinical practice. Emphasis is given in the examination in musculoskeletal, neurological, balance and gait analysis. Interpretation and documentation of medical history, physical examination and management plan are included.

**NMDP 924 ACUPUNCTURE ROTATION III
2 CREDITS**

In this course we contrast under supervision diagnosis of oriental medicine and acupuncture, theory and principles in clinical practice.

**NMDP 927 PATIENT CARE ROTATION III
6 CREDITS**

In this course compare and contrast evaluation and management of patients under supervision with other alternatives, based on the principles and philosophy of naturopathic medicine. The students will take full physical examinations with its history designated, cardiac, respiratory, abdominal, pelvic, neurological, gynecological and breast, male genital and musculoskeletal.

NMDP 930 PHYSICAL MEDICINE ROTATION III

2 CREDITS

In this course the student will develop competence in the principles and naturopathic philosophies as well as in clinical theories in practice with a focus on the implementation of the following tools: hyperthermic bath, constitutional hydrotherapy, hydrotherapy of contrast, massage, naturopathic manipulation, and the manipulation of joints cervical, thoracic, lumbar and sacral.

NMDP 936 DIAGNOSTIC IMAGING PRACTICUM

2 CREDITS

In this course students explore and use diagnostic equipment with patients. Discussion of interpretation of images and the format of preparation of the report. It is required a minimum of 40 hours of practice.

NMDP 939 ACUPUNCTURE ROTATION IV

2 CREDITS

In this course, students make organized diagnosis according to oriental medicine. Acupuncture is a clinical practice, which requires 40 hours of clinical practice.

NMDP 942 PATIENT CARE ROTATION IV

6 CREDITS

In this course, student makes clinical rotation in which information is reorganized in the evaluation and management of patient to provide recommendation of adequate treatment, founded in the principles and philosophy of naturopathic medicine. Physical Examination of the following are made cardiac, respiratory, abdominal, pelvic, neurologic, gynecologic and of breast, genital masculine and musculoskeletal according to designated history. Requires 120 clinical hours.

NMDP 945 PHYSICAL MEDICINE ROTATION IV

2 CREDITS

In this course, students develop proficiency in applying the principles and philosophies naturopathic both clinical theories in clinical practice. The implementation of the following physical medicine specialized techniques: Knee Ant /Post drawer sign, Varus/Valgus stress test, Apley's compression/distraction tests , McMurray's test, Bounce home test, Patella femoral grind (Clarke's test), Apprehension test (patellar dislocation), Lachman's test Ballotable patella test (major effusion), Bulge test (minor effusion), Hip/pelvis/SI, Trendelenburg, Patrick (Patrick-FABER) test, Ely's test, Gaenslen's test, Hibb's test Ober's test, Ortolani click , Telescoping test , Pelvic rock test, Thomas' test Yoeman's test, Low back/sciatica, Lasegue's test (SLR), Valsalva test, Braggard's test (Soto Hall test) Bechterew's test, Minor's sign Kemp's test , Milgram's test Nachlas Test, Kernig's test will be emphasized. Minimum of 40 hours of practice are required.

NMDP 948 CLINICAL SPECIALTY SHIFT - NATUROPATHIC ONCOLOGY

2 CREDITS

In this course naturopathic oncology specialized rotation provides students the opportunity to assess the skill of applying certain supplements to oncology patients. The recommendation of the use of supplements will be based according to the principles and philosophy of naturopathic medicine. In this course emphasis to assessment by nutrition therapy, management of anemia and oncology diseases will be given.

NMDP 951 PRECEPTORSHIP CLINICAL FIELD OBSERVATION

2 CREDITS

In this course students participate with an observation role with only minor assistance to their preceptor. Preceptor will also evaluate students, based on questioning of their understanding of the cases seen. The clinical portion of the course will consist of 5 hours per week for the duration of this 12-week course making a total of 40 hours of practicum hours and 20 in secondary contacts which includes: Obstetrics/Midwifery, Gynecology and Physical Medicine.

NMDP 954 ACUPUNCTURE ROTATION V

2 CREDITS

In this course, students make organized diagnosis according to oriental medicine. Acupuncture is a clinical practice, which requires 40 hours of clinical practice.

NMDP 957 PATIENT CARE ROTATION V

6 CREDITS

In this clinical rotation, provide the student with scenarios to evaluate and manage patient with alternative therapies, based on the principles and philosophy of naturopathic medicine. The student will conduct physical examinations with its history designated, cardiac, respiratory, abdominal, pelvic, neurological, gynecological and breast, male genital and musculoskeletal under supervision. Requires 120 hours of practice.

**NMDP 960 PHYSICAL MEDICINE ROTATION V
2 CREDITS**

In this course clinical physical medicine rotations provide students the opportunities to develop proficiency in applying the principles and philosophies naturopathic both clinical theories in clinical practice with a focus on the following therapeutic: Soft Tissue Manipulation(must complete a minimum of 3 in this category), Effleurage, petrissage, and tapotment, Myofascial release, Muscle energy stretching, Cranio Sacral Therapy, and Chinese Cupping Kinesiotaping under supervision and requires 40 hours of clinical practice.

**NMDP 965 CLINICAL RESEARCH ON COMPLEMENTARY AND ALTERNATIVE MEDICINE
3 CREDITS**

In this course, students make research about the integration of complementary and integrative medicine, evidence based and informed in the health system in Puerto Rico. Strategies are designed for clinical trials in naturopathic medicine and measure of results thorough research project of students. Moreover, the effects of placebo and the proven efficiency of naturopathic medicine in the modern age is discussed.

**NMDP 966 INTRAVENOUS THERAPY
3 CREDITS**

This course presents the basic clinical rationale for intravenous (IV) therapy. Students gain the skills of IV catheter insertion procedure through laboratory practice. Treatment of complications and management of common emergencies that can occur during IV therapy are discussed.

**NMDP 967 ACUPUNCTURE THERAPEUTICS
3 CREDITS**

This course covers the common conditions and disorders that afflict the body's physiological systems from a Traditional Chinese Medicine (TCM) perspective. This course reinforces the TCM patterns and pathology discussed in ORME 708, TCM Pathology and the acupuncture techniques learned in ORME 710, Acupuncture Techniques. Emphasis is placed on comprehensive TCM assessment and TCM therapeutics and treatment for some of the most seen clinical conditions.

SPECIALIZED SCHOOL OF VETERINARY MEDICINE

**AVET 110 INTRODUCTION TO VETERINARY SCIENCES
3 CREDITS**

It integrates the main topics of the branch of Veterinary Technology in Veterinary Medicine: Labor Ethics, Safety and Handling of animals, Local, State and Federal laws for animal handling and welfare, duties and responsibilities of the veterinary technicians. It provides continuity through integration of standardized processes when performing: physical examination, drug management, laboratories procedures and asepsis techniques with animals in our care. The use of appropriate veterinary medical terminology helps set basic concepts and terminology to communicate proficiently and commanding over each task assigned verbally and in writing. It will empower and facilitate veterinary technicians to analyze a basic problem and find solutions when working, assisting in or managing veterinary medical facilities.

**AVET 120 ANATOMY AND PHYSIOLOGY OF DOMESTIC ANIMALS
4 CREDITS**

Histological, anatomical, and physiological study of the skeletal, muscular, epithelial, respiratory, cardiovascular, Anatomical, physiological, and histological study of the skeletal, muscular, epithelial, digestive, respiratory, cardiovascular, urinary, endocrine, nervous, and immune systems. Emphasizes in the interrelation between the systems for normal body functioning. Studies the terminology related to animal anatomy and physiology. The course is modeled after the dog and compared with other domestic animals using models, skeletons, audiovisuals, dissection specimens, and laboratory experiences.specimens and laboratory experiences.

**AVET 120L ANATOMY AND PHYSIOLOGY OF DOMESTIC ANIMALS LABORATORY
0 CREDITS**

Practical application of the concepts developed in the AVET 120 course. Anatomy and Physiology of Domestic Animals Laboratory is based on the study of comparative anatomy, using canine anatomy as a basis for comparison of anatomy of other animals. Live animals, small animal carcasses and preserved specimens will be used for the practice and teaching. The use and application of veterinary anatomical and physiological terms is

emphasized.

AVET 130 VETERINARY NURSING

3 CREDITS

Course develops medical and surgical nursing techniques in animals of small and large species of different ages. It will discuss topics such as preventive health, basic home care, inpatient and inpatient care, emergencies and critical care, euthanasia, dentistry, drug administration, among other topics. The course prepares the student in the development of critical thinking skills, quantitative reasoning, communication, diversity, and ethics.

AVET 221 COMMON DISEASES AND PARASITOLOGY IN DOMESTIC ANIMALS

4 CREDITS

This course familiarizes and exposes the student to the pathophysiological processes of the most common infectious and non-infectious diseases. It provides them with competencies for the analysis of clinical symptoms with the use of the main forms of diagnosis and innovative therapies. It focuses on practical concepts of immunity and prevention of infectious diseases of domestic animals, also familiarizing the student with the prevention and diagnosis of zoonotic diseases. It also presents a systematic study of the morphology, life cycles and epidemiology of the main vectors, with emphasis on those that affect domestic animals and production animals.

AVET 230 TECHNIQUES AND PROTOCOLS OF VETERINARY TECHNOLOGY I

3 CREDITS

The course presents the clinical laboratory techniques and procedures commonly used in hematology, urinalysis, clinical chemistry, coprological evaluation, and veterinary cytology. The techniques, methods, and results reporting are emphasized, rather than their interpretation. The laboratory equipment and instruments necessary to carry out the different tests are known, as well as their quality control systems. Sample collection in common species is reviewed and possible errors in the handling of the samples that can complicate the interpretation of the laboratory data and how to identify and solve them are discussed. In addition, ocular diagnostic tests (including tonometry, fluorescein staining, and tear production test - Schirmer tear test) commonly performed in the veterinary clinic are presented.

AVET 230L TECHNIQUES AND PROTOCOLS OF VETERINARY TECHNOLOGY LABORATORY I

0 CREDITS

Practical application of the concepts developed in the AVET 230 course. The course presents the techniques and clinical laboratory procedures commonly used in hematology, urinalysis, clinical chemistry and veterinary cytology. Techniques and methods for the evaluation of samples are emphasized, and analysis of results interpretation. Quality control systems and laboratory instrumentation required for the analysis of clinical chemistry and hematology are summarized and reviewed. Possible errors in the taking and handling of samples that may complicate the interpretation of laboratory data are discussed. Also, pregnancy and ocular diagnostic tests are presented (including tonometry, fluorescein staining, and tear production test - Schirmer tear test).

AVET 231 TECHNIQUES AND PROTOCOLS OF VETERINARY TECHNOLOGY II

3 CREDITS

Course where topics related to neonatal and geriatric care in small domestic animals, general nursing, protocol for the use of anesthesia machine and patient monitoring will be discussed. Know and execute protocols for emergencies, toxicology, CPR, critical care in small domestic animals. Know basic care and management of exotic species, small mammals, animals used in research laboratories. Study and know zoonotic diseases that can affect animals. General basic knowledge of necropsy and euthanasia protocols to be performed on animals.

AVET 231L TECHNIQUES AND PROTOCOLS OF VETERINARY TECHNOLOGY LABORATORY II

3 CREDITS

Laboratory course where they will perform skills on topics worked in the AVET231 course, related to neonatal and geriatric care in small domestic animals, general nursing, protocol for use and management of anesthesia machine and patient monitoring equipment, basic concept of necropsy procedures, wound care practices, bandaging and wound care. Know emergency protocols, toxicology, CPR, critical care in small domestic animals. Know basic care and management, collection of samples and parenteral administration of drugs in exotic species, small mammals, animals used in research laboratories.

AVET 240 ANIMAL PHARMACOLOGY AND TOXICOLOGY

3 CREDITS

This course introduces students to know, identify, dispense, and dose the most used drugs in Veterinary Medicine. The Veterinary Pharmacology is much more diverse, given the application of this according to the species, idiosyncrasy, toxicity, and adverse effects. The student is related to the most recent products and pharmacological advances. Train the student in the various techniques of administration and dosing of medicines for patients to the veterinary care and makes staff aware that medicines have a legal significance beyond medical use.

AVET 245 BASIC RADIOLOGY IN DOMESTIC ANIMALS

3 CREDITS

This course consists of the basic radiological fundamentals and their use in veterinary medicine. The importance of handling the x-ray machine. How to maintain a good quality diagnostic image, management of the medical record and how to communicate to the veterinarian about the result of the image obtained. You will become familiar with radiographic veterinary terminology. You will develop skills for the management and positioning of the patient (domestic and exotic animals) for the taking of a radiological image. In addition, you will study the processes of how to perform the taking of special images. You will know the differences of the process revealed, the importance of radiation safety as health professionals. At the end of the course, the student will have developed critical and analytical thinking to determine that the quality of their work meets the standards of Veterinary Radiology.

AVET 245L BASIC RADIOLOGY IN DOMESTIC ANIMALS LABORATORY

0 CREDITS

Practical application of the concepts developed in the AVET 245 course. This course relates the student to the basic concepts of radiological sciences and their usefulness in the field of veterinary medicine. The student will develop the skills necessary to produce a diagnostic quality radiographic image and will apply the recommended radiation safety rules.

AVET 260 MANAGEMENT, PRACTICE AND FARM ANIMAL DISEASE

3 CREDITS

In this course the zootechnics of farm animals are discussed. The breeds, their characteristics and behavior, good practices for the breeding, development, management, reproduction, nutrition, and adequate production of farm animals will be discussed. Restraint techniques, medical nursing, and surgical practices for larger species are demonstrated. It also discusses necropsy, dentistry and assisted reproduction for farm animals.

BVET 310 VETERINARY ANESTHESIOLOGY AND SURGICAL ASSISTING

3 CREDITS

The course will focus on the clinical skills necessary for safe and effective anesthesia and surgery of companion animal patients (dogs and cats). Discussion about intravenous catheter placement, proper endotracheal intubation, patient and surgical site preparation, and patient monitoring under general anesthesia. Also, will be covered the use and side effects of sedatives, analgesics and anesthetics.

BVET 310L VETERINARY ANESTHESIOLOGY AND SURGICAL ASSISTING LABORATORY

0 CREDITS

Practical course in which the concepts related to the clinical skills necessary for the administration of safe and effective anesthesia and surgery of companion animals (dogs and cats) are applied. The student will receive a broad knowledge in the management, use and description of the most common drugs in the surgical fields of veterinary medicine. The student will be able to understand the mechanism of action of drugs that are used in basic procedures in domestic animals and will be able to administer them by the most common routes in veterinary medicine. In this course, emphasis will be placed on the identification and use of general surgery instruments. The student will be able to carry out the packaging, sterilization, and organization of surgical and orthopedic instruments. The student, in turn, will be able to operate and recognize the components of the anesthesia machine, its maintenance and operation during domestic animal surgeries. Hands-on intravenous catheterization procedures, surgical room setup, patient and staff preparation, and assistance in performing common surgical procedures in a minor veterinary clinic will be performed. In addition, the correct evaluation of the veterinary patient will be carried out before and after procedures under anesthesia. This course will represent 35% of the BVET 310 grade, which will be taken concurrently.

BVET 350 VETERINARY DENTISTRY FOR VETERINARY TECHNICIANS

3 CREDITS

In this course you will learn about the study of dental anatomy in domestic animals, the most common dental diseases in canines and felines and the basic dental procedures that are performed to maintain and improve the oral health of the animal. The student will learn about the correct use of dental equipment and its maintenance. The student will be able to obtain an evaluation of the patient before their dental procedure and the preparation of the same for the dental intervention, including the drugs to be used and the placement of anesthesia devices. In addition, emphasis will be placed on correct positioning and taking pathological and routine dental x-rays. The student will be able to guide the pet owner on routine dental care at home.

**BVET 350L VETERINARY DENTISTRY LABORATORY FOR VETERINARY TECHNICIANS
0 CREDITS**

Practical course in which the concepts related to the role of the veterinary technologist are applied in the management of veterinary dentistry cases and the application of knowledge in the dental anatomy of domestic animals. Emphasis is placed on identifying and maintaining commonly used dental instruments and equipment, monitoring the anesthetized patient, and performing common dental procedures in veterinary practice. The student will be able to evaluate the patient before the dental procedure, monitor their anesthesia and perform a dental cleaning in canines and felines. This course will represent 35% of the BVET 350 grade, which will be taken concurrently.

**BVET 360 ANIMAL NUTRITION
3 CREDITS**

Discussion of basic concepts of animal nutrition and feeding. Topics included are nutritional requirements of dogs and cats, pet food labels, anatomy, and physiology of digestive system in ruminants, avian, rabbits, equines and companion animals. It will be described the digestion, absorption, and utilization of nutrients. In addition, the students will learn about problems caused by nutrient deficiencies and common metabolic disorders in animals. Also, will be discussed methods of feedstuff evaluation and formulation of basic rations for animals.

**BVET 370 VETERINARY OFFICE MANAGEMENT FUNDAMENTALS
3 CREDITS**

Study of the administration of offices, hospitals and/or veterinary services facilities. Provides the basics of managerial skills and a guide to practice management philosophies. Definition of the five performance domains associated with the job of a veterinary technician practice manager: human resources, law and ethics, marketing, customer relations, practice organization, and financial management.

**BVET 380 CRITICAL CARE AND VETERINARY EMERGENCY FUNDAMENTALS
3 CREDITS**

Discussion of the theoretical aspects of veterinary assistance in the management of medical and traumatic emergencies, the recognition and evaluation of cardiovascular arrest, respiratory crisis, gastrointestinal and reproductive emergencies, musculoskeletal trauma, the principles and techniques of fluid therapy and the administration of emergency medications. Emphasis on the development of knowledge, skills and critical thinking skills that facilitate a rapid response to a veterinary emergency and that promote effective communication among the medical team. In addition, it delves into the development of skills related to quantitative reasoning applied to the procedures of a veterinary hospital, as well as competences related to veterinary pharmacology, nursing, and anesthesiology through the use of technology. The skills of handling and restriction of animals are developed around the ethical and humane principles that should distinguish the future professional.

**BVET 380L CRITICAL CARE AND VETERINARY EMERGENCY FUNDAMENTALS LABORATORY
0 CREDITS**

Application of the practical aspects of veterinary assistance in the management of medical and traumatic emergencies, the recognition and evaluation of cardiovascular arrest, respiratory crisis, gastrointestinal and reproductive emergencies, musculoskeletal trauma, the principles and techniques of fluid therapy and the administration of emergency medications. Emphasis on the development of knowledge, skills and critical thinking skills that facilitate a rapid response to a veterinary emergency and that promote effective communication among the medical team. In addition, it delves into the development of skills related to quantitative reasoning applied to the procedures of a veterinary hospital, as well as competences related to veterinary pharmacology, nursing and anesthesiology through the use of technology. The skills of handling and restriction of animals are developed around the ethical and humane principles that should distinguish the future professional. Anatomical models will be used to simulate some situations. This course will represent 35% of the BVET 380 course grade, which will be taken concurrently.

**BVET 385 VETERINARY NURSING IN ALTERNATE MEDICINE
3 CREDITS**

Study of the basic principles and concepts of veterinary nursing in the modalities of alternative medicine. Discussion of the following alternative and complementary modalities: herbal medicine, homeopathy, homotoxicology and flower essence, applied kinesiology and acupuncture. In addition, the discussion will include competencies in physical modalities such as chiropractic, massage, rehabilitation, and miscellaneous therapies, applied to veterinary nursing.

BVET 390 INTEGRATIVE SEMINAR

3 CREDITS

This course will provide an intuitive review for the national veterinary technician examination as well as other local board examinations. The seven major subject areas of study are aligned with the seven domain topics and the required foundation knowledge topics: pharmacy and pharmacology, surgical preparation and assisting, dentistry, clinical laboratory procedures, animal care and nursing (animal care, emergency care, pocket pets, laboratory animals, medical nursing), diagnostic imaging, anesthesia, and analgesia. Students will be able to review these topics, practice mock questions, and comprehend the rationale for each answer in order to reflect accurate, current, entry-level veterinary technology knowledge that tests factual knowledge, reasoning skills, and clinical judgment.

BVET 400 CLINICAL PRACTICE I

3 CREDITS

This practical course integrates the acquired knowledge by placing students in practice ruled centers. Students will be working directly with a veterinarian and/or licensed veterinary technologist, executing the procedures requested and needed to diagnose and treat small animals. Students will be monitored and evaluated in carrying out their duties as future veterinary technicians/veterinary technologists. The veterinarian and/or veterinary technologist will be serving as supervisors, counselors, and advisors.

BVET 410 CLINICAL PRACTICE II

3 CREDITS

This practical course integrates the acquired knowledge by placing students in practice ruled centers. Students will be working directly with a veterinarian and/or licensed veterinary technologist, executing the procedures requested and needed to diagnose and treat farm animals. Students will be monitored and evaluated in carrying out their duties as future veterinary technicians/veterinary technologists. The veterinarian and/or veterinary technologist will be serving as supervisors, counselors, and advisors.

PROFESSIONAL STUDIES DIVISION

ACCO 746 INCOME TAX, SOCIETY AND INDIVIDUAL CORPORATIONS

3 CREDITS

Income Tax, Society and Individual Corporations Three Credits The course integrates the concepts and principles related to the consequences of contributions profits in partnerships and individual corporations. Emphasis is placed, on differences and similarities of partnership and individual corporations. Students will study and analyze concepts, foundations, limitations, and contribution practices.

ACCO 747 INCOME TAX FOR NON-PROFIT ORGANIZATIONS

3 CREDITS

The course centers on the discussion of the significant rules for non-profit organizations. Topics included are rules for non-profit organizations, categories of tax-exempt organizations, requirements to qualify, and restrictions. Charitable entities vs. private foundations will also, be examined, as well as documentation and disclosure requirements.

ACCO 748 CORPORATE RE-ORGANIZATIONS

3 CREDITS

The course centers on the study and analysis of contribution aspects of acquisitions, legal dispositions and problems related to transactions of tax-exempt organizations. Different types of reorganizations, parts of a reorganization, foreign corporations, utilities and benefits of the corporation and other contributions consequences will also be discussed.

ACCO 749 INCOME TAX PLANNING SEMINAR

3 CREDITS

The course centers on the study and analysis of financial concepts and taxation, to prepare the student in problem solving. Topics discussed include capital budget, tax arrangement, and techniques of the pacification contribution.

BUSS 230 LEGAL AND ETHICAL ASPECTS IN BUSSINES
3 CREDITS

This course is aimed to study legal aspects of international commercial transactions; including those relating to the export, import; and transportation of finished / semi-finished products and other related manufacturing components. It will emphasize the importance of the laws applicable to the business in reference to where they are developed. The relationship between the United States of America Federal Laws, International Laws and State Laws will be discussed. The importance of Ethics, Morals and Values when doing business and any commercial trade will be discussed.

EDUG 521 INTRODUCTION TO THE FOUNDATIONS AND METHODOLOGY OF ALTERNATIVE EDUCATION
3 CREDITS

Study of the theoretical foundations of alternative education, multilevel and schools without levels. Methodological concepts of instructional design integration that meets Puerto Rico educational standards and the Common Core Standards. Students will analyze multilevel and alternative education class plans, to ensure they meet the cognitive, emotional and motor development skills, in a teaching and learning process. They will compare traditional and non-traditional (alternative and Montessori) educational plans, as a curriculum research strategy. Analysis of foundations, challenges and controversies of the multilevel methods.

EDUG 527 MULTILEVEL CURRICULUM PLANNING AND DESIGN
3 CREDITS

Curricular design for differentiated learning. Analysis of the method and integration of Core Standards in a multilevel specialized curriculum. The study of the common core standards of federal education system and its application to the Montessori curriculum will be an essential part of this course.

ETEG 500 APPLIED INSTRUCTIONAL DESIGN MODELS
3 CREDITS

An introduction to Instructional Design (ID) theories. ID Models will be studied, such as Mayer (1999) SOI model; Merrill (1983, 1994) CD Model; Jonnassen (1999) CLEs Model, ASSURE ISD model (1985). This model integrates the Robert Gagné Instructional event, as well as ADDIE (1975) and Dick and Cary (1990) models. This course will analyze, conduct needs assessment, improvement of performance, systematic design of materials, teaching strategies, and evaluation, both formative and summative, of instructional materials.

ETEG 501 FUNDAMENTALS OF EDUCATIONAL TECHNOLOGY
3 CREDITS

Educational technology fundamental theories, concepts, and trends will be studied. Terminology, definitions, and development of the educational technology will be analyzed from a professional and reviewer perspective. The role of the educational technologist and the professional practices will be analyzed in accordance to the most recent changes in technology of the 21st Century. The course will include research, case studies, and readings related to the field.

ETEG 502 FUNDAMENTALS OF DISTANCE EDUCATION
3 CREDITS

Distance Education's fundamental theories and philosophy will be discussed. Students will evaluate the technologies that might be incorporated into distance education, as well as, teaching and learning strategies for the modality. Emphasis will be given to the Internet, video clips, videoconference, and the selection and impact of the most appropriate medium and technologies for both synchronic or asynchrony distance education instruction.

ETEG 503 CURRICULUM DESIGN AND INSTRUCTIONAL DESIGN FOR THE ADULT LEARNER
3 CREDITS

Introduction to the principles of curriculum design for an adult population, and the development of innovative strategies to be used with this population will be discussed. The use of evaluation methodology and the selection of constructivism strategies for instructional design and implementation will be emphasized

ETEG 504 TECHNOLOGY IMMERSIONS
3 CREDITS

Study and integration of the most commonly used applications and software for Instructional design purposes. New technological trends and open-source multimedia, WEB 2.0, the new world of virtual reality, and its contributions to corporate organizational processes in cultural, educational, and social environment swill be studied

ETEL 600 E-LEARNING, TECHNOLOGY INTEGRATION AND MULTIMEDIA

3 CREDITS

Introduction to the effective use of instructional media and e-learning strategies for promote new skills and knowledge, with the support of internet communication technologies. The planning and production, design of an instructional module that integrates the different technologies and available multimedia as learning tools will be discussed. Instructional media evaluation as teaching and learning support (video, audios, Cds, DVDs).

ETEL 601 DEVELOPMENT OF CORPORATE VIRTUAL TRAINING

3 CREDITS

This course emphasized in the design, concepts and strategic planning required for developing corporate training related to personnel professional development. Students will analyze the philosophic concepts that guide the different virtual training models. It emphasizes the selection, adaptation and practices of different methods, strategies and activities used today online in organizations.

ETEL 602 DISTANCE EDUCATION ASSESSMENT

3 CREDITS

Study of different strategies and phases of the assessment that allows interpretations and use of the data collection related to the students learning process. A systematic approach for developing significant learning and comprehension required to develop student's knowledge as a result of the educational experience will be emphasized. Electronic assessment techniques like e-portfolios, e-rubrics, and e-forms will be used, as well as a variety of Open Technologies that support distance education.

ETEL 603 E-LEARNING AND VIRTUAL LEARNING COMMUNITIES

3 CREDITS

Study of media and technology used in distance education, such as video clips, audio, blogs, wikis, and open source, among others. Classes will be conducted synchronized and asynchronous in order to promote the new virtual environment of the 21st Century. Critical analysis of the principles and theories of e-learning, communication media research, and effective teaching techniques for implementing virtual learning communities will be covered.

ETEL 604 APPLIED INSTRUCTIONAL DESIGNS FOR THE CORPORATE WORLD

3 CREDITS

An introduction to the theories and foundations of the systematic design of instruction by integrating learning strategies focused on the corporate world. Among the topics, the analysis of improving employee performance, through a systematic design of materials, learning experiences and integrating technologies for the adult learner, implementation of the ID, need of assessment, and formative and summative evaluations will be covered.

ETEL 605 APPLIED INSTRUCTIONAL DESIGNS FOR THE ACADEMY

3 CREDITS

Introduction theories and Foundations of systematic instructional design based on Dick and Carey model, focusing on the strategies for the adult learner integrating constructivism. The student will design a unit using the nine steps of this model in the instructional design including the strategies for an adult population.

ETRE 525 APPLIED INSTRUCTIONAL DESIGNS FOR THE ACADEMY

3 CREDITS

Introduction theories and Foundations of systematic instructional design based on Dick and Carey model, focusing on the strategies for the adult learner integrating constructivism. The student will design a unit using the nine steps of this model in the instructional design including the strategies for an adult population.

GSTR 620 GASTRONOMIC TOURISM FOUNDATIONS

3 CREDITS

The course is designed to educate the students about gastronomy as tourism product and as a tool to attract and diversify the tourism market and travel. Throughout the course, students will learn the history and development of gastronomic tourism locally, nationally and internationally through the identification of components and potential development, as well as the ethical, legal and safety aspects.

GSTR 621 GASTRONOMY IN CONTEMPORARY SOCIETY

3 CREDITS

Encourages students to apply basic gastronomic principles in a contemporary context. The unit focuses on modernization and change leading into the twenty first century and looks at how changes to the way people eat and drink has been affected. Students will be encouraged to reflect on and analyze their own experiences and observations from a historical perspective.

GSTR 622 GASTRONOMIC TOURISM AND COMMUNICATION STRATEGIES

3 CREDITS

Strengthens students' understanding of how "food" in a symbolic sense issued to communicate ideas, values, points of view, tastes, and opinions. It is designed to encourage students to express ideas, opinions and evaluations relating to food and drink, with particular emphasis on writing in a professional context. Food and drink as a means of communication will be explored through literature, art, film and television.

GSTR 623 GASTRONOMIC EVENT PLANNING

3 CREDITS

This course is designed to provide students with the proper knowledge and skills related to organizational, operational and management functions of an event or dining establishment. The students will be exposed to several case studies where they will identify customer needs, marketing events and dining facilities. Students will learn how to develop the logistics regarding gastronomy, tourism and travel.

GSTR 624 FOOD AND BEVERAGE TASTING TRAILS

3 CREDITS

Discover all sorts of wonderful tastes and places in Puerto Rico on a trail that reflects all that is best in contemporary Caribbean Food through historic parts of the Island.

HEMG 600 FUNDAMENTALS IN THE EVALUATION OF HEALTH SERVICES

3 CREDITS

Discussion of the development of the discipline, the scope, effectiveness, and efficiency of the evaluation of health services. After completing the course, the student will demonstrate the added value of discipline, the importance of the specialty and the models of greater relevance in health services. We will study the components of planning, institutional goals, budget development, strategic thinking, and continuous qualitative and quantitative monitoring mechanism in the healthcare scenario.

HEMG 605 STRATEGIC PLANNING IN HEALTH SERVICES ORGANIZATIONS

3 CREDITS

The students will study the components of planning, institutional goals, budget development, strategic thinking and continuous monitoring mechanisms qualitative and quantitative in healthcare scenario. Assessment methodologies will be discussed to compare different situations. Work plans will be developed, institutional goals, budget, and continuous monitoring mechanisms qualitative and quantitative healthcare scenarios.

HEMG 610 LEGAL AND ETHICAL ISSUES IN THE EVALUATION OF HEALTH SERVICES

3 CREDITS

The course will train students in the knowledge related to the legal and ethical issues in research and evaluation in the health sector in Puerto Rico and the United States. Will prepare the student to exercise control in matters relating to patient rights, risk management, ethics and compliance. Meet specific regulations, Patients' Rights HIPAA Law, Federal Law 45 CFR 46 Parts A, B, C and D and biosafety principles. As an educational resource, case studies will be included.

HEMG 620 QUALITY MANAGEMENT IN HEALTH SERVICES

3 CREDITS

After completing the course, the student will integrate essential concepts and processes of Quality Management in the evaluation of health services. Students will explore trends in health services and compliance with state regulations of the Department of Health and the federal Center for Medicare and Medicaid Services (CMS). It will reinforce the skills to examine and identify solutions to existing problems in the evaluation of health services from the perspective of Total Quality Management. There will be a compilation of the most important historical events of the quality movement. Will discuss how the quality has impacted organizations, success factors, teamwork and customer satisfaction. Will present quality initiatives taken at local and international levels to ensure the quality of services.

HEMG 630 EVALUATION MODELS ANALYSIS

3 CREDITS

Analysis of the different models of program evaluation, including needs assessment, formative research, process evaluation, monitoring outcomes, impact assessment and cost analysis; as part of the course the students will be taught to develop indicators, statistical analysis, and development of an evaluation plan to measure the impact on the organization. The course last eight (8) weeks. The course includes two contact hours of laboratory weekly.

HEMG 640 EFFECTIVES STRATEGIES FOR THE EVALUATION OF HEALTH SERVICES

3 CREDITS

Students will learn to strategically plan and develop models aimed at identifying effective and efficient solutions related to labor scene, including tax, resource conservation and green energy, workers, computer support services, queuing system, medications, case mix, institutional certification and accreditation, compliance, among others. The course will encourage proactive approach to the analysis and evaluation with the primary objective of maximizing the competitiveness of the company they work for.

HEMG 650 DEVELOPMENT OF AN EVALUATION MODEL FOR HEALTH SERVICES

3 CREDITS

Practical application of the principles and methods of assessment in the management of health services, programs and policies. Distinction between the advantages and disadvantages of different research methods, understanding the concepts of cost-benefit and cost-effectiveness. The approach is aimed at the development of a model for program evaluation and use of information obtained in the evaluation of programs or cases. The course is eight weeks. The course includes two laboratory contact hours weekly.

HESM 110 HEALTH SERVICES MANAGEMENT

3 CREDITS

Introduction to the fundamental concepts of management of health services facilities. Application of the administrative processes: organization, direction, control and evaluation. Emphasis is placed in public policies, health services management status, trends, organization, practices and issues relative to the delivery of health services in Puerto Rico and in the United States.

HESM 210 HEALTH SYSTEMS AND MODELS

3 CREDITS

A study of the systems, models, health policies and the infrastructure of health services in Puerto Rico and in the United States. Emphasis is placed in health reforms and its implication in the delivery of health services to the general population. Includes a review of the historical development and the future of health services.

HESM 220 SERVICES PLANNING AND EVALUATION OF HEALTH SERVICES

3 CREDITS

A study of the historical development of planning and evaluation of health services in Puerto Rico and in the United States with emphasis in its impact in organizations and in communities. Includes the theoretical foundations of planning strategies. Discusses and applies the techniques of evaluation to the health sector.

HESM 230 BASIC ACCOUNTING FOR THE HEALTH INDUSTRY

3 CREDITS

A study of the social, economic, and political developments that have influenced and determined the accounting practices in the health services industry. Reviews accounting procedures and discusses their applications in the health services industry. Actual and hypothetical health services accounting problems will be discussed.

HESM 310 ECONOMICS OF THE HEALTH INDUSTRY

3 CREDITS

A study of the modern micro and macro economy applied to health services in the public and private sectors. Emphasis is placed in the situations and issues of health economics. Discusses the relationship between the market forces of need and demand of health services.

HESM 320 BASIC FINANCE FOR THE HEALTH INDUSTRY

3 CREDITS

A study of the financial practices of health services organizations. Also, includes the fundamental methods and techniques for financial administration in the health services industry, including fund distribution, capital management, determination and assignment of costs service rates. Case studies and applications are provided.

HESM 330 LEGAL ASPECTS IN THE HEALTH INDUSTRY

3 CREDITS

A study of the existing legislation in health services in Puerto Rico and in the United States. Emphasis is placed in the norms that have a bearing in the health services industry. Application experiences through case studies in aspects such as: malpractice, patient rights, informed consent, doctor-patient relationship, accidents, collective bargaining and ethical and legal issues.

HESM 340 BUDGETING FOR THE HEALTH INDUSTRY

3 CREDITS

A study of budget models, including the corresponding programmatic plans, and budget distribution. Emphasis is placed in goals, objectives and measurable results. The course provides for the application of budget models and techniques to health services settings.

HESM 350 HEALTHCARE MARKETING

3 CREDITS

In this course, the students develop marketing skills in the health sector. In addition, students developed skills and abilities for strategic management in health organizations in order to develop a marketing plan. Ethical principles related to marketing in health services are discussed.

HESM 410 HEALTH INFORMATION SYSTEMS

3 CREDITS

General introduction to the theory of information systems. The course provides for the application and use of software packages specifically designed for the health services industry for use in microcomputers and in mainframes, and for data collection, services utilization, billing, census, and others.

HESM 420 SPECIAL TOPICS IN HEALTH SERVICES

3 CREDITS

Analysis and discussion of current issues and trends in the health services industry. Emphasis is placed in critical reading and analysis of case studies.

HESM 431 SEMINAR IN THE HEALTH SERVICES MANAGEMENT

3 CREDITS

In this course the students apply the principles of personnel supervision and learn how to manage the problems associated with it in a department of a Health Care institution. It also emphasis in many issues of legal protection to the patient and to the institution that provide the health care services. In this course the student will practice in many departments of the health care institution. The practicum will be supervised by an institutional faculty member together with a certified health care administrator. The seminar sessions will place special attention to topics, issues and aspects related to health services administration. A research project on a related topic is required.

HESM 500 LEADERSHIP AND ORGANIZATIONAL BEHAVIOR IN HEALTH SERVICES

3 CREDITS

The course will present how organizational behavior involved in the role, performance and leadership of the manager in health services. It will present the concepts of leadership, difference between leaders and managers, attitudes, personality traits, emotional intelligence and its importance in the environment of health services, in addition to developing successful teams and delegation of authority. The student will identify how individuals learn and how personality is involved in the process of learning and decision-making. There will be case studies.

HESM 520 FUNDAMENTALS OF ACCOUNTING AND FINANCE IN HEALTH SERVICES

3 CREDITS

This course explores the essential practices of accounting and finance applied to the health sector. The student will apply the concepts learned from the environment of healthcare settings, including costs, forecast, future costs, direct and indirect costs, "ratios", patient's day's costs, case mix, productivity, inventory analysis, balance sheet, EBITDA, among others. It will focus on the development and interpretation of daily and monthly financial reports as a measure of risk prevention and institutional stability. The course will include additional practice exercises and the use of computer programs.

HESM 530 ECONOMY IN THE HEALTHCARE MARKET

3 CREDITS

The course will provide students with the theories and economic principles that guide the health market related to the production of goods, distribution of resources, supply and demand. Economic analyzes of the health market including case studies. It will assess the micro and macro environment that explain economic processes.

HESM 540 HEALTH SERVICES INFORMATION SYSTEMS

3 CREDITS

Students will learn the basics of design, requirements, applications, operation, control and regulation of computer systems in the health services. Be trained in the use and benefits of electronic medical records, disclosure protocols and operation, as well as to use information management systems to enter data, analyze them and obtain information for research and evaluation purposes. Students will know and indicate links requirements for various applications such as Laboratory Information System (LIS), Picture Archiving and Communications System (PACS), Billing and Collection (Billing and Collection), and others. The course includes two laboratory contact hours weekly.

**HESM 550 RESEARCH METHODS IN HEALTH SERVICES
3 CREDITS**

Summary of research methods that apply to the management of health services, students will analyze the various research designs and conduct quantitative or qualitative studies. Students will be strengthened between the drafting process of applied research reports that help management in decision making. The course lasts eight (8) weeks. The course includes two contact hours of laboratory weekly.

**HESM 560 APPLIED BIOSTATISTICS
3 CREDITS**

Study of the principles and basic concepts of applied statistics and inferential analysis principles in health services. Emphasis is placed on the assessment and analysis of descriptive statistics, hypothesis testing and estimation. It covers the basics of inferential statistics applied to hypothesis testing, mean proportions and variances in the process of health management and evaluation. Identify and recognize the importance of regression and correlation analysis. The course includes two laboratory contact hours weekly.

**HESM 570 FUNDAMENTALS OF EPIDEMIOLOGY
3 CREDITS**

It emphasizes the importance of the manager and evaluator of health services and its importance as a leader in creating solutions that meet the needs of communities. Application of the epidemiological method in the management of health services. It will consider the principles of epidemiology as a control and eradication of diseases to solve the health problems of the population. The course describes the natural history of the disease and the inclusion of statistics strategies for health promotion and disease prevention. It also discusses the advantages and limitations of various epidemiological designs.

**HURM 201 POLICY MAKING, EVALUATION, AND REWARD SYSTEM
3 CREDITS**

The course covers the theories, research and legal aspects that shape the practices and trends of recruitment, selection and retention of personnel in modern organizations from a strategic perspective. Emphasis on applied learning, students will develop and apply processes and methods of recruitment and selection to meet the needs of the organization and the challenges of a diverse workforce.

**HURM 210 POLICY MAKING, EVALUATION, AND REWARD SYSTEM
3 CREDITS**

Study of different compensation systems to attract, motivate and retain employees. Include the analysis of theories of motivation and reward, legal aspects of remuneration, classification and compensation systems, benefits and incentives, non-monetary rewards, wage structures, competency-based pay and performance evaluation. After completing the course, students will apply knowledge through case studies, research and practical exercises.

**HURM 215 HUMAN RESOURCES INFORMATION SYSTEMS
3 CREDITS**

Discussion of management and functional foundations of information systems programs for managing human resources in the organization. Analysis of the main characteristics related to applications and programs, research and evaluation needs of information systems in the human resources function. Applications and comparison of major programs, such as PeopleSoft, SAP or BAAN. The course includes the fundamental characteristics related to databases, information systems and strategic management process for the success of the organization.

**HURM 240 EMPLOYMENT AND LABOR LEGISLATION
3 CREDITS**

Study of labor law from the perspective of federal and local laws in the employer-employee relationship, emphasizing the historical development and future trends in the labor market. Includes the discussion and analysis of economic, political and social impact in the workforce and work organization, the evolution of labor laws, contracts and human resources policies, human rights and anti-discriminatory laws. At the end of the course, the student will apply the knowledge acquired in the case evaluation and analysis, research and practical exercises, which entails compliance with laws, rules and procedures in the management of human resources in private companies, both local and national.

HURM 250 TRAINING AND CAREER DEVELOPMENT

3 CREDITS

Study and analysis of the theoretical, conceptual and practical framework of the training and career development of human resources, and its main role in organizational strategic management. Emphasis on the need's analysis, design, development, implementation and evaluation of training programs that facilitate continuous learning in human resources and that lead to the achievement of organizational goals. Throughout the course, students will apply the processes, techniques and methods for accountability and financial return on investment (ROI) in training and development programs.

HURM 304 EVALUATION AND METHODS OF PERFORMANCE OF HUMAN RESOURCES ENVIRONMENT

3 CREDITS

The course emphasizes the role of human resources management strategic planning, performance evaluation and development of human resources. Discussion on the theories, strategies and techniques in the evaluation and performance measurement, interpretation of results and the identification of trends in the development of the organization. Through practical exercises, students will develop plans and effective tools to evaluate, analyze and report results, in quantitative terms, on the activities of human resources that contribute to the operation and success of the company.

HURM 320 NEGOTIATION AND CONFLICT MANAGEMENT

3 CREDITS

Principles, theories and basic practices for the effective management of negotiation, management and conflicts resolution in the business organization. Development of skills, techniques, methods and basic processes of negotiation, communication, persuasion and emotional intelligence, and the intervention of a third party to manage and resolve conflicts. At the end of the course, the student will recognize and value the role of the negotiator as a key element in resolving conflicts. Emphasis on the development of skills and conflict analysis skills, ways of tackling problems, types of negotiation, emotional intelligence, and communication strategies.

HURM 330 HEALTH AND SAFETY MANAGEMENT IN THE LABOR ENVIRONMENT

3 CREDITS

Introduction to the concepts and fundamentals laws of employees' safety and health at the workplace. It includes the study and analysis of the factors, risks and dangers of accidents and work-related diseases. Developing policies and practices for implementing effective security programs and occupational health. Evaluation and analysis of training programs for the development of preventive maintenance behaviors associated with occupational safety and health. Through case studies, students will apply the knowledge, skills, legal and managerial aspects to recognize evaluate and control the risks of safety and health of workers in the company.

INSU 201 INTRODUCTION TO INSURANCE

3 CREDITS

The course studies the scientific, technical, and professional principles of the discipline. It identifies participants in industry and the fundamental aspects of the prevalent regulatory environment. It analyzes particular cases of social security and bonding insurance. After studying the insurance contract, the defining areas of the industry are studied separately: life insurance and disability insurance and miscellaneous and liability insurance.

INSU 205 BARGAINING IN INSURANCE

3 CREDITS

This course discusses the concepts and types of negotiation involving insurance, as well as the knowledge and skills necessary to achieve effective negotiations. Research literature will be discussed to find out how managers involve planning, organizing, coordinating, directing, and controlling, and negotiating everything and everyone in the negotiation process. Students will learn about arbitration, judicial process or the use of mediators in both the international arena and in economic relations analyzing case studies.

INSU 301 SEMINAR ON INSURANCE PROFESSIONAL DESIGNATION

3 CREDITS

The purpose of this course is to facilitate the student's integration to the industry, promoting their accreditation as professionals. The mechanism of designation developed by the industry to distinguish its professionals is used. The course will expose the students to the existing alternatives and will motivate them to choose their preferred one. The course will guide the students at the beginning of their studies and will assist them through tutoring and monitoring.

INSU 302 REINSURANCE

3 CREDITS

The course identifies the purposes, modalities and tendencies of contemporary reinsurance. From this perspective the participants in the reinsurance market are also identified. From an operational point of view, strategies are defined and prepared to meet the objectives of the insurance business using reinsurance as a tool. Finally, the course develops tasks of an administrative nature that reinsurance requires.

INSU 304 LEGAL ENVIRONMENT

3 CREDITS

The course identifies the aspects of the type of insurance for bonding as compared to other types of insurance. It studies multiple applications, emphasizing those that facilitate business negotiations and minimize risks. It also studies accident insurance, integrated to property policies as well as those that are not integrated. Individual and institutional liability risks are studied, along with their impact and the existing mechanisms to handle them.

ITCS 510 PRINCIPLES OF INFORMATION SECURITY

3 CREDITS

The course provides the principles and general concepts in the information security management. Students will learn about the information security management components and the cyber tools to handle situations where cybersecurity is compromised. Models and legal aspects of the information security management will be assessed. Other topics to be discussed are ethic codes, ISO 27001 series, risk management, among others.

ITCS 520 FUNDAMENTALS OF NETWORKS IN CYBERSECURITY

3 CREDITS

The course prepares students to understand a computer network and its importance in the cybersecurity field. Students will learn the foundations of the network architecture and technologies and their relationship with cyber security. Topics include security models that protect companies from threats, protocols, operating systems and how to distinguish between threats and vulnerabilities in computer networks.

ITCS 530 CYBERSECURITY INFRASTRUCTURE

3 CREDITS

The course provides students a broad knowledge of issues related to the infrastructure of cybernetic information, systems of the National Security Agency (NSA). Analyze the principles, concepts and science-based topics necessary to protect organizations under compromising threats. In addition, it discusses topic such as: the identification of key assets, threat vulnerabilities and technologies to support planning, mitigation, response, recovery and prediction.

ITCS 540 SECURITY INCIDENT RESPONSE

3 CREDITS

This course provides the knowledge and technical concepts related to incidents, detection and response of security models endorsed by federal agencies and international organizations. Students will analyze in depth intrusion detection methodologies, and tools and approaches to handle intrusions when they occur. This course includes a study of computer forensic procedures and adequate networks in the detection, collection and analysis of data for presentation to the corresponding authorities.

ITCS 550 CYBER LAW

3 CREDITS

The course examines the legal aspects of the use of computers with a particular focus on areas related to computer science and information technology management. The law applicable to issues of electronic commerce, computer crimes, intellectual property, contracts, rights of freedom of expression, privacy and damages, ethics and computer fraud is studied.

ITCS 560 CYBERNETIC INTELLIGENCE

3 CREDITS

This course provides an overview of the evolution of cyber intelligence and investigates in hidden networks the risks of exposure to possible cyberattacks. Emphasis will be placed on the analysis of vulnerabilities in security programs and the tools available in response to possible attacks. Students will design scenarios of attacks on the information systems of an organization through internal and external penetration testing and wireless security technology.

ITCS 605 CRYPTOGRAPHY

3 CREDITS

This course provides the concepts of modern Cryptography under a perspective of computer science. Students will learn the essentials of cryptography systems and how to use them correctly. The course will mainly focus on definitions and constructions of various primitives' cryptographies, including pseudo-random generators, pseudorandom functions, encryption schemes, digital signatures, and authentication codes. Students will be exposed to real-world problems through applications and case studies.

ITCS 610 CLOUD COMPUTING

3 CREDITS

This course provides the fundamentals of cloud computing architectures based on standards, protocols, and current best practices for the provision of IT business services. Key topics includes service models for cloud computing, virtualization, storage, management and data processing, architecture design for cloud computing, and security design patterns. Students will learn skills to design solutions to fix securities issues on cloud computing environments.

ITCS 620 DIGITAL FORENSICS

3 CREDITS

Students will learn how to obtain and analyze digital information for possible use as evidence in civil, criminal, or administrative cases. Various topics are discussed on hardware and software applications for computer forensics, computer forensics law, volume and system file analysis, computer forensics investigations and their social and legal impact. Through laboratory exercises, students will be exposed to different situations in the forensic digital field applicable to the real world.

ITCS 630 SOFT VULNERABILITY ANALYSIS

3 CREDITS

This course examines the relevant theory of software vulnerability analysis and its application assessments in security in detail. The key issues include the most common vulnerabilities and their associated preventive measures. Also covered topics about tools and techniques fundamental to perform reverse engineering of software and vulnerability analysis.

ITCS 640 ETHICAL HACKING

3 CREDITS

In this course, the student will learn how ethical preemptive attacks against their own organization will help prevent anti-ethical attacks. Emphasis will be given to the collection of access information, hacking system, trojans and viruses, web piracy and wireless network hacking. The importance of using tools to test network environments, network security and perform penetration tests is highlighted.

ITCS 655 CYBERSECURITY PROJECT

3 CREDITS

The course integrates the implementation of foundations, scientific concepts and theories related to the field of study. Involves the comparative analysis of patterns and simulated cyber security issues for the formation of plans applicable to problem solving and decision making. This course requires an individual preparation of a technological solution project related to the issue of cybersecurity.

LOGI 310 INTERNATIONAL TRADE

3 CREDITS

Study of the principles of international trade, exchange rate policies, funding strategies adopted by companies at state and international level. Monetary systems, letters of credit, shipping companies under Cabotage Act, intermediate routes and ports are presented. Applicable regulations and insurance perishable goods, chilled, frozen, and hazardous and /or toxics are discussed.

LOGI 311 INTERNATIONAL TRADE FINANCE

3 CREDITS

Analysis of funding models on national and the international trade. This course demonstrates the role and impact of funding models in decision-making and in all stages of the supply chain. Issues of currency and exchange, balance of payments, lines, cards and letters of credit to import and export Tariff applications and contributions/local taxes and credits to matrixes are discussed.

LOGI 330 GLOBALIZATION AND INTERNATIONAL MARKETS

3 CREDITS

Analysis of global and emerging markets. During the course, dynamics adopted by the market to supply common products such as non-traditional sector of emerging consumers is presented. The student will discuss the importance and impact of cultural diversity in markets, payment systems between different regions and countries. The student will acquire a broad overview of the basics related to issues of monitoring and regulations applicable to the international market.

LOGI 331 LOGISTICS AND TRANSPORTATION

3 CREDITS

Conceptualization of the issues related to logistics and transportation of goods. Issued related to service offerings and variable costs related to the type of cargo and means of transport is emphasized. Transportation services are detailed in various categories both state and international, applicable regulations, free trade zones, route relationship between demand and costs for volume, weight and special conditions.

LOGI 332 PLANNING AND PRODUCT CONTROL

3 CREDITS

Study of diversity of products, product packaging, transportation, distribution, arrival to markets (time to market), peak demand and target markets. Compliance mechanisms, prevention and control of financial risk for the merchant and relevant aspects of production per season (seasonal) are presented. Discussion of the regulations applicable to perishable or seasonal items, controlled content and quality controls applicable.

LOGI 410 PROCUREMENT MANAGEMENT

3 CREDITS

This course conceptualizes the process of Procurement Management of products, raw materials and services. The different phases where the Procurement Management shall labor, including shopping, receipt process, storage, manufacturing, packaging, distribution of demand and markets, availability of materials and/or products discarded are detailed. Principles of manufacturing and packaging are discussed from the point of view of raw materials, components, machinery, spare parts and services, maintenance, regulatory compliance and technical services. After completing the course, the student will learn in detail the principles of packaging, including regulatory requirements, types of packaging and freight consolidation for land, air and sea transportation.

LOGI 411 PURCHASE AND MATERIAL HANDLING

3 CREDITS

Analysis of internal needs to establish work plans aimed at achieving effective functioning of operations related to local and international logistics. Emphasis on external commitments based on the history and/or projection of demand for established products and new products is made. Also, its relationship with marketing strategies and target markets for each product or family of products and distribution to various markets is emphasized.

LOGI 412 DATA ANALYSIS AND ELECTRONIC TRANSACTIONS

3 CREDITS

Analysis of computer systems and the role of different agencies both private and government at the state and international trade. At the end of the course, the student will be trained in the interpretation of data and will make projections of market trends. Also, the student is instructed on how to provide support in finance, procurement and distribution as well as marketing and sales.

LOGI 413 NEGOTIATION STRATEGIES IN SUPPLY CHAIN

3 CREDITS

Systematic and theoretical study of the negotiation process and decision-making applicable to local and international logistics. It will emphasize on how the management can develop and refine their skills of negotiation and consensus with this team in the fiscal and financial aspects, and proper use of assets. Bidirectional communication and effective negotiation processes and decision-making are encouraged.

LOGI 414 REGULATORY COMPLIANCE MANAGEMENT

3 CREDITS

This course examines in detail the nature of different existing products or materials on the market and the regulations applied to territories or destinations. Regulations of customs systems, free trade zones and distribution channels available on the primary and secondary markets are discussed. The role of regulatory compliance division of international logistics and international agreements on distribution by countries is presented.

LOGI 431 INTEGRATED SEMINAR

3 CREDITS

Comprehensive, theoretical, conceptual and decision analysis approach from the perspective of strategic change.

This course allows application of knowledge, skills and abilities acquired in previous courses in order to improve the effectiveness and efficiency of the company. Emphasis is placed on research as an essential element in a strategic context, linked to changes occurring in the economy, technology, labor, business and trends in the discipline of study. The course is based on the analysis of case studies and research from international companies.

MGMC 101 MANAGERIAL PRINCIPLES AND LEADERSHIP

3 CREDITS

The course will study the organizational context of leadership, including the discussion of skills, processes, and responsibilities of effective leaders as promoter of a business organization. It also stimulates the development of critical thinking and analytical skills applied to procedures of change within an organization. The student will learn the use of management tools for the design, execution, implementation, monitoring and evaluation of small business entrepreneurial projects in their respective areas of knowledge.

MGMT 220 ORGANIZATION AND BUSINESS BEHAVIOR

3 CREDITS

Study of concepts, theories and practices related to individual and group behavior and their impact on the effectiveness and efficiency of the organization as a system. Analysis and evaluation of mission and vision, organizational structure and design, information and communication technology, policies and practices, power and decision-making, innovation, strategic change and learning, leadership, teamwork and diversity in the company with global focus. Upon completion of the course, the student will apply the integrated model of organizational behavior, through analysis and case assessment, scientific research and current events from a professional and ethical perspective

MGMT 230 HUMAN RESOURCES MANAGEMENT AND DIVERSITY

3 CREDITS

Study of models and strategies of management and human resource development from the perspective of diversity in the workplace. Analysis and evaluation of basic fundamentals in strategic planning of human resources to promote and ensure the inclusion of a diverse workforce in all aspects of organizational life. Implementation of theories and strategies of human resources linked to recruitment, selection, training and development, compensation, benefits and incentives, retention and succession of a diverse workforce, aligned to the objectives and business results, changes in the labor market, globalization and competitive advantage.

MGMT 240 GLOBAL ENTREPRENEURSHIP

3 CREDITS

This course uses prior and new knowledge to understand how entrepreneurs generate new and innovative ideas, products and processes at global level. The student will create and value, through innovation, national and international markets. It will explore different approaches of entrepreneurial organizations considering the skills and attributes needed to succeed in today's global competitive environment.

MGMT 250 INTERNATIONAL BUSINESS AND ELECTRONIC COMMERCE

3 CREDITS

This course is a comprehensive introduction to international business and management of electronic commerce. Arrangement of international management and technical aspects of electronic commerce will be discussed. The student will analyze the fundamental aspects of international legal regulations, infrastructure for business transactions, the concept of e-readiness and models of e-commerce as a strategy of corporate expansion.

MGMT 431 INTEGRATION SEMINAR

3 CREDITS

Comprehensive, theoretical, conceptual and decision analysis approach from the perspective of strategic change. This course allows application of knowledge, skills and abilities acquired in previous courses in order to improve the effectiveness and efficiency of the company. Emphasis is placed on research as an essential element in a strategic context, linked to changes occurring in the economy, technology, labor, business and trends in the discipline of study. The course is based on the analysis of case studies and research from international companies.

MKTG 203 MARKETING AND STRATEGIC COMMUNICATION

3 CREDITS

This course presents strategies for integrating marketing and communications of the new century for innovative products and services to impact and attract new customers through social network, the Internet and local press. Fundamentals of brand marketing and strategic process come together in new advertising designs, responsible for maintaining the image and reputation of organizations in local and international markets. The processes of interaction with digital communications, media relations, company Web sites and video marketing will be analyzed.

MONC 600 MONTESSORI METHODOLOGY AND THE COGNITIVE DEVELOPMENT

3 CREDITS

Study of the philosophy, theory and teaching strategies of the Montessori Method, and its relation to the curriculum materials development for a multilevel classroom. The Planes of Development will be studied and researched as well as routines and methodology strategies.

MONC 605 MONTESSORI TEACHER

3 CREDITS

Study of the functions of the Montessori Teacher in the classroom. The environment prepared for a Montessori classroom requires of a facilitator/guide instead of a teacher. He/She leads the student to a self-discipline and self-management process, and its primary function is the detailed observation of classwork. Offers sessions individually, to small and whole groups. The student will know the fundamental characteristics of a Montessori Teacher, the skills needed to develop and the scientific fundamentals that support the functions of this facilitator.

MONC 610 DESIGN OF MONTESSORI CURRICULUM AND TEACHING STRATEGIES FOR ARTS, HISTORY AND HUMANITIES

3 CREDITS

Design and development of History, Arts and Humanities curriculum. Multilevel Lesson Plans will be created and teaching strategies will be demonstrated and practiced using differentiated learning. Routines, narrative and assessment are integrated according to the Montessori Method.

MONC 620 DESIGN OF MONTESSORI CURRICULUM AND TEACHING STRATEGIES FOR LANGUAGE ARTS)

3 CREDITS

Design and development of Language Arts curriculum (Spanish and English) and multilevel plans will be created. Teaching strategies will be demonstrated and practiced for small groups and whole group and curriculum design according to the methodology will be created. A Socratic Seminar in English and Spanish will be developed, as a strategy of critical thinking, reading development, and decision- making, taking stand and analysis. Students will practice reading interpretation throughout literary circles.

MONC 630 DESIGN OF MONTESSORI CURRICULUM AND TEACHING STRATEGIES FOR MATHEMATICS AND SCIENCE

3 CREDITS

Design and development of science and math curriculum integrating academic standards and expectations. Multilevel lesson plans will be created, analyzed and evaluated. Teaching strategies will include demonstrations, individual practice and small group sessions.

MONC 640 FIVE GREAT LESSONS

3 CREDITS

Research, design and development of the most significant events in the history of mankind and the world. These events are summarized into five major lessons of the Montessori curriculum. Students will develop at least one of the five events, using a Montessori impressionist presentation.

MONC 670 MONTESSORI PROJECT

3 CREDITS

Research work culminating in the development of curriculum and materials in the field of student's area of expertise. The project must include one of the five great lessons integrated into the curriculum of student's discipline, or the development of Pedagogy of the Place. The Pedagogy of the Place must integrate two or more disciplines. Students will be required to do a presentation of the project to a panel of experts.

ODHR 203 STRATEGIC ORGANIZATIONAL COMM

3 CREDITS

Introduction to the foundation of strategic organizational communication. This course provides students with an overview of the necessary skills of strategic communication inside organizations. Theories and concepts of strategic communication are discussed and how it integrates other managerial skills such as planning, interpersonal relations, negotiation, and conflict resolution, among others. It emphasizes the application of concepts to real situations for problem solving.

ODHR 204 ORGANIZATIONAL PSYCHOLOGY
3 CREDITS

This course studies theories and psychological principles inside organizations. It focuses in relating basic concepts with the opportunity to increase productivity in the work setting understanding organizational and human behavior and improving individual performance. Topics include teams in organizations, motivation, differences, attitudes and work relevant emotions, stress, leadership and organizational change and development. Students will apply psychological theories to problems and/or work settings.

ODHR 305 DIVERSITY IN ORGANIZATIONS
3 CREDITS

This course presents a variety of theories and perspectives that arise from differences in race, culture, religion, gender, age and other characteristics related to diversity in a job environment. Students will understand how these dimensions affect performance, motivation, productivity and success of organizations. How to face and to change practices such as stereotypes, prejudices, perceptions and other beliefs that present barriers to reach the competitiveness of individuals and organizations will be discussed. The course emphasizes the interconnection of social and cultural processes to avoid possible factors that might generate discriminatory practices.

ODHR 306 CONFLICT RESOLUTION AND ARBITRAGE
3 CREDITS

This course provides students the necessary knowledge for conflict management at all organizational levels. It emphasizes in the development of negotiation skills, arbitration and managing objections in order to develop alternatives that satisfy the interests of all parts. The design of strategies necessary for a successful negotiation process will be studied.

ODHR 307 TRAINING AND HUMAN RESOURCE DEVELOPMENT
3 CREDITS

Needs analysis, design, implementation and evaluation of training and human capital development in work organizations. The course emphasizes the recognition of human talent as a competitive advantage in high performance organizations. Creating a climate of positive and healthy workplace through professional training programs and human capital development, allowing motivate, encourage and provide skills necessary to optimize their performance. Includes topics such as leadership development, motivation and retention, needs analysis, design and management of training. Análisis de necesidades, diseño, implementación y evaluación de capacitación y desarrollo de capital humano en organizaciones laborales.

ODHR 308 LEADERSHIP AND ORGANIZATIONAL CHANGE
3 CREDITS

Discussion of the principles and models of organizational changes and the development of skills to lead these changes. Emphasizes on managing effectiveness of organizational change elements and forces that act against these changes. Emphasizes intervention designs and recommendations for strategic changes from a human perspective. Includes topics of effective communication, design of strategic plans, process evaluation, phases of changes implementation and diagnosis.

ODHR 409 MANAGEMENT PRINCIPLES OF CONSULTANCY IN HUMAN RESOURCES
3 CREDITS

In this course the student will integrate managerial concepts learned through his/her career education in the area of human resources. Throughout the course the student will develop a consulting strategy to improve the effectiveness of an organization. By integrating managerial concepts, the student will evaluate practices and processes that increase productivity, effectiveness and approach from leaders towards more productive companies in the fundamental areas of human resource management.

ODHR 410 ORGANIZATIONAL COACHING
3 CREDITS

This course provides to the student fundamental knowledge of coaching practices for managerial improvement. Emphasizes the integral approach of human relations in organizations and techniques for the development of organizational coaches. Concepts as leadership, instructing, training and motivating teamwork to achieve goals are discussed. The concepts of empowerment and constant feedback to teams are studied.

ODHR 411 TOTAL QUALITY IN WORK SCENARIO
3 CREDITS

Discussion of the principles and techniques in Total Quality Management (TQM) with emphasis on its application in organizations. This course provides the student the necessary knowledge, which enables him/her to become part of TQM programs, either as a participant or as who designs it. This allows him/her to understand a general panoramic view and the specific details of total quality.

PORF 101 PORTFOLIO
3 CREDITS

Designed to help students assess their personal and professional experiences of learning. Integrates theorists of adult education and learning styles, accelerated learning, personal and professional planning and essential principles. Introduces tools to develop critical thinking, research and development of effective oral and written communication. Students will develop a portfolio that integrates their knowledge for personal and professional experiences. Designed to help students assess their personal and professional experiences of learning. Integrates theorists of adult education and learning styles, accelerated learning, personal and professional planning and essential principles. Introduces tools to develop critical thinking, research and development of effective oral and written communication. Students will develop a portfolio that integrates their knowledge for personal and professional experiences.

PRMG 550 LEADERSHIP IN PROJECT MANAGEMENT
3 CREDITS

Study of the basic aspects related to project management, leadership and the development of work teams to achieve success in projects. Emphasis on the development of knowledge and use of techniques of communication, teamwork, conflict management, diverse team management, motivation and collaboration. Introduction to the basic concepts in project management such as what is a project, project management, life cycle of a project, determinants for the success of a project, ethical aspects and international challenges in project management, among others.

PRMG 601 PROJECT SCOPE AND TIME MANAGEMENT
3 CREDITS

This course includes the definition and analysis of the project management processes required to ensure that the project includes all the work required to successfully complete the project according project goal, objectives, needs and expectations. Definition and analysis of the processes required to ensure that the project is completed on time taking into consideration activity list, durations, activity sequencing, start and finish dates and graphical representations such as GANTT and Critical Path Method charts. It is the application of how the project scope baseline is defined and how the work breakdown structure is created and defined.

PRMG 602 PROJECT COST MANAGEMENT
3 CREDITS

Definition and analysis of the processes required to ensure that the project is completed within the approved budget. It is the application of financial concepts, earned value and forecasting techniques. There is a discussion regarding cost estimating, budgeting, S-curves, operation and maintenance life cycle costs, contingency reserve and baseline. The budget definition for a project is covered as part of this course. The discussion of the differences between a new change to the approved project budget and project variances are reviewed. Impact analysis about project critical areas is also covered.

PRMG 603 PROJECT QUALITY MANAGEMENT
3 CREDITS

Definition and analysis of the processes required to ensure that the project and each deliverable satisfy the needs for which they were undertaken. It is the application of quality concepts, quality costs and quality control to the management process. The course emphasizes the importance of the quality plan definition, the requirements, the audits, the quality control and the quality baseline. The definition and development of a quality plan is covered. The discussion of the differences between a new change to the approved quality plan and project variances are reviewed. Impact analysis about project critical areas is also covered.

PRMG 604 HUMAN RESOURCES RISK MANAGEMENT
3 CREDITS

Definition and processes required to make more effective use of human resources assigned to the project and the project team development analysis. Study of the characteristics of successful teams. Strategies for the selection and recruitment of members of the team. Development and teamwork control. Description and analysis of the theories of Maslow, Herzberg, Alderfer and McGregor among others, and their impact on the individual and the formation of the team. Definition and analysis of the processes involved in the identification, analysis, and answers to the project risks. Development of a plan of risks and opportunities and a plan of responses to risks. Identification, qualification and quantification of risks and opportunities. Analysis of the impact of risks and opportunities in accordance with critical factors of success or Triple Constraint.

**PRMG 605 PROJECT INTEGRATION MANAGEMENT
3 CREDITS**

The students will have the opportunity to participate in 60 hours in a real project to apply the project Management Concepts by developing a project (definition and analysis of the processes) required to ensure that the five processes groups and nine knowledge areas of the project are properly coordinated in the project. Aspects required to integrate all areas of knowledge and processes established, will be complemented with the discussion.

**PRMG 606 PROJECT PROCUREMENT MANAGEMENT
3 CREDITS**

Definition and analysis of the processes required to acquire goods and services from outside the performing organization. Topics include the discussion about contract types, negotiation processes, contractual terms and conditions, clauses, procurement team, quality levels, financial components among others. Also covered in the class are cost-benefit analysis, make or buy decisions, management of proposals, quotations and contracts.

**PRMG 607 PROJECT COMMUNICATION MANAGEMENT
3 CREDITS**

Definition and analysis of the processes required to ensure timely and appropriate generation, collection, dissemination, storage and ultimate disposition of project information. Emphasis is on the components of effective communication. A description of strategies for a effective communications with project stakeholders and the definition of project team ground rules and conflict management are also covered.

**PRMG 608 USING PROJECT MANAGEMENT INFORMATION SYSTEM
3 CREDITS**

This course covers the use of a Project Management information system tool such as Microsoft Project®. The attendee will receive knowledge of schedule development, resource management, dependencies, dashboards, metrics, cost estimating and budget, baseline setup, using reporting options among others.

**PRTE 630 INSTRUCTIONAL DESIGN AND TECHNOLOGICAL PROJECT I
3 CREDITS**

Supervised individual project aimed at presenting an instructional design to develop an innovative technological solution to a practical or general education instructional problem. Discussion of problem identification, research, data collection and analysis, interpretation and presentation of findings in support of the conceptualization to manage a technology project. The student is expected to present substantial findings in the field of educational technology as a tool of instruction in virtual learning environments.

**PRTE 640 INSTRUCTIONAL DESIGN TECHNOLOGICAL PROJECT II
3 CREDITS**

Individual supervised project consisting of research and critical analysis of instructional design models for virtual educational environments. Study of the model's process for distance education and e-learning will be emphasized. Discussions will be held to guide students in identifying the problem, present the hypothesis, research, data collection and data analysis, interpretation, presentation and conclusions. Significant information must be presented to prove the need of the Instructional Technologist and the performance of students' involvement in virtual learning communities.

**PUAD 405 GOVERNMENT BUDGETING
3 CREDITS**

Study of the constitutional, legal and administrative nature of the public budget. Discussion of the budgetary cycle and the formulation, execution and control processes. At the end of the course, students will formulate a budgetary petition.

PUAG 500 THEORETICAL FOUNDATIONS IN PUBLIC MANAGEMENT

3 CREDITS

A comprehensive study of contemporary management approaches, techniques, and skills for varying public organizations. Students will examine the role of bureaucracy in government and the politics of organizational structure, decision making and administrative leadership, and the dynamics of communication. This course will be conducted using different teaching methods including, but not limited to lectures, audiovisual presentations, case studies, internet assignments, action research, field experiences, and conferences.

PUAG 505 TECHNICAL RESEARCH WRITING SKILLS

3 CREDITS

The course will focus on good writing practices, and effective technical writing skills. The course integrates practical and professional communication skills applied to the content of the courses in the curriculum. Student participation is the key for succeeding in this course. The focus is less on writing and more on re-writing and refining. Workshop approach will be fundamental in the writing process developed in the course. Journaling and portfolio preparation will be used as a self-learning tool to help students organize their thoughts. Critical thinking and analysis will be encouraged in the writing skills development. The course will be conducted using different teaching methods including, but not limited to lectures, audiovisual presentation, case studies, Internet assignments, action research, field experiences, and conferences.

PUAG 510 STATISTICAL METHODS IN SOFTWARE PACKAGES APPLIED TO PUBLIC AFFAIRS

3 CREDITS

Introduction to the practical use of statistical methods most commonly applied in social sciences, including descriptive statistics, inferential methods, and regressions in various forms. Emphasis on conceptually understanding statistical methods, knowing when to use which methods, how to use them, how to execute them in statistical software, such as SPSS (Statistical Package for the Social Sciences) software, and how to interpret the results from computer output. Emphasis is provided to the use of surveys techniques as a research method and the complementary use of SPSS. This course will be conducted using different teaching methods including, but not limited to lectures, audiovisual presentations, case studies, Internet assignments, action research, field experiences, and conferences.

PUAG 515 RESEARCH METHODS APPLIED TO PUBLIC AFFAIRS

3 CREDITS

The study and practice of the most common research methodologies used in need analysis and program evaluation for public issues. Methodologies include questionnaires, surveys, checklists, interviews, documentation reviews, observation, focus groups, and case studies. The course includes practice in research proposal writing, data collection techniques design, sampling, coding, data analysis, and final report writing. Training and use of basic descriptive and inferential computer statistical tools are also included. No previous training in statistics is required, but a fluency in high school algebra concepts is recommended. This course will be conducted using different teaching methods including, but not limited to lectures, audiovisual presentation, case studies, Internet assignments, action research, technical practices, and field experiences.

PUAG 520 MACROECONOMIC THEORY APPLIED TO PUBLIC POLICY

3 CREDITS

The course will focus on the fundamentals of macroeconomic theory and its application to public sector decisions. Understanding of the behavior of economy as a whole and the forces at play. The causes of economic phenomenon such as unemployment, inflation, business cycles, economic growth and recessions will be studied. Attention will also be given to economic policy aimed at influencing the performance of an economy and the debates which surround them. The student is encouraged to apply macroeconomic theory in debates on current issues. The course also emphasizes the exposition of principles and techniques of economic theory that are most useful in analyzing economic aspects of public affairs. This course will be conducted using different teaching methods including, but not limited to lectures, audiovisual presentation, case studies, Internet assignments, action research, field experiences, and conferences.

PUAG 525 PUBLIC BUDGETING AND FINANCE

3 CREDITS

The course will exam the budget and finance at the state and local level of government. Topics include budget structure and process; decision makers within the political and economic environment; debt, capital planning and bond financing; revenue structures supporting expenditures, as well as contemporary issues such as privatization and liability insurance. Tax policy and associated tradeoffs between tax equity and efficiency and spending and program needs are also examined. Two case studies are utilized: one related to state and local tax policy and one related to budgetary decision-making. The course combines readings with the development of a budget for a hypothetical city to demonstrate budget formats, the politics of budgeting, and methods of projecting expenditures and revenues, administration and criteria for selecting taxes. This course will be conducted using different teaching methods including, but not limited to lectures, audiovisual presentation, case studies, Internet assignments, action research, field experiences, and conferences.

PUAG 530 PUBLIC POLICY DESIGN AND ANALYSIS
3 CREDITS

The course will provide the comprehensive study of the logic of action and decision-making regarding issues underlying scientific and policy research and public policy; the role of problem definition, description, theory, model building, explanation, and prediction in policy research and decision making. The course reviews major substantive theories of public choice and public policy making and critically examines them from a logical and theoretical perspective. This course will be conducted using different teaching methods including, but not limited to lectures, audiovisual presentation, case studies, Internet assignments, action research, field experiences, and conferences.

PUAG 600 PUBLIC POLICY ANALYSIS USING GIS TECHNOLOGY
3 CREDITS

The course is a practical introduction to the use of computer mapping (Geographic Information systems) for policy analysis and decision-making using workshop strategies. Students learn ArcGIS through examples of map applications. Class sessions will be conducted in a computer classroom and will be devoted to learning how to make maps in ArcGIS and to discussing the different uses of maps. The course will touch-on databases and GIS techniques now being developed by public agencies and private concerns. Topics will also include using GIS databases to assist our society with current policy issues, such as water quality, land use and availability, wetland, ground and surface water protection, land resources, and facilities management. This course will be conducted using different teaching methods including, but not limited to lectures, audiovisual presentation, case studies, Internet assignments, action research, field experiences, and conferences. Exercises and a final project in the field are required.

PUAG 605 TOPICS AND CASES IN URBAN POLICY AND PLANNING
3 CREDITS

Basic analysis for the revitalization of and planning for communities in general and neighborhoods in particular. Course focuses on the implementation of community and neighborhood revitalization programs as well as on the methods used by the public sector to design programs for deteriorated neighborhoods that fail to generate sufficient social and economic activity on their own. The course will include analysis of issues in the areas of social planning, education, economic planning, environmental issues and related areas. The emphasis is on project- driven discussion of urban government leadership and management in the context of community systems, collaboration, service delivery, and community planning development. The course provides an opportunity for participants to apply their theoretical and methodological training to a specific urban development issue or opportunity. Students in the course will both, study research examining community and neighborhood revitalization programs, as well as complete a project in the field. This course will be conducted using different teaching methods including, but not limited to lectures, audiovisual presentation, case studies, Internet assignments, action research, field experiences, and conferences.

PUAG 610 THE LEGISLATIVE PROCESS
3 CREDITS

Study of the principles of legislative process and how it is run at the federal and state level with emphasis in Puerto Rico State Legislature. The topics included are organizational structure and operation, legislator responsibilities, committee schedules and agendas, bills drafting and sources of information for law making, and the decision- making process will be studied to forecast legislative role in policy making. This course will be conducted using different teaching methods including, but not limited to lectures, audiovisual presentation, case studies, Internet assignments, action research, field experiences, and conferences

PUAG 615 DEVELOPMENT OF FINANCING PROPOSALS FOR PUBLIC SECTOR PROJECTS
3 CREDITS

Practical hands-on study of the concepts, strategies, and techniques of resource development in public and not-for-profit organizations. Emphasis on formulation of needs and capacity studies, organization of goals and objectives, grant proposals and budget preparation. This course will be conducted using different teaching methods including, but not limited to lectures, audiovisual presentation, case studies, Internet assignments, action research, field experiences, and conferences. A grant proposal for a hypothetical public or nonprofit organization project is a requirement.

PUAG 620 LEGISLATION AND ADMINISTRATION OF ENVIRONMENTAL REGULATIONS IN PUBLIC SECTOR PROJECTS

3 CREDITS

A comprehensive study of laws used for the formulation, articulation, and enforcement of natural resources and environmental policy. Legal sources, such as statutes, cases, administrative rulings, and agency practices; federal and state legislation, cases and administrative rules are examined for policy inconsistencies, contradictions, and overlap. The effectiveness of fees, injunctions, and other legal sanctions is discussed. The goal of the course is to develop an understanding of these techniques through a combination of lectures, exercises, and the examination of a set of real-world case studies. This course will be conducted using different teaching methods including, but not limited to lectures, audiovisual presentation, case studies, Internet assignments, action research, field experiences, and conferences. The course will culminate with an in-depth analysis of a particular real-world environmental problem using the tools learned in class.

PUAG 625 HUMAN RESOURCES AND LABOR RELATIONS ADMINISTRATION IN PUBLIC SECTOR AND IN NON-PROFIT ORGANIZATIONS

3 CREDITS

Study of the relationship between employers, employees, and their labor relations organizations in government and the nonprofit sector. The course focuses on methods designed to assist individuals and organizational groups in preparing for present and future opportunities; review and practice of techniques to improve knowledge, skills, attitudes, group behavior, and organizational structures. Topical problems, issues from operational and theoretical perspectives; emphasis on political, legal, economic, social, and environmental forces that shape the human resource function in public agencies will also be examined. The student will explore the negotiation and administration of collective bargaining agreements and issues that accompany the growth of the nonunion sector in both private, non-profit and public sectors. This course will be conducted using different teaching methods including, but not limited to lectures, audiovisual presentation, case studies, internet assignments, action research, field experiences, and conferences.

PUAG 630 DEVELOPMENT AND MANAGEMENT OF STRATEGIC ALLIANCES WITH NON-PROFIT ORGANIZATIONS

3 CREDITS

The course will provide the analysis of on management issues unique to non-profit sector. The course focuses on hands-on use of real-world examples of organizations input on community service and the non-profit sector efficiency as services providers in substitution of the traditional public sector organization. Attention is also provided to managing volunteers and fundraising. The student is challenged to a critique approach of the issues related to the development and empowerment of the nonprofit sector as an opportunity to boost and expand the non-financial resources available to serve the communities. Also, the course discusses the opportunities to empower these organizations to be capable of being intermediaries in long term contractual and non-contractual relationships with the traditional governmental organizations to meet the unmet community needs. This course will be conducted using different teaching methods including, but not limited to lectures, audiovisual presentation, case studies, Internet assignments, action research, field experiences, and conferences.

PUAG 635 CONFLICT RESOLUTION IN PUBLIC POLICY AFFAIRS

3 CREDITS

Study of the principles of negotiation in organizational settings and provides firsthand experience in simulated negotiations. Theoretical and empirical research on the variables that affect success in negotiations is discussed. The students engage in a series of bargaining exercises between individuals and teams. The course analyses the knowledge and skills necessary for effective management of complex multi-party disputes about public issues such as state budget, land use, and delivery of services. The student examines the principles for managing conflict in the public sector; explores effective methods for analyzing and framing multi-party conflicts; and participate in step-by-step procedures for reaching and implementing agreements. This course will be conducted using different teaching methods including, but not limited to lectures, audiovisual presentation, case studies, Internet assignments, action research, field experiences, and conferences.

PUAG 640 DEVELOPMENT AND MANAGEMENT OF E-GOVERNMENT PROJECTS

3 CREDITS

Perspective of the issues surrounding the design and implementation of e-government projects and information policies. These issues include development of e-government, e-governance, political influences, strategic planning, design and implementation of information systems, information resource management, privacy and security, information quality, and knowledge management. This course will be conducted using different teaching methods including, but not limited to lectures, audiovisual presentation, case studies, Internet assignments, action research, field experiences, and conferences. Multiple channels of communication and engaging discussions will serve to facilitate knowledge building. Students are expected to catch up with readings and assignments, group workshops and activities to immerse students with relevant issues and practices in e-government.

PUAG 660 DIRECTED STUDY IN PUBLIC AFFAIRS

3 CREDITS

The course will study a public policy issue research, including oral presentation, delivered to members of the Public Affairs faculty. The student should submit a project proposal; arrange meetings with the advisor as work progresses; submit a first draft of report, then submit a final report to the faculty advisor prior to completion of semester graduation.

PUHE 101 INTRODUCTIONS TO PUBLIC HEALTH AND HEALTH EDUCATION

3 CREDITS

Introduction to the different conceptions about health, as well as the basic principles of public health and education. Analysis of the relationships that exist among the four major factors that determine health. Deals with various epidemiologic concepts about health and illness, the natural history of diseases, attention and prevention levels, specific protection measures and health promotion. Emphasis is placed on existing health education models for individual and community intervention.

PUHE 201 INTRODUCTION TO BIOSTATISTICS

3 CREDITS

Basic concepts and principles of statistics applied to life and health. Emphasis in the basic techniques used in scientific research, primarily in areas of health education and public health. Analysis of the major statistical concepts such as the scientific method and the statistics method and others intervention.

PUHE 203 INTRODUCTION TO EPIDEMIOLOGY

3 CREDITS

Studies the occurrence, distribution and causes of diseases in communities using the epidemiologic method. The epidemiologic, as well as the scientific method are applied to the health-illness process and its causes, particularly transmissible, chronic, mental diseases, and high-risk behaviors.

PUHE 210 BIOLOGICAL ASPECTS OF HUMAN DISEASES

3 CREDITS

Develops sound scientific attitudes, the concepts and the basic biological processes of diseases, such as: inflammation, immunological reactions, regeneration and growth control, fibrosis and necrosis using the scientific method as the tool. Pathogenesis is incorporated to the various perspectives of epidemiology and disease control as they relate to public health. Laboratory experiences promote the application of technology to the study of the principal human diseases and agents that cause them.

STMG 600 LEADERSHIP AND ENTREPRENEURIAL VISION

3 CREDITS

Analysis of roles and styles of a leader as an agent of change through the articulation and construction of the organization's vision and mission. The course includes theoretical and analytical studies of types of leadership strategies, leadership styles and organizational context in which the leader works. Human resources strategies for empowerment and their impact in the organizational culture are also explored. Application of theoretical knowledge in relation to individual, interpersonal and group behavior within the organization. The course addresses the study of leadership and organizational behavior in a continuous changing global environment.

STMG 601 STRATEGIC MANAGEMENT

3 CREDITS

Analysis and application of concepts such as ethics and social responsibility. Evaluation and application of elements related to identifying opportunities and analysis of business strengths and weaknesses. Emphasis in the application of the vision, mission, goals and objectives for the development of strategies in the planning process. Development of a strategic plan that includes identification and evaluation of alternatives for its control. This course is targeted to the development and application of analytical skills related to strategic planning.

STMG 602 TECHNOLOGY APPLICATIONS AND INFORMATION SYSTEMS

3 CREDITS

The course develops strategic management skills in entrepreneurial leaders for the operational integration of different information resources. It allows for the identification, analysis and evaluation of alternatives for the improvement of the organizations' effectiveness. The course also emphasizes the importance of technology for strategic planning and problem solving. This course focuses on the development and application of the knowledge and skills needed to understand, evaluate and make decisions related with information systems.

STMG 603 BUSINESS COMMUNICATION

3 CREDITS

This course develops the needed communication skills for the efficient, effective and successful performance of the modern leader. It emphasizes the relationship between effective leadership and communication, its role, both internally and externally. Also included are the types of communication in the organization, reinforcing with the critical use of various techniques and the integration of technologies that support the management process of the effective leader. This course analyzes the responsibilities and tasks inherent in properly informing management decisions, how to handle communication in times of crisis and the expectations and tendencies of the leader as a communicator. It also emphasizes the support provided by the leader in the processes of changes and challenges of communication and the leader in the entrepreneurial dynamics.

STMG 604 ORGANIZATIONS IN A GLOBAL ECONOMY

3 CREDITS

This course studies of the opportunities that global economy offers to management. Analyze economic principles based on problem examination and the challenges presented on a globalized economy. It includes decision making on financial, economic and stock market issues. This course evaluates strategic opportunities and risks regarding organizational development in the global context.

STMG 608 STRATEGIES FOR CHANGE, PROFESSIONAL AND ENTREPRENEURIAL DEVELOPMENT

3 CREDITS

Strategic analysis of topics in the areas of power relations and resistance to change, motivation, and human behavior. Tolerance and respect for diversity and group dynamics. Evaluation and design of strategies for the development of a world-class organizational culture. Emphasis in environmental and structural forces within the organization. Appraises the different variables related to the organizational capacity for managing change and the development of plans and strategies.

STMG 655 INTEGRATION SEMINAR

3 CREDITS

Analysis of real and simulated case studies for the appropriate application of the planning, decision-making and problem-solving processes. Comparative analysis of patterns and managerial problems. Seminar geared towards the application of related principles, concepts and theories. This course includes the development of an individual research.

STTR 500 CORPORATE FINANCE AND MANAGERIAL ACCOUNTING

3 CREDITS

Through this course the student will learn accounting methods and techniques to be able to make financial decisions. Will understand the importance of analyzing cost structures based on accounting information. Will identify the types of financial statements, and with the information that they contain will learned how to make analysis of the status of the organizations. Identify risk factors and profitability in the tourism sector and valuation techniques applied to tourism businesses. Recognize the value creation in the sector and risk management. Understand international finance and financial markets in the tourism sector. Participate in the development and implementation of technical and financial planning models, and financial analysis of sources related to tourism.

STTR 501 ECONOMY AND GLOBAL TOURISM

3 CREDITS

This course presents tourism from a business perspective and as a body of global economic development. Provide students with the skills to identify elements for its development potential. Trained on the historical evolution of tourism stakeholders and tourism components, behaviors and motivations of tourists and instruments that measure its economic impact. In addition, students will become familiar with current and emerging tourist destinations in the world.

STTR 502 SALES MANAGEMENT AND STRATEGIC TOURISM MARKETING

3 CREDITS

This course will enable the student in the process of selling and marketing a tourism product. The student will develop knowledge and skills to determine the appropriate use of the many promotional tools (including television, radio, cinema, press and print publications, direct marketing, and internet) as well as different methods of distribution of tourism products and strategic commercialization. In addition, several case studies presented globally to expose students to the various models of e-commerce in tourism and design models of tourism portals.

STTR 503 DEVELOPMENT AND ADMINISTRATION OF TOURS, TOUR PACKAGES AND SPECIAL OFFERINGS

3 CREDITS

Through this course, students will be trained to design, develop and manage innovative tourism products originated by creating new tours, tour packages and promotional deals.

STTR 504 HUMAN RESOURCES AND ORGANIZATIONAL DEVELOPMENT

3 CREDITS

Through this course the student will develop skills in planning and management of human resources in tourism organizations. They discussed various issues related to personnel management, such as planning and provision of human resources, incorporating personal and career management, training, personnel evaluation, assessment of duties and salary administration, all this with particular reference to the particularities of the tourist business. Will explore topics that influence the management of human factors such as corporate culture and organizational development.

STTR 505 PLANNING AND TOURISM DEVELOPMENT

3 CREDITS

Through this course the students will acquire knowledge and develop skills in terms of: (a) as a key innovation of tourism development, (b) new trends of tourism, (c) strategic planning models, (d) model management and tourism development, and (e) the diagnostic potential of tourism projects. Through case studies on global the student will be exposed to discussion and analysis of these issues. In addition, a review of laws, regulations, financial incentives, and processes related endorsements to tourism development in Puerto Rico.

STTR 509 RESEARCH TECHNIQUES

3 CREDITS

This course trains the student in research methodology with the purpose to propose and develop with success research connected and related to strategic tourism. The student will be familiarized with the programs and resources for the analysis of facts and statistics, with the sources of tourism information, and to design marketing studies SWOT style.

STTR 601 PRODUCT DESIGN AND TOURIST EXPERIENCES

3 CREDITS

The course presents the latest trends in product design and tourism experiences management in companies and destinations. The student will be exposed to the analysis and recognition of existing or potential tourism products. It is based on the discussion of specific cases that will allow differentiating offers, identifying appropriate marketing strategies and incorporating principles of sustainability in the design of tourism experiences in line with the new market trends.

STTR 602 ONLINE MARKETING AND SOCIAL MEDIA MANAGEMENT

3 CREDITS

This course studies the concepts of Social Media Management & Marketing regarding the Tourism Industry. It emphasizes in the use of fundamental content on social media platforms, as a form of results-oriented marketing. It focuses on the design and development of a social media plan (including their policies or guidelines) to promote important tourism-related organizations, such as the OMD. The course is developed through conferences, debates, case studies, reference analysis, practical exercises and creation of original content, using social networks and other online resources in a practical and responsible way.

STTR 603 EVENTS MANAGEMENT: OPERATIONS AND LOGISTICS
3 CREDITS

This course is designed to provide students with the knowledge and skills related to the organizational, operational and administrative functions of the special events industry. Emphasis on the development of communication and critical thinking competencies through the analysis and presentation of cases, that allow students to evaluate and propose solutions focused on achieving an impeccable experience for event participants. The course will also work on ethics, diversity and innovation competencies by allowing students to present ideas for innovative and sustainable events that promote the responsible use of resources and minimize the negative impact on the community.

STTR 604 LODGING OPERATIONS MANAGEMENT
3 CREDITS

This course presents the operational practices used in the management of lodging properties. The theory will be aligned with different problems and solutions, using multidimensional teaching strategies that will encourage the student to develop the skills of customer service, innovation and technology in the hospitality industry. Emphasis on the classification of hotels and alternative accommodations and the integration of reception, food and beverages, human resources, marketing, accounting, casinos, housekeeper, engineering and security.

STTR 605 SUSTAINABLE TOURISM
3 CREDITS

The course enables students to develop skills to ensure the existence of a balance between the needs of tourists and destinations receptors in order to minimize the economic, social and environmental aspects of tourism development. Case studies will be presented at a global level for evaluation and analysis.

STTR 655 PROFESSIONAL PROJECT IMPLEMENTATION
3 CREDITS

Through this course, the student will have the opportunity to implement the professional knowledge and skills learnt to real life situations. Entails the student to develop a project that contributes in an effective way to the tourism development and promotion of the destination. It is required that it includes a real situation with a real solution.

TECH 250 INFORMATION AND COMMUNICATION TECHNOLOGIES
3 CREDITS

This course presents different information systems and open-source technologies to facilitate, expedite and promote the communication process, production and organization effectiveness. The student will understand the relationship between business strategies, the use of information technologies and the advantages of sustainable competitiveness that can contribute to the organization, both in local and international markets.

TOUR 501 INTRODUCTION TO TOURISM MANAGEMENT
3 CREDITS

The course offers a historical background of tourism, forms of government and evolution of the concept of “nation”, as well as the travel motivations that human beings have. Additionally, it introduces the student to the basic concepts needed for the effective administration of the tourism economic activity. Among these, international relations and its vocabulary, the role of service, ethics and diversity, destination marketing and the structure of sustainable tourism. The course will use the internet as a research tool, email provided by UAGM as a means of communication and MS Word and PowerPoint for projects and presentations.

TOUR 515 WORLD HERITAGE DESTINATIONS
3 CREDITS

The course introduces the student to the concepts of world heritage, destinations and tourism as strategies of tourism and economic development. The student will learn concepts of integration and development. Policies of use and management of places with high historical, cultural, social and natural value. It will also prepare students to design, plan and develop products, projects and strategies with cultural and heritage importance. Moreover, the student will learn the legal, administrative and institutional framework, as well as its application while respecting ethics and diversity. The course will use the internet and institutional databases as tools for research.

TOUR 520 INTERNATIONAL RELATIONS AND TOURISM POLICIES

3 CREDITS

The course will explore international relations in a political and legal context with emphasis in the impact that these have in the tourism sector and the development of an international mind, focused in good communication. Concepts used in the global arena will be studied, as well as an analysis of diplomatic relations that stimulate critical, economical, ethical and business thinking between nations. Also, reasons that motivate armed conflicts. Study of the diplomatic protocols at official state events acting as nationals of the United States of America. The course will use the internet as a research tool, email assigned by UAGM and Blackboard as a means of communication and MS Word and PowerPoint for projects and presentations.

TOUR 525 CRISIS RISK MANAGEMENT IN TOURISM

3 CREDITS

The course is designed to provide students the necessary tools to think critically with the purpose of evaluating, acting and manage crisis and risks. Also, recognize the vulnerability that arises in tourism operations as a consequence of natural disasters, emergencies and catastrophes. This will be emphasized in a strategic matter with multiple exercises, which offers the adequate flexibility to evaluate the characteristics of risk, depending on the nature of it and other variables that influence the margin of the alternatives that the organization selects. This interaction will provide the students with a better understanding of risk minimizing, preparing them to execute effective risk management within a tourist operation. Evaluate the situation, measure threats, develop strategies for risk management and handle information at mass media in an ethical manner that respects diversity. Real cases will be studied to appreciate the different theories discussed. The course will use the internet as a research tool, email assigned by UAGM and Blackboard as a means of communication and MS Word and PowerPoint for projects and presentations.

TOUR 530 TOURISM AND DESTINATION MANAGEMENT

3 CREDITS

The course presents the student to the field of administration and management of destination and excursion management operations. General concepts, abilities and opportunities will be presented to evolve professionally in this area. The course will use direct integration with local operations, destination management companies, technology, communication among others to expose the student to a real experience in an ethical matter that respects diversity and stimulates new innovative solutions to the field. The course will use the internet as a research tool, email assigned by UAGM and Blackboard as a means of communication and MS Word and PowerPoint for projects and presentations.

TOUR 550 PLANNING AND TOURISM DEVELOPMENT

3 CREDITS

The course will provide the explanation of the methodology involved in the effective planning of tourism related projects. Students will apply their critical thinking skills and tourist knowledge in the analysis of the feasibility of the proposed project, while applying good communication, innovation and technology. Moreover, various impacts of tourism to the economy will be analyzed and the application of sustainability techniques. Finally, the correct segmentation of markets that the destination will appeal to, while respecting diversity. The course will use the internet as a research tool, email assigned by UAGM and Blackboard as a means of communication and MS Word and PowerPoint for projects and presentations.

TOUR 571 TOURISM BRANDING AND PROMOTION

3 CREDITS

The course introduces the student to the concepts of world heritage, destinations and tourism as strategies of tourism and economic development. The student will learn concepts of integration and development. Policies of use and management of places with high historical, cultural, social and natural value. It will also prepare students to design, plan and develop products, projects and strategies with cultural and heritage importance. Moreover, the student will learn the legal, administrative and institutional framework, as well as its application while respecting ethics and diversity. The course will use the internet and institutional databases as tools for research.

TECHNICAL STUDIES DIVISION

ACCT 110 COMPUTER SYSTEM APPLIED TO ACCOUNTING 3 CREDITS

Introduction to use of computers to process and organize accounting information. Includes analysis of transactions, data entry, and preparation and analysis of computer-generated financial statements and reports. Includes laboratory.

ANIC 101 PRINCIPLES OF 3D ANIMATION 3 CREDITS

The course exposes students to apply the principles of 3D animation with the methods, techniques and virtual environments used in the professional industry. Students will learn the principles of animation with computerized objects, virtual skeletons, cartoons, characters, human expressions, physics, rigging, and scripts in virtual three-dimensional settings; and prepares students with the essential knowledge and skills for the training industry.

ANIC 102 3D ANIMATION I 3 CREDITS

The course exposes the student to apply the concept of 3D animation with methods, techniques, and virtual environments, used in the training industry. Students are introduced to the principles of computerized object animation in three-dimensional settings, virtual skeletons, fluid simulation, object deformation, physics, and particle effects. Students will acquire the knowledge and skills in the 3D animation standards.

ANIC 103 MODELING, TEXTURE, AND LIGHTING I 3 CREDITS

This course exposes students to apply the concepts of three dimensions (3D) or "CGI" ("Computer generated Imagery") for the design, modeling, and creation of objects through the digital application. The student will develop 3D models and characters, using the tools of polygons, virtual scenes, texture, and lights. Each production is applied with the techniques and standards in the model and final 3D representation, the students will acquire the knowledge and professional skills used in the entertainment industry.

ANIC 105 IMAGE DESIGN PHOTOSHOP 3 CREDITS

This course covers the basic elements and principles for image editing. The student will learn the use of editing tools, with the different export processes for applications in the digital industry. The student will become familiar with digital equipment in conjunction with the computer program for image correction, technique, and design for textures. In addition, the student will know the graphic integration between image editing with the export of subjects in the creation of 3D objects.

ANIC 106 3D ANIMATION II 3 CREDITS

The course exposes the student to apply advanced concepts in 3D animation with methods, techniques and virtual environments, used in the training industry. Students are introduced to advanced techniques in creature animation in three-dimensional settings. You will learn advanced muscle anatomy and structure for realistic animation. Students will acquire the professional knowledge and skills required by the animation industry.

ANIC 108 PRODUCTION OF STORYBOARD 3 CREDITS

The course prepares students in design, visualization, interface, and storyboarding. Students will be exposed to the visual challenge of the presented composition of storyboards for further interpretation of physical and virtual settings. In addition, students will adapt professional design concepts into visual expressions to facilitate understanding and quality in 3D animation production.

ANIC 110 MODELING, TEXTURE, AND LIGHTING II 3 CREDITS

The course prepares the student with advanced knowledge and skills in 3D design, texture creation, and map sculpting for the world of training. In conjunction with the Maya and Zbrush applications, students will learn the professional techniques used in the industry. Students will be exposed to advanced tools for exporting smaller amounts of polygons and realistic virtual representations. In map composition, students will represent and learn the standards in Maya for adapting physical laws and logical routines for rigging variables. Students will have the required knowledge and experience in advanced techniques used in the CGI industry.

ANIC 112 3D ANIMATION III

3 CREDITS

The course exposes the student to apply advanced concepts in 3D animation with methods, techniques, and virtual environments, used in the training industry. Students are introduced to advanced techniques in map animation, advanced compositions for virtual sets. You will learn advanced techniques in composition with realistic rendering for professional production in the 3D animation industry.

ANIC 115 3D ANIMATION SEMINAR

3 CREDITS

The course exposes the student to apply advanced concepts in 3D animation with methods, techniques, and virtual environments, used in the training industry. Students are introduced to advanced techniques in map animation, advanced compositions for virtual sets. You will learn advanced techniques in composition with realistic rendering for professional production in the 3D animation industry.

BIOL 1103 INTRODUCTION TO MICROBIOLOGY

4 CREDITS

Designed for students of the Allied Health Sciences Programs. Discusses fundamental concepts of microbiology, including the latest advances in the area. It covers microorganism, their pathology, methods for controlling their growth and immunology.

BIOL 1103L INTRODUCTION TO MICROBIOLOGY LAB

0 CREDITS

Introduction to the world of microorganisms, including the study of the basic characteristics of fungi, bacteria and viruses, emphasizing on those organisms that are pathogens to humans.

BIOL 1104 ANATOMY AND PHYSIOLOGY COMPENDIUM

4 CREDITS

Study of biological science focused in the characteristics of the human cell, anatomy, physiology and genetics. Includes the digestive, cardiovascular, muscular, respiratory, urinary, endocrine, nervous, and reproductive systems. The course focuses on developing critical thinking skills through class discussions and laboratory activities, providing the opportunity for students to describe the characteristics of microorganisms, their classification and pathogenicity. The course also develops information management skills.

BIOL 1104L ANATOMY AND PHYSIOLOGY COMPENDIUM LAB

0 CREDITS

Study of biological science focused in the characteristics of the human cell, anatomy, physiology and genetics. Includes the digestive, cardiovascular, muscular, respiratory, urinary, endocrine, nervous, and reproductive systems. The course focuses on developing critical thinking skills through class discussions and laboratory activities, providing the opportunity for students to describe the characteristics of microorganisms, their classification and pathogenicity. The course also develops information management skills.

BIOT 105 INTRODUCTION TO MICROBIOLOGY

4 CREDITS

Introduction to the world of microorganisms, including the study of the basic characteristics of fungi, bacteria and viruses, emphasizing on those organisms that are pathogens to humans.

BIOT 105L INTRODUCTION TO MICROBIOLOGY LAB

0 CREDITS

Introduction to the world of microorganisms, including the study of the basic characteristics of fungi, bacteria and viruses, emphasizing on those organisms that are pathogens to humans.

BIOT 106 COMPENDIUM OF ANATOMY AND PHYSIOLOGY

4 CREDITS

This course enables students to acquire the fundamentals of the Biological Sciences focused on the characteristics of matter, the cell, the introduction to human anatomy and physiology and genetics.

BIOT 106L COMPENDIUM OF ANATOMY AND PHYSIOLOGY LAB

0 CREDITS

This course enables students to acquire the fundamentals of the Biological Sciences focused on the characteristics of matter, the cell, the introduction to human anatomy and physiology and genetics.

COAT 107 KEYBOARDING AND COMPUTER BASICS

3 CREDITS

This course enables the student to acquire an introduction to technology in personal computers, applications and ethics in the use of computers. This includes direct experience with computer operating systems and problems, through immediate practice with Word, Excel and Power Point applications.

COMC 102 INTRODUCTION TO MEDIA

3 CREDITS

Panoramic study of the mass media. Includes historical development, organization, structure, characteristics, and analysis of social responsibility, as well as the impact that media has over the public. The course is developed through discussions, critical analysis, readings, case analysis, presentations, and the responsible use of technology. It is offered one semester.

COMC 103 DIGITAL PHOTOGRAPHY

3 CREDITS

This is a laboratory-intensive course that emphasizes communication technology, digital photography, and its tools, techniques and modalities. Through class discussions and work in the laboratory the student will recognize technologies such as black-and-white photography, color photography, computers, satellite, telephone, and Internet transmissions, and will work on photography projects from the development of a concept to final product. The course will entail two 2-hour weekly meetings at the digital media laboratory. It will be offered in a semester

COMC 104 DIGITAL GRAPHIC DESIGN

3 CREDITS

This course focuses on the great movements of graphic design, its rationale and application in the preparation of sketches, brochures, business cards and posters. In addition, it focuses on the need to find the creativity to achieve a greater responsiveness of the public they will spread the message to.

COMC 105 WEB PAGE DESIGN AND PUBLICATION

3 CREDITS

This course introduces students to tools used today to develop Web pages. The course is taught in a laboratory and includes technologies such as HTML and Content Management Systems (CMS), and other complementary technologies.

COMC 106 DIGITAL SOUND PRODUCTION

3 CREDITS

The study of the principles and techniques of digital audio production. Theoretical aspects of this course present a general vision of Radio as an industry. Sound production's legal, esthetical and managerial aspects are also studied in combination with the audience, programming, script writing, and equipment and production facilities. This course emphasizes on content production. Students will create programming by handling industry standard software. The nature of sound and its theoretical principles will be used in the recording, editing and broadcasting processes for the radio, video and web.

COMC 107 MANAGEMENT AND ADMINISTRATION OF A MEDIA COMPANY

3 CREDITS

This course provides students with the necessary tools for the management, planning and organization of a communications company. It will emphasize on the challenges and the new trends of the communications industry modern development. The course will direct students to integrate management and communications concepts into a social-entrepreneurial strategy.

COMC 108 VIDEO DIGITAL PRODUCTION AND DIRECTION

3 CREDITS

Introductory course to the theory and practice of video production and direction. This course offers an integrated perspective of the television business; its role and performance. The theoretical aspect includes the fundamental concepts of audiovisual production as well as the legal, ethical and managerial elements. It will also incorporate the development of an audiovisual concept; script writing; the proposal; the production stages; the production crew; equipment's; distribution and marketing of the final product. The practical component of the course includes technical and aesthetical aspects in several audiovisual content creations and the use of recording and digital editing equipment.

COMC 109 MULTIMEDIA PRODUCTION

3 CREDITS

This course focuses on the study and practice of various digital media related to graphic design, websites, photography and video. Presents the development of the creative arts directed towards the converging media and its application in computer graphics arts. In addition, it addresses the complexity of multimedia production, in its aspects of design and technical solution in hardware and software.

COMC 110 LEGAL AND ETHICAL ASPECTS IN COMMUNICATIONS

3 CREDITS

Study of the laws, jurisprudence, and regulations regarding media and analysis of the state and federal jurisdictions as they apply to the immediate context. Emphasis is placed on the values, ethical and moral principles, and their application to the communications field from the individual and the business standpoints. The course also includes discussion of copyright, privacy, slander, defamation, speech rights, obscenity, pornography, and freedom of information. The course is carried out through the use of case analysis, readings, research, presentations, and the responsible use of technology. It is offered in one semester.

CRNI 101 BASIC OF ELECTRONICS CIRCUITS

3 CREDITS

Fundamental concepts of electronic behavior are identified. The course includes principles of AC and DC, laws and theorems concerning analysis of circuits, passive and active elements of circuits, operation of test equipment, circuit simulators and related issues. Theoretical analysis of circuits and how to measure voltage are emphasized.

CRNI 102 INTRODUCTION TO NETWORKS

3 CREDITS

This course is an introduction to the fundamentals, basic concepts, and terminology of networks. Topics include access and use of the Internet, intranet and networking hardware and software.

CRNI 103 DESIGN AND MAINTENANCE OF MOBILE DEVICES

3 CREDITS

This course prepares the student in the development of basic mobile applications for Microsoft Windows phone devices using the XAML and C# programming languages. The student acquires basic knowledge for the analysis, design, development, and application problem solving. The student must complete three (3) weekly hours during the semester.

CRNI 105 DIAGNOSTIC AND MAINTENANCE OF COMPUTER SYSTEMS I

3 CREDITS

This introductory course teaches how to set up, operate, and maintain a personal computer. Students will gain practical hands-on experience in the following areas: installing software packages, preventive maintenance, diagnostic testing, and peripheral interfacing.

CRNI 107 FUNDAMENTALS OF OPERATING SYSTEMS

3 CREDITS

This course covers the assembly of the components of a network. Students will apply their knowledge in the installation, configuration and troubleshooting in a network. They will learn how to connect buildings using microwave antennae and all the wiring to be used. They will learn about the use of tools for measuring the behavior of a network to identify problems.

CRNI 109 NETWORK DESIGN AND MAINTENANCE

3 CREDITS

In this course, methods used to analyze, design and manage networks are studied. Real life scenarios will be presented so the student will be able to design a network or propose changes to the existing one, designing the physical changes and organizing the installation.

CRNI 111 SECURITY AND RECOVERY SYSTEM PLAN

3 CREDITS

This course presents methods to identify vulnerabilities and how to take appropriate countermeasures to prevent and mitigate failure risks for an organization. Also presents the students the principles of disaster recovery, including the preparation of a disaster recovery plan, assessment of risks in the enterprise, development of policies and procedures, understanding the roles and relationships of various members of an organization, testing and rehearsal of the plan, implementation of the plan, and actually recovering from a disaster.

CRNI 113 DIAGNOSTIC AND MAINTENANCE OF COMPUTER SYSTEMS II

3 CREDITS

This course covers the assembly of the components of a network. Students will apply their knowledge in the installation, configuration and troubleshooting in a network. They will learn how to connect buildings using microwave antennae and all the wiring to be used. They will learn about the use of tools for measuring the behavior of a network to identify problems.

CRNI 201 BASIC OF ELECTRONICS CIRCUITS

3 CREDITS

This course identifies fundamental concepts of electricity behavior. It includes AC and DC principles, circuit and theorem analysis laws, passive and active circuit elements, test equipment operations, circuit simulators and circuit-related topics. Emphasizes the theoretical analysis of circuits and voltage and current measurements.

CRNI 202 INTRODUCTION TO COMPUTER NETWORKS

3 CREDITS

This course is an introduction to fundamentals, basic concepts and network terminology. Topics include access to and use of the Internet, Intranet, and hardware and software needed to establish a network.

CRNI 203 MOBILE DEVICE REPAIR

3 CREDITS

This course trains the student in the initial mobile apps for Microsoft Windows Phone devices using the XAMIL and CTM programming language. The student acquires basic knowledge about the analysis, design, development and troubleshooting of applications.

CRNI 205 DIAGNOSIS AND MAINTENANCE OF COMPUTER SYSTEMS I

3 CREDITS

This introductory course teaches how to install, operate, and maintain personal computers. Students will gain experience in the following areas: software package installation, preventive maintenance, diagnostic testing, and peripheral interconnection.

CRNI 207 FUNDAMENTAL TOPICS OF OPERATING SYSTEMS

3 CREDITS

This course prepares the student to apply the basic functions and commands of the operating system. Emphasis on basics concepts such as: disk initiation, programming language, file handling, backup, and operating systems such as Linux, DOS, Windows, Mac OS and others.

CRNI 209 NETWORK DESIGN AND MAINTENANCE

3 CREDITS

This course covers the assembly of components in a computer network. Students will apply their knowledge in installing, configuring, and troubleshooting network failures. They will learn how to connect buildings using microwave antennas, its wiring requirements and using the tools to measure network behavior for troubleshooting.

CRNI 211 SECURITY AND SYSTEM RECOVERY PLAN

3 CREDITS

This course provides methods for identifying vulnerabilities in the information systems of the organization and how to take appropriate steps to prevent and mitigate the risks of failure. It introduces students to disaster recovery principles, including preparing a disaster recovery plan, identifying risks, developing policies and procedures, pilot-testing, implementing the plan, and disaster recovery.

CRNI 213 DIAGNOSIS AND MAINTENANCE OF COMPUTER SYSTEMS II

3 CREDITS

This course expands the concepts learned about how to install, operate, and maintain a personal computer. Students will gain experience with practice in the following areas: software package installation, preventive maintenance, diagnostic testing, and peripheral interconnection. The course is offered in a laboratory.

CRNI 215 DEVELOPMENT OF ELECTRONIC COMMERCE APPLICATIONS

3 CREDITS

This course develops the skills necessary to design, develop, implement and maintain e-commerce websites. Includes experiences with page design tools, database handlers, and transaction processing.

CRNI 221 INTRODUCTION TO SERVERS

3 CREDITS

This course provides an introduction to computer server concepts and the capabilities and characteristics of this type of equipment. The students work using the latest versions of the Windows Server operating system, in order to develop technical knowledge of these important server operating systems.

CRNI 223 SERVER INFRASTRUCTURE

3 CREDITS

This course expands on the concepts learned about servers and adds advanced topics on server and their infrastructure. The course covers solutions that can be applied in the computer network environment; knowledge in the "Active Directory", "Group Policy" platforms, and the specific roles and functionalities that a server can perform.

CRNI 225 VIRTUALIZATION AND NETWORKING TOPICS

3 CREDITS

This course provides knowledge of virtualization technology and the benefits this concept offers to companies that maintain an advanced information systems infrastructure. Advanced network knowledge is also developed, including Firewall, VLAN, VPN, Port Forwarding, and Access Point configuration and its features.

CUAR 101 INTRODUCTION TO CULINARY ARTS

3 CREDITS

This course introduces the student to the most important areas within the Hospitality Industry, the professional career options within the industry and the management functions associated with each area. Special importance will be given to Lodging, Food and Beverage, and the Meeting industries. Case studies, group dynamics, teamwork, and class discussions will introduce students to effective communication styles, the use of the decision-making process to resolve managerial situations, practical critical thinking the principles of research and information gathering skills, and innovation. Guest speakers from the industry will share their experiences with students. The course will use the Internet as a research tool, e-mail and Blackboard as means of communication, and MS Word and PowerPoint for projects and presentations.

CUAR 103 MEAT CUTTING, SAUCES AND STOCKS

3 CREDITS

This course will allow the student to develop basic, essential and safety skills in the handling of different knives, emphasizing in vegetables cuts, fabrication of chicken, fish and the preparation of stocks, sauces, "glace" and thickening agents. The course will use the Internet as a research tool, Blackboard will be used as a means of communication and MS Office for papers and projects. Theoretical presentations, demonstrations and extensive participation in lab sessions are used to develop the course.

CUAR 105 FOOD PRODUCTION

3 CREDITS

Introduction to the fundamentals, theoretical and practical in food preparation and nutrition. Students will develop cooking methods and techniques, fabrication of cuts of meat and fish, including making soups and farinaceous. In addition, competencies will be covered in relation to hygiene and sanitation and the safe handling of food and equipment. The course will have extensive practice in the kitchen laboratory and cooking demonstrations. The use of the Internet will be used as a tool for research and MS Word for the preparation of papers.

CUAR 107 INTRODUCTION TO BAKING AND PASTRIES

3 CREDITS

Basics Concepts of bakery including, doughs, quick breads, pies, biscuits, cookies, cakes and basic items, made in a bakery. Emphasis will be placed on desserts and baking techniques. Essential mathematical concepts and procedures will be applied for the conversion of recipes to be used in the class laboratories. The student will also be exposed to critical thinking by analyzing formulas and mixing methods. The course will emphasize in product quality characteristics and hygiene and sanitation competencies. Students will be encouraged to use scientific and quantitative reasoning while maintaining good communication and will use the Internet as a research tool.

CUAR 109 THE ART OF GARDE MANGER

3 CREDITS

The course will expose the student to different types of the culinary techniques, history of the Garde Manger kitchen and its vocabulary. The production of cheeses, fruits, antipastos and crudités platters, vegetables carvings and caviar presentations. Different styles of food plated presentations for buffets, and the preparation of hot and cold hors-d'oeuvre, forcemeats, sausages, pates, terrines, "Foie Gras", galantines and roulades, curing and smoking techniques and sushi. A product development research work is an important part of the successful completion of this course. Students will be encouraged communication and use the internet as a research tool. The course will use the internet as a research tool, MS Words for paper and projects and Blackboard as means of communication.

CUAR 111 INTERNATIONAL AND PUERTO RICAN GASTRONOMY

3 CREDITS

Exposure to different gastronomic cultures of the world, through demonstrations, menus, research, and development of recipe preparation. Emphasizing in traditional and contemporary foods from, England, Greece, Russia, Africa, Middle East, India, Japan, China, Indochina, Korea, US, Mexico, South America, Caribbean, and Puerto Rico. Skills such as vocabulary, critical thinking, hygiene, and sanitation will be an essential part of the course. Students will also be encouraged to use quantitative reasoning while maintaining good standards of communication, ethics, and diversity and to use the Internet as a research tool.

CUAR 120 INTERNSHIP

1 CREDITS

This work experience course is designed in competencies that develop and strengthen skills in the field of the food service industry to become proficient in it. Students will apply practical knowledge, demonstrating skills necessary for their professional development. By applying the cooking methods, hygiene and sanitation practices developed in the course, students will gain a broader understanding of the demands and expectations of the food service industry.

CYBS 101 COMPUTER HARDWARE AND NETWORKS

3 CREDITS

The computer hardware course is a hands-on laboratory-oriented course designed to introduce the student to the operation, support, and troubleshooting of PCs, peripherals, and network connectivity issues. Major terms covered in this course are hardware concepts, Troubleshooting, repair, maintenance and support. It covers CISCO Router Technology and the beginning router configurations, routed and routing protocols, and an introduction to LAN switching. Discusses different LAN and WAN techniques and matches merits of user's requirements to meet business needs. This course prepares the student for the CompTIA A+ Hardware exam.

CYBS 102 INSTALLING AND CONFIGURING WINDOWS SERVER

3 CREDITS

This course provides the student with the knowledge and skills necessary to install, configure, manage, and support the latest Microsoft network infrastructure. Emphasis on learning to implement a network infrastructure with Windows Server 20XX with its main roles and characteristics. The student will learn about the operation of Server Operating Systems, their editions, types of Windows Server licensing, and the use of Active Directory Domain Services. You will be able to practice in the Installation and configuration of DNS service, dynamic distribution of IP addresses with DHCP, group policies in the domain and the configuration of remote desktop services.

CYBS 103 NETWORK INFRASTRUCTURE SECURITY

3 CREDITS

A proper network security posture must be comprised of multiple layers. This course provides a comprehensive analysis of a wide breadth of network security technologies that could be deployed to harden a network infrastructure against various attacks. The course covers the installation, and security configurations of various network devices including switches, access points, proxy servers, firewalls, intrusion detection systems, intrusion prevention systems and other security and network appliances at different layers of the OSI model.

CYBS 104 INTRODUCTION TO CYBER SECURITY MANAGEMENT AND DIGITAL CRIME

3 CREDITS

Foundational knowledge and essential skills in all security domains in the cyber world, information security, systems security, network security, mobile security, physical security, ethics and laws, related technologies, defense, and mitigation techniques used in protecting businesses. This course covers the technical and managerial knowledge required to effectively manage the overall security posture of the organization. Topics include Security and risk management, asset security, communication and network security, identity and access management, security assessment and testing, security operations, software development security.

CYBS 105 CYBERSECURITY

3 CREDITS

This course aims to turn students into good IT security technicians as well as cover the topics included in the Security + certification according to the requirements established by CompTIA. Cryptography is used to ensure data integrity through hashing and data confidentiality through symmetric / asymmetric cryptosystems and public key infrastructure (PKI). Critical concepts in risk management are discussed, such as setting alerts, responding to incidents, and mitigating vulnerabilities. It teaches how to identify how hackers try to break into your network, IT infrastructure, and physical assets, and how security technicians help prevent those breaches. It covers the skills necessary to prevent attacks ranging from simple malware to sophisticated exploits and social engineering that takes advantage of people's trust, relationships, and lack of knowledge.

CYBS 106 LINUX NETWORKING AND SECURITY

3 CREDITS

This course provides an essential foundation for students requiring Linux operating system to perform cyber security related operations. The course engages the student with numerous network security and digital forensics-related labs designed to introduce concepts and develop techniques essential for success in cyber security field. Emphasis is made in the use of both open-source software and security-related utilities.

CYBS 107 DIGITAL FORENSIC INVESTIGATIONS

3 CREDITS

This course provides an overview of cybercrime and its investigation. A foundational understanding of the criminal justice system, including laws specific to cybercrime investigation. Students will learn about the variety of crimes occurring, how the investigative process is applied for each type of crime, and problems that are unique to cyber investigation. Also, introduce students to acquire and analyze digital evidence. The course covers tools and techniques and explain topics such as file structure, data recovery, e-mail and network investigations, and expert witness testimony. In addition, the student will gain practical knowledge in conducting digital investigations and preserving digital evidence that maybe used court or corporate inquiries.

CYBS 108 PENETRATION TESTING, LEGAL AND ETHICAL HACKING

3 CREDITS

This course covers the process and methods for assessing the security posture of information systems. It reviews in depth the phases of penetration testing to include but not limited to: planning, reconnaissance, scanning, exploiting, post exploitation and reporting. Tools, techniques, and procedures for each of the phases will be discussed. The overarching objective of this course is to arm the student with the practical knowledge necessary to integrate the defense-in-depth strategy, as detailed by the National Security Agency (NSA), in deploying, hardening, monitoring, and defending critical information infrastructure in accordance to legal and ethical guidelines of the profession. The class must develop a cybersecurity activity, which they can present their group Project and or the best practices of cybersecurity in organizations.

DEMA 100 FUNDAMENTALS OF EMERGENT MOBILE TECHNOLOGIES

3 CREDITS

This course provides the student with basic knowledge in the technologies of mobile and personal devices. It includes interaction and communication between these devices. In addition, it offers an introduction to the emerging technologies in the development of mobile applications. It focuses on the development of knowledge, skills and abilities of critical thinking and technological competencies, through lectures and practical exercises on the computer, which allow the student to learn the technologies involved in all aspects of mobile devices. This course involves the responsible use of information skills in order to generate new knowledge.

DEMA 101 TROUBLESHOOTING AND LOGICAL CONCEPTS

3 CREDITS

This course offers the student an introductory experience on programming and problem solving. Emphasis is placed on the basic tools and logical concepts needed to develop computer applications. It focuses on the development of critical thinking and technological skills, including writing a structured and modular program, in a current object programming language, using Visual Basic or C++. In addition, it examines the representation of data, the development of algorithms and flowcharts through different structures. Quantitative reasoning skills are also developed to choose and apply mathematical formulas and methods.

DEMA 102 OBJECT ORIENTED PROGRAMMING

3 CREDITS

Study of the fundamental concepts and principles of object-oriented programming: Java's Object Oriented, C++ and Apple Swift. Emphasis is placed on the individualized style of modular programming, using object programming. In addition, it promotes the use of coding modular extensions and applications for the development of competitive skills for the current market. It focuses on the development of technological skills through computer work, in order to allow the student to carry out the necessary procedures in object-oriented programming.

DEMA 103 DESIGN & DEVELOPMENT OF MOBILE APPS

3 CREDITS

This course prepares the student in the development of mobile applications. Best practices, phases, and options for implementing mobile devices are included. In addition, techniques applicable to developments for Android, iOS and multi-platform are used. Emphasis is placed on the development of technological competencies, through work on the computer for the creation of multi-platform mobile applications that offer the same functionality for portable devices from a single code base and technology.

DEMA 104 DESIGN AND DEVELOPMENT OF APPLICATIONS FOR ANDROID

3 CREDITS

In this course students are trained in the design and development of the initial mobile applications for Android operating systems. It uses programming languages such as Java, Kotlin and XML and others. It provides a basic knowledge for the analysis, design, development and troubleshooting of such applications. Emphasis is placed on the development of critical thinking and technological skills through work on the computer for the development of applications for use on the Android platform.

DEMA 107 ANALYSIS & DESIGN OF INFORMATION SYSTEM

3 CREDITS

Study of the development cycle of information systems and databases. Emphasis is placed on documentation, using classical tools and structured techniques. It focuses on the development of critical thinking knowledge and skills and technological competencies, through the use of the computer, the description of processes, the flow of data, and the design of forms for data collection and reporting. Data from information collection activities, progress reports, and the transition of design analysis are considered. In addition, it facilitates the development of information skills competencies.

DEMA 109 DEVELOPMENT OF APP E-COMMERCE

3 CREDITS

This course provides the student a basic knowledge about the different electronic platforms for commercial transactions. The student will have the opportunity to manage different platforms such as: Joomla, Magento, WordPress and backend programming coding with web service. Emphasis on the development of knowledge and skills of critical thinking, through work on the computer, in order to study the legal aspects, security and steps for the development of applications for electronic commerce.

DEMA 113 DESIGN AND DEVELOPMENT OF MOBILE APPLICATIONS FOR APPLE

3 CREDITS

This course prepares the student for the development of mobile applications for: I- Phones, I- Pads and I Pod touch. Emphasis is placed on telephone and tablet programming architecture. Apple programming tools are used, to compare between different environments (Apple and Android). Emphasis is placed the development of critical thinking and technological skills, through work on the computer for the development of applications for use on the iOS environment.

DEMA 115 COMPUTER NETWORK WIRELESS & MOBILE DEVICES

3 CREDITS

Study of the technologies involved in all networks that use mobile applications, which can interact and communicate with each other. A practical approach is integrated, to demonstrate how mobile devices communicate with wireless networks applying protocols and applications. Includes learning experiences related to designing, installing, and troubleshooting mobile devices in communication-based management environments. It focuses on the development of critical thinking knowledge and skills and technological competencies in order to allow the student to evaluate the operation of mobile devices in wireless networks, detect, and solve performance problems of mobiles devices and networks.

DEMA 120 MOBILE APP DEVELOPMENT SEMINAR

3 CREDITS

This course provides the student with the opportunity to create a mobile application with a business focus. The course will consider all the steps from the situation analysis, design, test and review, and the feasibility study, as well as programming using one of the mobile development platforms learned like Android, iOS, and Microsoft Xamarin. In this course the student will apply the different competences and skills acquired for the analysis, design and development of a functional mobile application.

DENT 100 HEAD AND NECK ANATOMY

3 CREDITS

This course will emphasize the study of the head and neck with emphasis on study of the structures of the oral cavity, the anatomy of the skull and temporomandibular joint. Includes the study of muscles of mastication, facial expression and its relation to dentistry.

DENT 102 DENTAL ANATOMY AND ORAL HISTOLOGY

3 CREDITS

This course emphasizes in the anatomy of the tooth and tissues and the study of the structure of the teeth in relation to their functional alignment with the dental arches in both dentitions: deciduous and permanent. In histology area, emphasizes in the development of the skull, the tooth and surrounding tissue and tooth eruption process.

DENT 104 MICROBIOLOGY

4 CREDITS

This course presents the basic principles of microbiology and sterilization. Provides special attention to microorganisms and their relation to sterilization procedures and disinfection. The regulations of the Occupational Safety and Health Agency Administration (OSHA) related to the occupation, will be emphasized. The student will learn the methods for infection control and to prevent disease transmission.

DENT 104L MICROBIOLOGY LAB

3 CREDITS

This course presents the basic principles of microbiology and sterilization. Provides special attention to microorganisms and their relation to sterilization procedures and disinfection. The regulations of the Occupational Safety and Health Agency Administration (OSHA) related to the occupation, will be emphasized. The student will learn the methods for infection control and to prevent disease transmission.

DENT 113 ORAL PATHOLOGY

3 CREDITS

The student will learn the most effective methods used to diagnose oral diseases. This course provides basic knowledge in the area of pharmacology. The course prepares the student to recognize signs and symptoms of oral diseases, and how to distinguish them..

DENT 115 DENTAL INSTRUMENTAL MATERIALS

3 CREDITS

This course is designed to introduce students with the terminology and procedures of the odontology field and prepares them to identify and understand the use of dental instruments for different procedures, as well as the use, composition and application of dental materials.

DENT 120 RADIOLOGY I

4 CREDITS

Introduction to principles for developing radiological images needed for the diagnosis and treatment of dental conditions. It emphasizes the basics of radiology and intraoral radiography techniques used to obtain diagnostic images. Requires clinical laboratory experiences. The radiographic exposures obtained using the dummy will be part of the student's assess.

DENT 120L RADIOLOGY I LAB

0 CREDITS

Introduction to principles for developing radiological images needed for the diagnosis and treatment of dental conditions. It emphasizes the basics of radiology and intraoral radiography techniques used to obtain diagnostic images. Requires clinical laboratory experiences. The radiographic exposures obtained using the dummy will be part of the student's assess.

DENT 130 PRE-CLINIC I

5 CREDITS

This course will complement the learning experiences with laboratory techniques to prepare students in four-handed dentistry. The course includes the adequate handling of dental materials, their properties and techniques required for the proper handling of instruments used. Requires laboratory and clinical experience.

DENT 130L PRE-CLINIC I LAB

0 CREDITS

This course will complement the learning experiences with laboratory techniques to prepare students in four-handed dentistry. The course includes the adequate handling of dental materials, their properties and techniques required for the proper handling of instruments used. Requires laboratory and clinical experience.

DENT 141 RADIOLOGY II

4 CREDITS

Course designed for students to make proper use of the bisecting angle technique of intra-oral radiographs with an excellent diagnostic value for the dentist. This course will discuss the extra-oral radiography techniques most often used in dental procedures to diagnose pathological conditions. Requires experience in clinical laboratories. The radiographic exposures obtained using the dummy will be part of the student's assess.

DENT 141L RADIOLOGY II LAB

0 CREDITS

Course designed for students to make proper use of the bisecting angle technique of intra-oral radiographs with an excellent diagnostic value for the dentist. This course will discuss the extra-oral radiography techniques most often used in dental procedures to diagnose pathological conditions. Requires experience in clinical laboratories. The radiographic exposures obtained using the dummy will be part of the student's assess.

DENT 146 PRE - CLINIC II

5 CREDITS

In this course, students will be exposed to selective laboratory experiences that are performed in different specialties of dentistry. Students will apply theoretical concepts to problem solving. It gives importance to the manipulation of dental materials used in these specialty areas and teaches the student how to give post-operative instructions to patients after a procedure is completed. Requires laboratory and clinical experiences.

DENT 146L PRE-CLINIC II LAB

0 CREDITS

In this course students will be exposed to selective laboratory experiences that are performed in different specialties of dentistry. Students will apply theoretical concepts to problem solving. It gives importance to the manipulation of dental materials used in these specialty areas and teaches the student how to give post-operative instructions to patients after a procedure is completed. Requires laboratory and clinical experiences.

DENT 167 DENTAL PRACTICE SEMINAR AND ETHICS

3 CREDITS

Seminar aimed at the analysis and evaluation of experiences during the internal and external clinics, and how these helped the student in their professional development. Principles related to ethics in working with patients and the application of relevant theoretical frameworks to the clinical area are discussed. It includes proper communications by phone, appointment control and inventory management systems. It emphasizes the development of communication and information skills as well as ethics and diversity competencies.

DENT 171 INTERNAL CLINIC

5 CREDITS

Course will expose the student to clinical experiences in our dental facilities at our institution. It will assess the student in the performance of their clinical skills in the area of preventive dentistry, restorative procedures, radiographic exposures, procedures of four-handed dentistry, taking vital signs, charting, post-operative imparting instructions to patients, control and management appointments with proper phone.

DENT 181 EXTERNAL CLINIC

4 CREDITS

This course exposes students to dental experiences that may be in general dentistry or some area of expertise to apply their knowledge of four-handed dentistry, radiology and interpersonal relations with patients. It will assess the student in the performance of their skills with patients in clinical procedures performed in the area of maxillofacial surgery, pediatric dentistry, endodontic, periodontics, orthodontics, prosthodontics, and administrative procedures of the dental office.

CEC 171 HUMAN GROWTH DEVELOPMENT

3 CREDITS

Interdisciplinary study of human development from conception through adolescence. The course integrates the physical, cognitive, socio-emotional and moral dimensions of the individual and their implications for educational practice. It analyzes the development from cases that are contextualized in the sociohistorical, cultural and educational context. The course is developed through case analysis and observations of the developing child.

ECEC 202 INTEGRATION OF TECHNOLOGY IN EDUCATION

3 CREDITS

The study of the systematic integration of technology in the design of teaching and learning strategies, the management of equipment and the use of technological resources and the assessment of learning in a technology integration. The course is based on the development of instructional activities that meet the ISTE technology standards (International Society for Technology in Education) including the identification and management of trusted sources of information and their adaptation to the curriculum. The course is offered in a computer lab environment that fosters interactivity and use of technological equipment.

ECEC 204 NATURE AND NEEDS OF EXCEPTIONAL CHILDREN AND INCLUSION

3 CREDITS

Introductory course to the study of historical, legal, service and inclusion dimensions of the exceptional student. Discussion of the etiology, characteristics and manifestations of the identified conditions. Emphasis on the teacher's responsibility to accommodations and modifications for inclusive classroom or in a less restrictive environment. The course is developed through case analysis and observations in the school setting.

**ECEC 305 SOCIOLOGICAL FOUNDATION OF EDUCATION
3 CREDITS**

Analyzes sociological foundations and their relation to the educational process. Examines social problems that affect educational development. Interrelations between culture, education, social change, social groups, school and community. Allows the opportunity to explore current social problems and how those influence the educational process, the immediate community and sociocultural changes.

**EERT 100 FUNDAMENTALS OF ELECTRICITY
3 CREDITS**

In this course, the basic concepts of electrical circuits and power are studied. In addition, it provides the student with the necessary tools to solve problems related to the field of electricity. It includes the application of electrical safety knowledge, Ohm's Law, Kirchhoff's Law of resistance, circuits and inductors, magnetism and electromagnetism. In addition, content related to the three-phase system, are discussed.

**EERT 100L FUNDAMENTALS OF ELECTRICITY LABORATORY
0 CREDITS**

This laboratory develops the practical skills for handling of electrical devices. It introduces the color code of resistance and the alphanumeric codes of capacitors and inductors. It includes techniques for the assembly of circuits in a project card as well as measurement techniques, fault finding, and the use of instruments such as digital and analogue multimeter. The concepts of voltage, currents, and resistances are analyzed. The principles of operation, selection and specifications of the different electrical devices such as resistors, capacitors and inductors are studied.

**EERT 101 ILLUMINATION SYSTEMS
3 CREDITS**

In this theoretical and practical course, the techniques for the planning and installation of low and high voltage electrical panels used in aerial and underground installations are studied. The testing and maintenance methods of the low and high voltage distribution panels are also covered. The elements and components that allow the operation of modern lighting are studied. Also, the procedures and safety rules are applied. Practical skills are developed in electrical installations and repair of a modern lighting system. Connection diagrams and measurement processes are interpreted and read so that the system functions properly. Existing electricity regulations and codes are applied.

**EERT 102 FUNDAMENTALS OF PHOTOVOLTAIC AND EOLIC SYSTEMS
4 CREDITS**

In this course the basic knowledge in the fields of photovoltaic and wind systems are studied. It experiments with a variety of equipments such as: photovoltaic cells, batteries, charge regulators, inverters, among others. Its parts, operation, installation and maintenance are analyzed. In addition, skills are developed to work with wind energy systems. The standards and regulations established for this technology are studied and applied.

**EERT 102L PHOTOVOLTAIC AND EOLIC SYSTEMS LABORATORY
0 CREDITS**

This laboratory develops practical skills for the installation of existing renewable energy systems. Installations of solar panels and wind turbines are developed, based on operation, selection and specifications of the different types of facilities that exist for these systems. Different equipment are used such as: batteries, direct current generators, measurement systems, inverters and others. Regularity rules and codes for this technology are applied.

**EERT 103 ELECTRICAL AND NEC INSTALLATIONS
4 CREDITS**

In this course the basic concepts for the installation and repair of meters bases, electrical panels and equipment for measuring domestic and industrial scenarios are studied, according to the Regulations of the PREPA and the National Electric Code (NEC). Electrical plans are used for the analysis of residential, commercial and industrial electric loads. In addition, the use of electrical rules and safety codes required for electrical installations are studied.

**EERT 103L ELECTRICAL AND NEC INSTALLATIONS LABORATORY
0 CREDITS**

This laboratory develops the technical skills for the installation and repair of: counters bases, electrical panels and measurement equipment of domestic and industrial scenarios. The regulations of the PREPA and the National Electric Code are applied. Electrical plans are used for the analysis of residential, commercial and industrial electric loads. The electrical regulations and safety codes required for electrical installations are applied.

**EERT 104 AERIAL, UNDERGROUND AND TRANSFORMERS ELECTRICAL INSTALLATIONS
4 CREDITS**

In this theoretical and practical course, the techniques for the planning and installation of low and high voltage electrical panels used in aerial and underground installations are studied. The testing and maintenance methods of the low and high voltage distribution panels are covered. The procedures and safety rules are applied. Practical skills are developed in electrical installations and repair of the transmission and distribution systems. Connection diagrams and measurement processes are interpreted and read so that the system functions properly. The existing electricity rules and codes are applied.

**EERT 104L AERIAL, UNDERGROUND AND TRANSFORMERS ELECTRICAL INSTALLATIONS LAB
0 CREDITS**

In this theoretical and practical course, the techniques for the planning and installation of low and high voltage electrical panels used in aerial and underground installations are studied. The testing and maintenance methods of the low and high voltage distribution panels are covered. The procedures and safety rules are applied. Practical skills are developed in electrical installations and repair of the transmission and distribution systems. Connection diagrams and measurement processes are interpreted and read so that the system functions properly. The existing electricity rules and codes are applied.

**EERT 201 ELECTRIC MOTORS AND CONTROLS (PLC)
3 CREDITS**

In this course, the characteristics of the relays, contactors, solenoids and other devices of electrical control and digital electronics are studied. The staggered plans, the design and programming of logic circuits in a PLC are interpreted. Faults are identified and processes are studied to repair the systems of programmable controls used in the industry.

**EERT 201L ELECTRIC MOTORS AND CONTROLS (PLC) LABORATORY
0 CREDITS**

In this laboratory, the practical skills related to the different types of existing electrical control systems, programming, assembly, installation, construction, maintenance and safety rules and codes are developed.

**EERT 202 FUNDAMENTALS OF RENEWABLE ENERGY
3 CREDITS**

This course covers the different types of energy and basic concepts such as: where it is located, how we can take advantage of it for residential use, and how it can help relieve pressures from the environment. Emphasis is placed on global climate change, the use of energy and dependence on fossil fuels, sustainable energies and a vision of current energy demand and supply patterns. It includes the application of the rules and regulations established for this technology.

**EERT 202L FUNDAMENTALS OF RENEWABLE ENERGY LAB
0 CREDITS**

This course covers the different types of energy and basic concepts such as: where it is located, how we can take advantage of it for residential use, and how it can help relieve pressures from the environment. Emphasis is placed on global climate change, the use of energy and dependence on fossil fuels, sustainable energies and a vision of current energy demand and supply patterns. It includes the application of the rules and regulations established for this technology.

**EERT 203 ELECTRICITY AND RENEWABLE ENERGY TECHNICIAN REVALIDATION SEMINAR
2 CREDITS**

In this course, the contents of the certificate courses are reviewed. The basic skills and knowledge related to the profession are applied. The analysis, operation and maintenance of electrical installations is integrated. It covers the handling of concepts related to the electrical board, offered by the Examining Board of Electricians.

**EMTP 101 FUNDAMENTALS OF MEDICAL EMERGENCIES
3 CREDITS**

This course is introducing the Medical Emergency Systems and the laws, functions and duties regulating the practice of the Medical Emergency Technician – Paramedic. Ethical, legal/medical aspects, emergency medical terminology

and historical data of medical emergencies in Puerto Rico the USA and worldwide are discussed.

EMTP 102 PHARMACOLOGY IN MEDICAL EMERGENCIES

2 CREDITS

This course is the study of drugs used in emergency medicine. It includes indications, contraindications, doses and dosage, pharmacological effects, its mechanisms of action, absorption and its elimination in the human body. It emphasizes the drugs used in the autonomic and somatic nervous system. The student becomes familiar with the forms of drugs in commercial packaging. Also, the students master dosage calculations and the administration of emergency medicine drugs. Case studies are presented for the dose calculations and concentrations with the legal implications.

EMTP 103 PATIENT'S PHYSICAL ASSESSMENT

4 CREDITS

This course is to offer the Medical Emergency Technician – Paramedic the knowledge to perform a history and physical assessment in prehospital settings. Knowledge necessary to perform a comprehensive assessment that guides the paramedic of primary care to establish a treatment and manage plan and make fast decisions in complex situations with critically ill patients. Ethical legal and growth and development considerations while performing physical exam are analyzed. One semester, three hours of theory and three hours of laboratory per week.

EMTP 104 EMS COMMUNICATION SYSTEM OPERATION

4 CREDITS

This course is designed to prepare the student in the use of communication systems for emergency medical technicians. Develop knowledge for the adequate channeling of verbal, non-verbal and written information in the care of medical emergencies. The student will use forms, transmitter radios, telephones and computerized systems to complete the communication process.

EMTP 201 SHOCK AND FLUIDS THERAPY

3 CREDITS

This course discusses the different types of shock, the pathophysiology, signs and symptoms, and the evaluation and treatment of the patient. The different types of hemorrhages are discussed and the concept of hypoperfusion. It includes laboratory sessions where the student will have the opportunity to practice and perform skills and procedures, such as: of venopuncture and the administration of intravenous fluids. The student will master the use of the Military Anti Shock Trouser (MAST).

EMTP 202 INTERNAL MEDICINE EMERGENCIES

3 CREDITS

This course introduces the student to different medical situations, such as: acute abdomen, neurology, endocrinology, gastroenterology, urology, toxicology, psychiatry, and hematology emergencies. It integrates the pathophysiology and the findings of the patient's assessment to implement the treatment in emergency situations. It emphasizes the use of different methods of evaluation, auscultation, palpation, patient history, vital signs and basic infectology and the management of emergency disorders. Also discussed are the process of basic and advanced levels in patient evaluation in cases of medicine and trauma. The student studies how to execute the primary and secondary assessment and determine the handling, processing and preliminary diagnosis of the patient. Radio telephone communication with medical control for emergency care and transportation techniques are covered.

EMTP 203 AIRWAYS MANAGEMENT AND RESPIRATORY EMERGENCIES

4 CREDITS

The course studies the cardiopulmonary resuscitation techniques for health professionals according to the American Heart Association. It includes lecture and laboratory sections where the student becomes familiar with skills related to airway management and ventilation, such as: advanced procedures of emergency endotracheal intubation; translaryngeal cannula ventilation and nasopharyngeal insertion; supplemental oxygen therapy and the practice of the different techniques of ventilation with manual resuscitators. The respiratory system, its pathophysiology, evaluation, management, and treatment in emergency respiratory cases are also studied.

EMTP 204 CARDIOVASCULAR EMERGENCIES

4 CREDITS

In this course the student is introduced to anatomy, physiology and pathophysiology of the Cardiovascular System. Management and treatment of patients with cardiac problems, such as: angina pectoris, acute myocardium infarct, congestive heart failure and other conditions are described. Also, the basic concepts of electrocardiogram monitoring and the management and pharmacological treatment of cardiovascular emergencies are discussed.

EMTP 205 CRITICAL CARE FOR TRAUMA

4 CREDITS

The basic and advanced principles for patient's critical care for trauma are emphasized. Also emphasized during the course are: the diagnosis, management and treatment in situations of head trauma, spinal cord lesions, trauma in the thorax, abdominal trauma, burns, and muscular-skeletal lesions. Pathophysiological principles and evaluation assessment to implement the patient's adequate management are also integrated.

EMTP 210 PRE-CLINICAL PRACTICE (100 HOURS)

1 CREDITS

In this pre-clinical practicum, the student will intervene in different emergency situations under the supervision of a license EMT-P. The student will demonstrate competency in the basic and advanced emergency skills of the patient's management in an ambulance. He/she will have the opportunity to intervene with patients in a simulation environment under specific conditions. One semester, a hundred contact hours.

EMTP 301 OB-GYN AND PEDIATRICS MEDICAL EMERGENCIES

4 CREDITS

In this course the student is familiarized with the women's reproductive system, the different stages of pregnancy and normal childbirth, childbirth complications, their management, situations of pregnancy trauma, sexual holdup, and psychological implications are discussed. It includes labs where the student will develop the skills to guide the process of normal childbirth and the possible emergency complications associated with the process. The student is exposed to different emergency situations of the neonatal, child and adolescent. Pediatric emergencies caused by trauma, medication cases, sexual and child abuse, and poisoning are discussed.

Emphasis is placed in the pathophysiology, evaluation and management of pediatric patients in respiratory, neurological, cardiovascular, and gastrointestinal emergencies. It includes labs where the student develops basic and advanced skills and techniques for pediatric cardiopulmonary resuscitation, according to the guidelines of the American Heart Association. Emphasis will also be placed on the management of the air ways or insertion of device, endotracheal intubation, and skills in musculoskeletal lesions.

EMTP 302 EMERGENCY MANAGEMENT: RESCUE AND DISASTERS

3 CREDITS

This course discusses the command system used during incidents, response, and recovery before disasters, mitigation for disaster, management of incidences with dangerous materials and Triage. He or she is provided with the basic elements for teamwork in case of disasters with the state, municipal and federal agencies. The student relates with the different situations where environmental phenomena or disasters are presented.

EMTP 303 SIGN LANGUAGE FOR EMT-P

3 CREDITS

The course is designed to prepare students in Basic Sign Language. The purpose of the course is to develop primarily receptive skills, as well as expressive skills guided to the development of basic dialogue instruction in a pre-hospital scenario. The dialogues will be geared to conversations related to daily interactions, such as introducing oneself, exchanging personal and contact information. Students will also learn about the deaf community and its culture. This course is aligned to the American Sign Language (ASL) standards.

EMTP 304 SEMINAR FOR EMT-P

2 CREDITS

In this course the student will review all theoretical and clinical concepts and skills establish by the law and regulated in Puerto Rico. Also this course will go over the competencies required by the National Highway Traffic Safety Administration of the Federal Department of Transportation. One semester, two hours per week.

EMTP 310 CLINICAL PRACTICE (200 HOURS)

1 CREDITS

This clinical practice provides the student to develop skills in the effective evaluation and interpretation with the patient. In this period acquired knowledge is applied in the theoretical phase through the clinical experience in each one of the areas assigned an emergency work setting. One semester, a two hundred contact hours.

ENMA 101 INTRODUCTION TO ENTREPRENEURIAL DEVELOPMENT

3 CREDITS

This course offers students a basic understanding and overview of the business world and the entrepreneurial field. This includes topics related to writing a business plan, business ethics, management, marketing, finance, accounting and the legal aspects of commercial operations.

ENMA 110 ENTREPRENEURIAL INNOVATION

3 CREDITS

This course offers the student a broad understanding and vision of the business world and the business career. Topics related to the preparation of a business plan, business ethics, management, marketing, financial management, accounting, and the legal aspects of business operations are discussed. Emphasis is placed on the development of critical thinking and quantitative reasoning skills, through lectures and practical exercises, which allow the student to develop a business plan, in which he can apply all the knowledge acquired through the course.

ETEC 173 INTRODUCTION TO THE EARLY CHILDHOOD EDUCATION (0-8 YEARS)

3 CREDITS

The course offers an overview of the field of early childhood education. Aspects such as: history, legislation, public policy, philosophy, curricula and the early childhood profession are analyzed. A proper understanding of the reasons, rationale, importance, and objectives of early childhood education in contemporary society and in the next decades is addressed. Discussion of the early childhood education professionals: characteristics of early childhood educators, alternative careers within the field, learning styles, ethic code and professionalism.

ETEC 200 PLAY AND ARTS AS EDUCATIONAL STRATEGIES

3 CREDITS

Emphasis in play and arts in early childhood education and the relation with development and appropriated practices of 0-8. Explore and planning in how the content areas support the use of play and the arts as educational strategy included the different theories. Importance of the teacher role as center for the teaching and learning process in early childhood (level 0-8). Use of manipulatives and simulations as part of the assessment process.

ETEC 201 FAMILY AS PRICIPAL AXIS OF A COMMUNITY OF LEARNING

3 CREDITS

Interdisciplinary study of human development from conception through adolescence. The course integrates the physical, cognitive, socio-emotional and moral dimensions of the individual and their implications for educational practice. It analyzes the development from cases that are contextualized in the sociohistorical, cultural and educational context. The course is developed through case analysis and observation of the developing child.

ETEC 308 MANAGEMENT OF THE EARLY CHILDHOOD EDUCATION ENVIRONMENT

3 CREDITS

Provides a strong foundation and practice about design, management and interpersonal relationship in the learning environment. Interaction between environment and significant learning is addressed. 100 hours of practice in an early childhood education environment required.

EVEC 106 SPECIAL EVENTS LOGISTICS

3 CREDITS

This course is a step-by-step guide to planning a fundraising special event. The course fosters teamwork and allow students to apply their acquired knowledge through the completion and discussion of related assignments and projects. Critical thinking, communication, technology, information skills, ethics and diversity, scientific and quantitative reasoning, and innovation competencies are developed through deep discussions, and related assignments and projects

EVEC 130 INTRODUCTION TO EVENT MANAGEMENT

3 CREDITS

Analysis of events as an important economic driver for the tourism industry. Study of history, trends, terminology, types of events and the planning process. Emphasis on the process of planning an event from the perspective of the event planner. The competencies of critical thinking, information skills, scientific reasoning, and ethics and diversity will be developed through teamwork and field trips that allow students to propose solutions based on information researched and deep discussions.

EVEC 135 EVENT SPONSORSHIP AND SALES

3 CREDITS

From negotiating contracts with clients and vendors to selling the event idea to potential sponsors this course will help students develop the specialized sales skills required for the special events industry. Emphasis will be given to the process of identifying the right sponsors for an event and the development of innovative and persuasive proposals. Critical thinking, communication, technology, information skills, ethics and diversity, negotiation, quantitative reasoning, and innovation will be developed through research projects, group presentations, and role plays.

EVEC 145 EVENT EXPERIENCE DESIGN

3 CREDITS

Presents the key elements of event experience design and guides students in the creation of design concepts that meet client expectations. A wide range of elements from flowers, furniture, branded accents, lighting, entertainment, and technology will be covered as tools for creating experiences that translate the client vision into a viable and cost-effective concept. Critical thinking, communication, technology, information skills, ethics and diversity, quantitative reasoning, and innovation competencies are developed through the design and presentation of an event experience design proposal.

EVEC 155 PRACTICUM IN EVENTS COORDINATION

3 CREDITS

The course is a practical event coordination experience. The student will work a total of 350 hours within the event coordination/production setting and will be supervised by a professional in the area. The practicum location will be selected by the student in collaboration with the practicum coordinator and should be approved by UAGM. Students will be required to pass an interview with the practicum center representative in order to be admitted. Two evaluations will be required to be completed by the student supervisor: the first by the end of 60 hours and the second at the completion of all the 120 hours. Critical thinking, communication, ethics and diversity, and customer service competencies will be developed through the involvement in event coordination experiences.

EVEC 170 EVENTS MARKETING

3 CREDITS

This course immerses the students into the functions and principles of event sales and marketing. Students will learn the essential sales and marketing functions as well as the ethical principles of this important sector. The course incorporates critical reasoning, leadership techniques, strong communications, and technological competencies through the development of sales and marketing strategies, target marketing, advertising, public relations, and market study and analysis as it relates to events. Students will be able to conduct research through the use of diverse research tools and will incorporate the use of current technological applications that facilitate teamwork and promote efficiency.

EVEC 175 SOCIAL MEDIA CONTENT DESIGN

3 CREDITS

This course introduces students to the pros and cons of using digital marketing and social media in the context of event coordination. Students will learn how to manage the most current social media platforms as well as the most effective strategies to achieve the event sales and marketing objectives. Critical thinking, communication, innovation, information management, and ethics and diversity competencies will be developed through the creation of effective and responsible content that can help them connect with users, motivate positive reactions and stimulate engagement.

EVEC 191 TECHNOLOGICAL APPLICATIONS FOR THE EVENTS INDUSTRY

3 CREDITS

Hands-on course that introduces students to technological applications including spreadsheet, database, presentation, word processing, and Web content management packages as they relate to the events industry. Students will learn how to organize, interpret and present information in a way that maximizes productivity and facilitates the delivery of excellent customer service in the events industry context. Critical thinking, technology and information competencies are developed through assignments and projects related to the tourism context.

FINC 101 PRINCIPLES IN FINANCE

3 CREDITS

Introduction to financial planning, including business financial management, taxes, risk management and investments, among others related terms that affect the procedures and the decision making of an organization.

HAGC 101 FUNDAMENTAL CONCEPTS OF GERONTOLOGY AND GERIATRICS

3 CREDITS

This theoretical course provides an interdisciplinary introduction to the main concepts and issues related to the process of human aging. The student is guided to identify the special needs of the elderly in the physiological, psychosocial and spiritual aspects. Theories and concepts of gerontogeriatrics are analyzed from a legally and culturally competent ethical perspective. Critical thinking, customer care, and ethics and diversity competencies are developed to allow the student to apply the theoretical foundations of geriatrics. Strategies such as document analysis, case studies, and interviews, among others, will be used.

HAGC 103 HUMAN ANATOMY AND PHYSIOLOGY

3 CREDITS

In this course the student will discuss the importance of the human body organization. It will analyze the anatomy and physiology of the various systems of the human body, identifying its structures and functioning. Emphasis will be placed on the development of critical thinking knowledge and skills, through group discussions, short readings and individual projects, in such a way as to allow the student to identify the interrelationship that exists between the systems of the human body and the changes that occur in the geriatric population.

HAGC 105 TECHNICAL, LEGAL AND ADMINISTRATION ASPECTS

3 CREDITS

This course offers the student the opportunity to study and learn about the social system, public policy, laws and regulations related to the services offered to the elderly. It introduces the student to different programs or facilities of existing services for the elderly population. Emphasis on the development of knowledge, skills and abilities of critical thinking, through group and written work, in order to create awareness in the student about their role in the care of this population, their responsibility to ensure their rights are guaranteed, and their possible legal responsibility in case of committing, or allowing acts of abuse to the elderly. Information skills and ethics and diversity skills are also developed.

HAGC 107 NUTRITION AND HYDRATION OF THE GERIATRIC PATIENT

3 CREDITS

Students will acquire a basic knowledge of nutritional aspects related to the geriatric population. They will develop knowledge and critical thinking competencies to recognize nutritional requirements including dietary practices to promote successful aging and disease mitigation. Emphasis is placed on the discussion of essential macro and micronutrients, dietary guidelines and hydration. In addition, customer care skills are developed.

HAGC 109 QUALITY OF LIFE FUNDAMENTALS

3 CREDITS

This course prepares the student with the skills and tools necessary to develop an appropriate environment for the care, attention and management of the aging population. The student will be able to identify the client's immediate and long-term needs. Emphasis on the development of knowledge and skills of critical thinking and customer care to foster and maintain an adequate and effective environment for the well-being of the person. The implications of sensory and perceptual fields, learning, memory, personality and motivation in the daily routines of the elderly will be examined. Emphasis will be placed on developing proper communication with both the clients and their family. The course will be carried out through readings, case-studies, and presentations in which students will apply the knowledge acquired.

HAGC 111 FUNDAMENTALS OF HOME HEALTH CARE

3 CREDITS

This course offers the student the opportunity to integrate knowledge in customer care: nutrition, infection prevention, personal hygiene, among others. The course promotes the development of attitudes, responsibility and professionalism in their practice, centered in communication and ethical - legal values. It emphasizes the development of knowledge, skills and abilities of caring for the client, through demonstrations and simulations. The course develops critical thinking when intervening with the client, family and community to allow the student to evaluate and propose solutions. The context of the issues uses Puerto Rico as the main setting, considering their global perspective.

HAGC 111L LABORATORY OF FUNDAMENTALS OF HOME HEALTH CARE

0 CREDITS

This laboratory course is designed for the student to put in practice the introductory knowledge and skills to the world of home health care. The student practices the basic skills that a health caregiver performs at home. These include assisting in everything related to personal hygiene, nutrition, elimination processes, infection control, documentation management, prevention of falls, change of positions to prevent ulcers, vital signs, medication, and providing emotional support in the end-of-life phase. Emphasis is placed on the development of critical thinking and customer care skills in a holistic, humanistic and innovative way. The course integrates learning through demonstrations and simulation technology. Communication and ethics and diversity skills are also developed.

HAGC 113 INTRODUCTION TO THE STUDY OF GERIATRIC DISEASES

3 CREDITS

This course prepares the students to provide primary care and support services to the elderly, with limitations either related to age or with pathological and / or degenerative conditions in different stages: recovery, disabled or confined. It includes geriatric care using technological competence skills to study physiological aspects and needs. It applies critical thinking to choose the right management strategies and provide the right interventions for this population. The course also integrates communication for the registration and documentation of actions considering legal, ethical and diversity responsibilities.

HAGC 115 PHARMACOLOGY AND ALTERNATIVE MEDICINE

3 CREDITS

This course will familiarize students with the different body systems including their structure, function, diseases, disorders, and treatment. Students will learn drug administration systems, routes, classification, aspects of alternative medicine, and commonly used medication for various disorders. The course also covers safety measures in the administration of medications, specific tasks required when assisting clients in self administrations of medications, storage, and proper documentation. It emphasizes the development of knowledge and critical thinking skills, through readings and analysis of hypothetical situations, to allow the student to assist the elderly in the self-administration of prescribed pharmacological treatments. Communication skills, information skills, and ethics and diversity skills are also developed.

HAGC 117 FUNDAMENTALS OF RECREATIONAL THERAPY

4 CREDITS

Study of recreation as means of rehabilitation in the population over 60 years of age. Emphasis is placed on the development of skills and knowledge to allow the student to develop appropriate and safe recreational activities according to the condition of the elderly. Critical thinking and patient care competencies are developed through group dynamics and oral and written presentations, as well as communication, ethics and diversity competencies.

HAGC 119 INTRODUCTION TO MENTAL HEALTH AND MANAGEMENT OF ASOCIATED CONDITIONS

3 CREDITS

This theoretical course focuses on the discussion of the different mental and/or psychiatric disorders suffered by adult patients aged 60 years and over. The basic concepts of mental health and treatment approaches are presented at the individual, group and family levels. Emphasizes the development of knowledge, skills and abilities of critical thinking and client care, through group discussions and reading of course-related articles, which will enable the student to recognize mental health conditions and care strategies. Therapeutic theories and communication techniques, patient safety, applicable laws, interventions in the care of patients in crisis, knowledge about different disorders and cultural diversity are covered. The role of the health assistant in the care of psychiatric disorders is discussed, as well as in the promotion of health and care of mental illnesses. Theory is complemented by DSM V diagnoses of mental health variables in the geriatric population. In addition, it facilitates the development of skills related to communication and ethics and diversity.

HAGC 121 PRATICUM IN PERSONAL TRAINING

2 CREDITS

This course provides the student with the opportunity to integrate and put into practice the knowledge, competencies and skills obtained in their studies. Through performing their duties in a real work environment, the student will demonstrate their mastery in essential functions of the caregiver of the elderly, such as: nutrition, assistance in the administration of medications, vital signs, hygiene, recreational activities, among others. In addition, the student will demonstrate knowledge, sensitivity and respect for psychological, social and diversity aspects, ensuring ethical and legal compliance in their functions.

HESC 111 COMPUTERS IN MEDICAL INFORMATICS

2 CREDITS

This course is designed to summarize and integrate the didactic and clinical experience with the computers. Also, to know the basic components in a computer and the programs the students will use in Clinical settings. In addition, the student will learn to identify the medical codes assigned to the diagnoses in the medical orders.

HESC 201 MEDICAL TERMINOLOGY

3 CREDITS

This course is an introduction to the basics of medical terminology. It includes the study of prefixes, suffixes, roots, combinations, special finishes, plural forms, abbreviations and symbols established by the American Medical Association and used by health professionals. The course is designed to establish relations between systems and knowing word parts used to build or analyze new terms. It provides the opportunity to decipher unfamiliar terms and emphasizes the lexis, morphological and semantic components of the medical language. Emphasis is given to the application of coding techniques (ICD-10) in medical billing.

MANC 101 INTRODUCTION TO BUSINESS

3 CREDITS

The course presents a study of business, its nature, its environment, and opportunities. It introduces students to the broad principles of business in the fields of marketing, finance, organization, and administration, and teaches the application of behavioral science by management. It also applies case studies to encourage analytical thinking.

MANC 113 PERSONNEL MANAGEMENT

3 CREDITS

The course covers basic knowledge in the specialized area of human resources management, including the study of the primary activities of a manager or personnel officer. Areas such as: analysis and job design, recruitment and selection, orientation and training, personnel evaluation, importance of motivation and leadership in the dynamic business world, supervisor's role, knowledge of health and safety laws, equal employment opportunity, labor-management relations, among other issues.

MANC 120 SMALL BUSINESS ADMINISTRATION

3 CREDITS

This course provides basic essential knowledge and principles for the development of competencies in small business management. Students will develop business skills operate a small business in a practical way. It covers topics such as the nature of small businesses and their structure, the development of a business idea and the business plan. The course also integrates concepts, theories and principles on management and leadership; marketing and services; business communication strategies and ethical aspects applicable to the operation of a small business. This course will require the experience of visiting a local small business and interviewing its manager.

MANC 125 BUSINESS ETHICS

3 CREDITS

This course introduces business ethics behavior. Part philosophy and part business, it includes ethical issues encounter by the contemporary business professional. The course will introduce corporate employee responsibilities, leadership and decision-making in daily responsibilities and situations in work.

MANC 127 RECONCILIATION AND AUDITING

3 CREDITS

This course aims students to acquire the knowledge to assess the claims and payment process, identify possible errors, reconcile the evidence of payment, recover and mitigate loss for unpaid services and know the steps to follow in order to perform an audit in business. Emphasis is given to the procedures that are used in the different organizations, their policies, claims and payment skills, policies, billing procedures and audit processes.

MANC 204 LEGAL ENVIRONMENT IN BUSINESS

3 CREDITS

Study the legal aspects of business transactions with special attention is paid to contracts, sales, negotiable instruments, personal property, insurance, transportation, deeds of mortgage and the relationship of the government with companies.

MARC 133 FUNDAMENTALS OF MARKETING

3 CREDITS

This course studies marketing as a business function and a social process, including the problems and policies of manufacturers, wholesalers, and retailers in the marketing of goods and services. It studies distribution channels, unfair competition, functions of commercial departments, market research and analysis applied to a global economy. Emphasis on the development of knowledge, skills and abilities of critical thinking and quantitative reasoning, through cooperative learning, oral presentations and case evaluations, which allow the student to contribute effectively in the processes of marketing, strategic planning and in the promotion and distribution of a product in a small business.

MEBI 203 MEDICAL TERMINOLOGY

3 CREDITS

This course includes the study of roots, prefixes and suffixes of the essential basic terms used in the allied health sciences related to the major body system, the study of different assessment methods, abbreviations, symbols and signs used in patient records and prescriptions by the health specialists.

MEBI 204 CODING OF DIAGNOSTICS AND MEDICAL SERVICES

3 CREDITS

Prepares students in the coding of diagnoses according to the conditions and diseases of patients, services and procedures using the basic guidelines established by major health insurances in Puerto Rico. Students learn to use and carefully handle ICD-10 and CPT-4 books approved by the American Medical Association.

MEBI 205 MANUAL MEDICAL BILLING

3 CREDITS

It is designed to master the billing processes of the main Federal Health Plans, whether governmental or private. Students will identify changes in detailed billing procedures when applied to different medical services and their related terms.

**MEBI 206 LEGAL ASPECTS AND ADMINISTRATIVE PROCEDURES
3 CREDITS**

In this course the student performs activities related to the billing of medical bills, referrals, preauthorization, and other elements of transmission related to billing for medical services (PHI). The student learns to use a clearinghouse and a program (Office Management / Secure Claim) to complete the billing process. The transmission process recipients are insurance providers, pharmacies, and other services providers. Students learn to work with an electronic medical record designed for medical offices (EHR) and feed the required campuses the corresponding data fields. In addition, students work with the digitalization of paper and electronic documents and establish the rules of migration, the electronic prescription and safety rules that establishes the Puerto Rico and federal laws.

**MEBI 207 ELECTRONIC BILLING
3 CREDITS**

This course will train students to work medical billing by electronic methods. They will learn the complete cycle of electronic invoicing. This course is offered in a computer lab.

**MEBI 208 ELECTRONIC MEDICAL RECORD
3 CREDITS**

In this course the student performs activities related to the billing of medical bills, referrals, preauthorization, and other elements of transmission related to billing for medical services (PHI). The student learns to use a clearinghouse and a program (Office Management / Secure Claim) to complete the billing process. The transmission process recipients are insurance providers, pharmacies, and other services providers. Students learn to work with an electronic medical record designed for medical offices (EHR) and feed the required campuses the corresponding data fields. In addition, students work with the digitalization of paper and electronic documents and establish the rules of migration, the electronic prescription and safety rules that establishes the Puerto Rico and federal laws.

**MEBI 213 AUDIT OF HEALTH SERVICES BILLING
3 CREDITS**

The course is designed for students to check the bills, their most common errors and to determine the reason for refusal. The audit is the mechanism for measuring the income received, to be received and losses that occur in the billing process.

**MEBI 225 DENTAL SERVICES BILLING
3 CREDITS**

This course will expose the students to the introduction of the billing process, daily balance account in the dental office and the reconciliation of the provider's payments. The course covers the basic concepts of dental records, billing dental procedures, used the electronic billing system, reclamations and adjustment; and generating of statistics reports for the dental clinic. This process requires laboratory experience using electronic programs of the billing dental medical services. It teaches the students the use of electronic dental services billing processes.

**MEBI 227 DOCUMENTS DESIGN AND REPORT WRITING
3 CREDITS**

Course provides students with theoretical and practical knowledge for the design, administration and control of technical reports in medical offices. The final billing and collection process for health plans is discussed. It emphasizes the development of critical thinking, information skills and technological competencies. These competencies are developed by drafting documents related to the re-invoicing and collection from medical plans for services and procedures provided. In addition, it facilitates the development of communication, ethics and diversity, and innovation competencies.

**MEBI 231 HEALTH SERVICES BILLING - PRACTICUM
3 CREDITS**

The course offers the student the opportunity to apply the knowledges already acquired in the academic program, in a real work environment. The student will work four (4) days in the week in a practice center and his or her performance will be evaluated by the assigned supervisor in the practice center. One day of the week the student will meet with the practice coordinator to discuss the work done, performance and experiences and to identify any areas that needed.

**MGMC 101 MANAGERIAL PRINCIPLES AND LEADERSHIP
3 CREDITS**

The course will study the organizational context of leadership, including the discussion of skills, processes, and responsibilities of effective leaders as promoter of a business organization. It also stimulates the development of critical thinking and analytical skills applied to procedures of change within an organization. The student will learn the use of management tools for the design, execution, implementation, monitoring and evaluation of small business entrepreneurial projects in their respective areas of knowledge.

MIBA 101 INTRODUCTION TO THE OPERATION AND SERVICE OF A BAR

3 CREDITS

Study the main topics related to the composition, organization, management and service of a bar. Types of equipment and tools required, basic fundamentals in beverage preparation, cost control, bartender's social responsibility and laws related to the service of alcoholic beverages are covered throughout the course. It also facilitates the development of customer service, hygiene and communication skills. This course will require the use of the Internet as a research tool, MS Word as a basis for the presentation of papers and special projects.

MIBA 103 INTRODUCTION TO DISTILLED SPIRITS, BEER AND WINE: HISTORY, MANUFACTURE, ADMINISTRATION, SERVICE AND TASTING

3 CREDITS

This course is an introduction to distilled spirits, beer and wine and their manufacture, classification, administration and service in the hospitality industry. Students will demonstrate product knowledge and apply sensory analysis and food and wine pairing techniques applicable to distilled spirits, beer and wine. Students will acquire and apply purchasing and sales, storage and service techniques applicable in the food and beverage industry. The course will use e-mail as means of communication and MS Word and PowerPoint for homework and projects. Students will develop basic principles of research and information and data collection using the Internet and other research tools.

MIBA 105 MIXOLOGY LAB

3 CREDITS

The course gives the student the opportunity to integrate the knowledge acquired in the preparation of alcoholic and non-alcoholic cocktails. The student will be able to prepare modern and classic cocktails and their variants according to the new consumption trends. How to organize a bar, prepare decorations, sweeteners, cleaning and sanitation are topics that will be covered during the course. It also facilitates the development of critical thinking, customer service and hygiene and sanitation skills. This course will require the use of the Internet as a research tool, MS Word as a basis for the presentation of papers and special projects.

MIBA 107 BARISMO (LAB)

3 CREDITS

Familiarization and study of coffee including its history, classification, production, service and pairing with food. The student will have the opportunity to visit or receive visits from suppliers and distributors of Puertorican coffee. Emphasis on the development of customer service skills through the study and practice of brewing and service techniques. Functions and duties in the responsible handling of coffee will be discussed. This course will require the use of the Internet as a research tool, MS Word as a basis for the presentation of papers and special projects.

MIBA 109 MIXOLOGY AND BARISTA PRACTICUM

3 CREDITS

This course gives the opportunity to learn through their experience. The student will work within the bar and beverage industry to gain on the job work experience as a bartender, barista or both. Each student will need to apply acquires knowledge for a minimum of 180 hours. Evaluations from supervisors and the ISHCA internship coordinator and a final project presentation discussing the students learning experience will be required.

MIBC 100 MEDICAL TERMINOLOGY AND ABBREVIATIONS

3 CREDITS

This course introduces the student in the knowledge and use of the vocabulary, concepts and terms frequently used in medical offices and other places where health services are offered. It is divided into four basic sections: 1) etymology of the medical terms (prefix, root, and suffix) 2) common abbreviations 3) systems of the human body (function, organs, conditions or related diseases) 4) medical specialties and sub-specialties' and their functions. The course includes concepts that will be useful in the process of selecting a diagnostic code using the ICD-10 classification system.

MIBC 104 CLINICAL AND PROFESSIONAL CODING

3 CREDITS

In this course, the student will learn to identify and select services' codes procedures and diagnoses that are assigned to outpatient services. Skills will be practiced manually using the ICD9-CM, ICD - 10 CM and CPT book. The student will use the appropriate code in the CMS 1500 form 2012 and any information required to be coded. Also, the student will use the progress note, superbill and the evaluation and management guide to help speed up the coding process. Emphasis will be in the ICD-10-CM coding and in coding of services and CPT procedures.

MIBC 108 HEALTH, SAFETY AND MEDICAL/ LEGAL ASPECTS

3 CREDITS

This course studies one of the many uses of medical records: its use as legal protection to the patient and to the institution that provides the health care services. It covers the legal requirements of medical records in relation to its retention, security controls, maintenance and confidentiality regarding information treatments, within the institution as well as outside. Emphasizes is given in the application of professional ethics and legal medical aspects in the health information system.

MIBC 109 ELECTRONIC MEDICAL RECORD

3 CREDITS

In this course the student, perform activities related to the billing of medical bills, referrals, preauthorization, and other elements of transmission related to billing for medical services (PHI). The student learns to use a clearinghouse and a program (Office Management / Secure Claim) to complete the billing process. The transmission process recipients are insurance providers, pharmacies and other services providers. Students learn to work with an electronic medical record designed for medical offices (EHR) and feed the required campuses the corresponding data fields. In addition, students work with the digitalization of paper and electronic documents and establish the rules of migration, the electronic prescription and safety rules that establishes the Puerto Rico and federal laws.

MIBC 111 BASIC BILLING

3 CREDITS

It is designed to master the billing processes of the main Federal Health Plans, whether governmental or private. Students will identify changes in detailed billing procedures when applied to different medical services and their related terms.

MIBC 113 ELECTRONIC BILLING

3 CREDITS

This course will train students to work medical billing by electronic methods. They will learn the complete cycle of electronic invoicing. This course is offered in a computer lab.

MIBC 115 AUDIT HEALTH CARE BILLING

3 CREDITS

The course is designed for students to check the bills, their most common errors and to determine the reason for refusal. The audit is the mechanism for measuring the income received, to be received and losses that occur in the billing process.

MIBC 117 MEDICAL BILLING PRACTICE

3 CREDITS

This course is designed to allow students to participate in a supervised setting to gain practice experience in a health information department or other approved practice setting in a professional health services organization. Through the application of concepts and theories, student will demonstrate skills in record management, data analysis and retention, confidentiality of health information, and the billing and coding process. The student must complete (180) hours of professional practice experience during the semester.

NURC 150 FUNDAMENTALS OF NURSING

5 CREDITS

This course is designed to develop the knowledge base and the basic nursing skills to enable the learner to perform satisfactorily during the course AND in future clinical experiences. The fundamentals of nursing care and basic skills are discussed so that the learner can lead the client towards the satisfaction of his basic needs such as hygiene, physical and psychological comfortless, safety, prevention and control of infections. The course includes clinical experience hours where the learner can put in practice his knowledge base and skills in a variety of settings.

NURC 150L FUNDAMENTALS OF NURSING LAB

0 CREDITS

This course is designed to develop the knowledge base and the basic nursing skills to enable the learner to perform satisfactorily during the course AND in future clinical experiences. The fundamentals of nursing care and basic skills are discussed so that the learner can lead the client towards the satisfaction of his basic needs such as hygiene, physical and psychological comfortless, safety, prevention and control of infections. The course includes clinical experience hours where the learner can put in practice his knowledge base and skills in a variety of settings.

NURC 151 SURGICAL MEDICAL NURSING I

5 CREDITS

The course is based on developing the inherent principles of nursing care for individuals, families and the community in their different stages of growth and development, emphasizing the basic needs that interfere with adults and the elderly. Physiological and pathological changes that occur in the various systems are discussed holistically. The health needs interfered with in adults and the elderly are examined, such as: fluid and electrolyte balance, perioperative disorders, oxygenation, cardiovascular, hematological, immunological, nutritional and gastrointestinal elimination. Emphasis is also placed on the use of the nursing process to evaluate, plan, implement and evaluate the nursing care provided. Competencies will be developed through presentation, demonstration of skills and execution of what has been learned through clinical simulations, in structured or unstructured settings.

NURC 151L SURGICAL MEDICAL NURSING I LAB

0 CREDITS

The course is based on developing the inherent principles of nursing care for individuals, families and the community in their different stages of growth and development, emphasizing the basic needs that interfere with adults and the elderly. Physiological and pathological changes that occur in the various systems are discussed holistically. The health needs interfered with in adults and the elderly are examined, such as: fluid and electrolyte balance, perioperative disorders, oxygenation, cardiovascular, hematological, immunological, nutritional and gastrointestinal elimination. Emphasis is also placed on the use of the nursing process to evaluate, plan, implement and evaluate the nursing care provided. Competencies will be developed through presentation, demonstration of skills and execution of what has been learned through clinical simulations, in structured or unstructured settings.

NURC 152 PSYCHIATRIC NURSING

5 CREDITS

This course discusses the basic and fundamental concepts and theories regarding mental health including importance of promoting mental health and factors that may affect mental wellbeing. Medical-legal aspects of mental health care are also discussed. Emphasis is placed on the nursing process to identify alterations in the mental health of individuals, family and community. It focuses on the alterations in mental health such as stress and crisis intervention, anxiety, somatotropic, cognitive, affective, schizophrenic, auto destructive, and eating disorders. Suicide, sexual behavior disorders, infant and adolescent mental disorders and patient reactions to terminal diseases and death is also discussed. Emphasis is placed on the importance on the therapeutic communication skills necessary to satisfy the altered basic needs identified. The course includes clinical experience hours where the learner can put in practice his knowledge base and skills in a variety of settings.

NURC 152L PSYCHIATRIC NURSING LABORATORY

0 CREDITS

This course discusses the basic and fundamental concepts and theories regarding mental health including importance of promoting mental health and factors that may affect mental wellbeing. Medical-legal aspects of mental health care are also discussed. Emphasis is placed on the nursing process to identify alterations in the mental health of individuals, family and community. It focuses on the alterations in mental health such as stress and crisis intervention, anxiety, somatotropic, cognitive, affective, schizophrenic, auto destructive, and eating disorders. Suicide, sexual behavior disorders, infant and adolescent mental disorders and patient reactions to terminal diseases and death is also discussed. Emphasis is placed on the importance on the therapeutic communication skills necessary to satisfy the altered basic needs identified. The course includes clinical experience hours where the learner can put in practice his knowledge base and skills in a variety of settings.

NURC 153 MATERNAL-CHILD NURSING

5 CREDITS

This course focuses on the theoretical concepts of the nursing process in the satisfaction of the women's basic needs, before, during and after pregnancy. Emphasis on concepts of preconception care and the normalcy of pregnancy is discussed and its implication to a healthy pregnancy outcome. Factors that affect maternal-child well-being as well as immediate newborn care are also discussed. The course includes clinical experience hours where the learner can put in practice his knowledge base and skills in a variety of settings.

NURC 153L MATERNAL-CHILD NURSING LAB

0 CREDITS

This course focuses on the theoretical concepts of the nursing process in the satisfaction of the women's basic needs, before, during and after pregnancy. Emphasis on concepts of preconception care and the normalcy of pregnancy is discussed and its implication to a healthy pregnancy outcome. Factors that affect maternal-child well-being as well as immediate newborn care are also discussed. The course includes clinical experience hours where the learner can put in practice his knowledge base and skills in a variety of settings.

NURC 154 PEDIATRIC NURSING

5 CREDITS

This course offers the learner the knowledge base regarding growth and development theories, the family issues and ethical/legal aspects of pediatric nursing care. It provides the learner with the necessary skills to provide nursing care in the identification of situations that affect the health of the infant, child and adolescent and how these may affect growth and development and the family homeostasis. The course includes clinical experience hours where the learner can put in practice his knowledge base and skills in a variety of settings.

**NURC 154L PEDIATRIC NURSING LABORATORY
0 CREDITS**

This course offers the learner the knowledge base regarding growth and development theories, the family issues and ethical/legal aspects of pediatric nursing care. It provides the learner with the necessary skills to provide nursing care in the identification of situations that affect the health of the infant, child and adolescent and how these may affect growth and development and the family homeostasis. The course includes clinical experience hours where the learner can put in practice his knowledge base and skills in a variety of settings.

**OCSE 101 OCUPATIONAL SAFETY
4 CREDITS**

Study of the fundamental concepts related to industrial and occupational safety. Emphasis is placed on the development of critical thinking skills and competencies that allow preventive measures to be applied to avoid and/or reduce physical accidents caused by the handling of tools and work equipment, electric shocks, inhalation of toxic gases, explosives, fall prevention, use of ladder and scaffolding; in addition to personal protective equipment (PPE). Includes discussion of inherent risks in entering enclosed and/or confined spaces and the Wright to Know Act, and other related topics. It also discusses the regulations of the Department of Labor, OSHA and PROSHO applicable. As part of the discussion, hypothetical and real cases will be analyzed regarding different situations that the student will face in the profession. Teaching-learning strategies will include practical exercises, demonstrations, conferences, and search and management of information through electronic media.

**PREA 102 HEALTY, HYGIENE AND NUTRITION
3 CREDITS**

Study of health and safety procedures in a preschool educational environment, guided by standards of performance of preschool programs at the state and federal level. Will health procedures: diaper change, brushing teeth, washing of hands; safety procedures such as: fire, earthquake drills and shooting.

**PREA 105 INTRODUCTION TO EARLY CHILDHOOD EDUCATION
3 CREDITS**

The course offers an overview of the field of early childhood education. Aspects such as: history, legislation, public policy, philosophy, curricula, and the early childhood profession are analyzed. A proper understanding of the reasons, rationale, importance, and objectives of early childhood education in contemporary society and in the next decades are addressed. Discussion of the early childhood education professionals: characteristics of early childhood educators, alternative careers within the field, learning styles, code of ethics, and professionalism.

**PREA 114 THE USE OF COMPUTER IN EDUCATION
3 CREDITS**

The course of the computer in education is directed to aspects related to the evolution and impact of the computer in education and the theories that support the integration into the educational field. Constructive methodology will be used to refine the humanist-skills related to the development of thinking skills and solution of problems in the educational environment where children and educators become familiar with computer programs from a practical perspective.

**PREA 123 CHILDREN'S LITERATURE
3 CREDITS**

This course offers the Future Teacher Assistant Preschool the theoretical and practical form of the most essential of children's literature in early childhood. The Wizard of Preschool Teacher must possess broad knowledge of literature and the methodology needed to awaken in the child the taste for literature. Will be considered works of art, fiction, folklore, poetry, short stories, and games with an emphasis on creativity.

**PREA 130 DEVELOPMENT OF ARTS, LANGUAGE AND BILINGUALISM
3 CREDITS**

This course studies and analyzes the different stages of linguistic development and the theories related to the early signs of language and speech difficulties in preschool and primary education. The emphasis of this course is the identification and referral of children with speech and language difficulties so that they can receive the special services they need to improve their oral communication.

PREA 136 CURRICULUM AND TEACHING METHODS

3 CREDITS

This course examines all aspects of the integral development of the preschool child. Includes philosophy, theories, methods, curriculum models, strategies and techniques in the teaching-learning process.

PREA 138 PREPARATION OF TEACHING MATERIALS

3 CREDITS

A laboratory course which combines graphic and instructional media processes for education and training purposes. Techniques for integrating media into instruction are examined. Student will develop instructional material taking into consideration principles of communication, appropriate and effective design, and the use and evaluation of these materials.

PREA 139 EDUCATION FOR EXCEPTIONAL CHILDREN

3 CREDITS

Study nature and needs of infants and toddlers with disabilities. We discuss the criteria to determine the concepts and high-risk factors with emphasis on the assessment and diagnosis, teaching, techniques and adaptation strategies and intervention with young children with developmental disabilities.

PREA 144 ADMINISTRATION OF INFANTS, TODDLERS AND PRESCHOOL EDUCATIONAL PROGRAMS

3 CREDITS

Study and analysis of the knowledge and skills required in the planning, management and coordination of programs for infants, maternal and children little ones. We discuss topics such as: different types of programs, planning and evaluation of goals, selection and supervisions of human resources, use and maintenance of facilities and physical resources, the role of parents in the education of maternal infant or toddler, government agencies regulation programs and preschool facilities and regulations.

PREA 155 PLAY AND ARTS AS TEACHING STRATEGIES

3 CREDITS

Emphasis on games and arts in early childhood education and the relation with development and appropriated practices of 0-8 years. Exploring and planning how the content areas support the use of games and arts as an educational strategy included in the different theories. Importance of the teacher's role as center for the teaching and learning process in early childhood (0-8 years). Use of manipulatives and simulations as part of the assessment process.

PREA 160 EARLY CHILDHOOD EDUCATION TRAINING I: CHILDREN'S GROWTH AND DEVELOPMENT

4 CREDITS

Provides a strong foundation and practice about design, management and interpersonal relationship in the learning environment. Interaction between environment and significant learning is addressed.

PREA 171 HUMAN GROWTH DEVELOPMENT

3 CREDITS

Study of the scientific and psychological that describe the growth and development of the early childhood and its implications for the teacher and the school. We study the processes that occur in the human being from the moment of conception and at all stages of development.

PREA 176 MANAGEMENT OF CLASSROOM

3 CREDITS

In this course students will study the theories and models of classroom management. It will discuss the strategies for the control of groups and behavior modification.

PREA 190 EARLY CHILDHOOD EDUCATION TRAINING II: FAMILY AND COMMUNITY SERVICES

4 CREDITS

Interdisciplinary study of human development from conception through adolescence. The course integrates the physical, cognitive, socio-emotional and moral dimensions of the individual and their implications for educational practice. It analyzes the development from cases that are contextualized in the sociohistorical, cultural and educational context. The course is developed through case analysis and observations of the developing child.

PUHE 200 FUNDAMENTALS OF PUBLIC HEALTH

3 CREDITS

This course introduces students to the discipline of public health. It provides the historical profile of the development of public health, the ethical principles, as well as allows you to identify the agencies or organizations that intervene in public health locally and internationally. This course provides theoretical-practical elements in the main areas of health that are: epidemiology, biostatistics, environmental health, social and behavioral sciences, and administration of health services. It allows the student to reflect on the aspects that threaten public health and establish strategies aimed at health promotion and disease prevention. Various teaching and assessment strategies are used to stimulate the student's critical-creative thinking in public health.

RACT 101 FUNDAMENTALS OF REFRIGERATION AND AIR CONDITIONING

3 CREDITS

This course studies the history and evolution of refrigeration. The course details the theories about heat and temperature; its nature and relationship with refrigeration. In addition, the concepts of: pressure, temperature, compression, evaporation, condensation, refrigerant controls, piping, welding, tools, refrigerant handling, evacuation, loading and calibration of instruments are discussed; and how they interrelate according to the laws of thermodynamics. It includes the principles related to refrigeration theory and cycle, pipeline operations and refrigerant management, their nature and relationship with refrigeration and its applications. In addition, the student will be familiarized with the tools used in the refrigeration and air conditioning (HVACR) pipe, welding industry. The safety rules and handling of refrigerants CFCs, HCFCs, HFCs HCs and their derived mixtures as regulated by the EPA in the practical performance of their functions are widely explained.

RACT 101L FUNDAMENTALS OF REFRIGERATION AND AIR CONDITIONING LABORATORY

0 CREDITS

In this laboratory, the student applies theoretical knowledge acquired in the RACT 101 course. Through laboratory experiences, he develops manual skills working on the components of the condensing unit: compressors, refrigerants, pipes and materials for application in different refrigeration systems and domestic and commercial air conditioning.

RACT 102 HVAC/R MOTORS AND ELECTRICAL CONTROLS

3 CREDITS

This course enables the student to master the operation of the most used electric motors and controls in domestic, commercial and industrial refrigeration systems and air conditioners (HVACR). There is an emphasis of the study of 120V, 240V and three phase motors. Additionally, students learn to work WYE and DELTA connections systems. Finally, the sequence of operation, diagrams and control components of residential, commercial and industrial refrigeration equipment are analyzed.

RACT 102L HVAC/R MOTORS AND ELECTRICAL CONTROLS LABORATORY

0 CREDITS

In this laboratory, the student applies the theoretical knowledge acquired in the RACT 102 course. Through laboratory experience, the student has the opportunity to work with control system devices, installs one-phase and three-phase motor control systems. The student is exposed so that he can master the operation of the most used electric motors and controls in domestic, commercial and industrial refrigeration systems and air conditioners (HVAC / R). Emphasis is placed on the study of 120V, 240V and three-phase motors and on the WYE and DELTA connections of these systems and the sequence of operation, diagrams and control components of residential, commercial and industrial refrigeration equipment is analyzed.

RACT 103 DOMESTIC REFRIGERATION AND AIR CONDITIONING

3 CREDITS

This course provides the student with theoretical knowledge about the refrigeration cycle of residential equipment and the cooling system of air conditioners for domestic or residential use. The structural, mechanical and electrical components of the different refrigerators, freezers and the different domestic air conditioning systems used in Puerto Rico and the United States are studied. Installation, maintenance and repair procedures are discussed applying safety measures. In addition, it includes the process of quotation and preparation of invoices in residential services. It includes content related to the operation, installation and maintenance of hermetic compressors, condensers and evaporators used in refrigeration systems and residential air conditioning. It emphasizes the application of the rules and regulations governing this technology. It develops skills to work on techniques for leak detection, evacuation, refrigerant charge and recovery of domestic refrigeration and air conditioning systems.

RACT 103L DOMESTIC REFRIGERATION AND AIR CONDITIONING LABORATORY

0 CREDITS

In this laboratory, the student develops manual skills on the refrigeration cycle of residential equipment and the cooling system of air conditioners. Installation, maintenance and repair procedures are discussed applying safety measures. The basic concepts of the operation, installation and maintenance of refrigeration equipment and residential air conditioning are applied. It includes content related to the operation, installation and maintenance of: hermetic compressors, condensers and evaporators used in refrigeration systems and residential air conditioning. It emphasizes the application of the rules and regulations governing this technology. It includes laboratory experiences where the student develops practical skills on the electrical-mechanical operation of refrigerators, freezers, ice machines and other household equipment. Skills are developed to work on techniques for leak detection, evacuation,

refrigerant charge and recovery of domestic refrigeration and air conditioning systems.

**RACT 104 COMMERCIAL AND INDUSTRIAL REFRIGERATION AND AIR CONDITIONING
3 CREDITS**

In this course, the student is exposed to experiences that will help to acquire the appropriate knowledge related to the installation, repairs, and the diagnosis of different controls and accessories used in commercial and industrial units. It will cover the basic concepts of how commercial and industrial applications of HVACR are related.

**RACT 104L COMMERCIAL AND INDUSTRIAL REFRIGERATION AND AIR CONDITIONING LABORATORY
0 CREDITS**

In this laboratory, the student will be exposed to practical experiences to develop the manual skills on the refrigeration cycle and the cooling system of commercial and industrial equipment conditioners. It includes the student's exposure to a suitable scenario to install, repair and diagnose different controls and accessories used in commercial and industrial units. It includes the relationship between the basic concepts learned and the commercial and industrial applications of HVACR systems.

**RACT 105 FUNDAMENTALS OF AUTOMOBILE AIR CONDITIONING
3 CREDITS**

This course presents the theory and operation of the automobile air conditioning system. The car's electrical system, air valves and their replacements, types of compressors, condensers and evaporators are studied. In addition, the procedures of installation, maintenance and repair of air conditioners of cars are described. Therefore, this course teaches the theoretical knowledge and skills to offer a high-quality service in the installation and repair of these systems.

**RACT 105L FUNDAMENTALS OF AUTOMOBILE AIR CONDITIONING LABORATORY
0 CREDITS**

This laboratory offers practical experiences that meet the requirements of the program. Students will demonstrate practical skills on the electrical-mechanical operation of the automobile air conditioning system. It includes the study of the electrical system of the car, air valves and their replacements, types of compressors, condensers and evaporators. In addition, the procedures for installation, maintenance and repair of air conditioners of cars are applied. Finally, the appropriate skills are worked to offer a high-quality service in the installation and repair of these systems.

**RACT 106 PRINCIPLES OF RENEWABLE ENERGY AND ENERGY MANAGEMENT
3 CREDITS**

In this course, the student is trained with the basic concepts of energy management. The different types of energy and basic concepts that are studied are: where it is located, how we can take advantage of it for residential use and improve the environment. In addition, it discusses the processes for auditing energy, analyzing consumption bills and conducting economic analyzes. In addition, electrical and mechanical systems, and how they directly affect energy consumption and management are analyzed. It includes strategies on control systems and other technologies to improve consumption spending.

**RACT 107 FUNDAMENTALS OF HVA INVERTERS AND VARIABLE REFRIGERANT VOLUME SYSTEM (VRV/VRF)
3 CREDITS**

In this course, the student is exposed to experiences that allow him to acquire the basic theoretical knowledge about the operation of the different components that integrate the Inverter technology in air conditioning systems. The different electronic stages and fault diagnostics in these systems are included. In addition, the basic fundamentals in the operation, characteristics and principles of the components, the electronics and the diagnosis of the systems are discussed. Finally, the student will acquire the appropriate knowledge to install, repair, diagnose the commercial and industrial air conditioning units of Variable Refrigerant Volume (VRV), also known as Variable Refrigerant Flow (VRF), which are a type of system of central air conditioning of multi-split type.

**RACT 108 REVALIDATION SEMINAR - REFRIGERATION AND AIR CONDITIONING TECHNICIAN
3 CREDITS**

This course explains the constant changing reality of the refrigeration and air conditioning (HVACR) industry in Puerto Rico through direct or indirect experiences. It emphasizes the procedures used in the industry and their relationship with the theories learned about them. The components that are integrated into the industrial scenario are analyzed to provide the student with the fundamental tools of the real scenario that he will face in the workplace. This course also offers the student training to facilitate the knowledge and skills necessary to take and pass the board exam for refrigeration and air conditioning technicians, offered by the Board of Examiners of Refrigeration Technicians of Puerto Rico. The concepts of analysis, operation and maintenance of refrigeration and air conditioning systems are applied. In addition, possible breakdowns found in cooling, residential, commercial, industrial and automobile systems are discussed. Finally, the student will relate to the principles of entrepreneurship and recognize the skills and behaviors necessary to become a successful entrepreneur, as well as the opportunity to prepare their own professional portfolio.

**SURT 100 DISINFECTION AND STERILIZATION
4 CREDITS**

The course is designed to provide the student with the knowledge and skills related to the different methods of disinfection and sterilization used with sterile supplies and in the operating room. Student will perform effective decontamination, disinfection and sterilization procedures of surgical supplies, tools and products, in order to assure patient safety and wellness.

**SURT 100L DISINFECTION AND STERILIZATION LAB
0 CREDITS**

The course is designed to provide the student with the knowledge and skills related to the different methods of disinfection and sterilization used with sterile supplies and in the operating room. Student will perform effective decontamination, disinfection and sterilization procedures of surgical supplies, tools and products, in order to assure patient safety and wellness.

**SURT 101 INTRODUCTION TO THE WORLD OF SURGERY
3 CREDITS**

This course prepares the student to acquire the basic knowledge of the operating room, the operating equipment components and the general medical-legal aspects related to the profession. This course prepares the student to acquire the basic knowledge of the operating room, the operating equipment components and the general medical-legal aspects related to the profession.

**SURT 103 HUMAN RELATIONS AND THE SURGICAL PATIENT
3 CREDITS**

This course covers the application of the different theories of human relations and develops student competencies to provide quality attention to post-surgery patients. Main topics discussed include personality, ethics, and surgical conscience, among others, which are important in the operating room. In addition to emphasize adequate communication skills between the patient and the surgical team, the course covers the array of emotions manifested by patients related to anesthesia and the surgical process.

**SURT 104 FOUNDATIONS OF ANESTHESIA
3 CREDITS**

The course is designed for the student to acquire the fundamental concepts and knowledge of anesthesia. It covers the historical background, different types and administering methods, and the drugs used by the anesthesiologist to facilitate the surgical procedure. The different stages of anesthesia are covered, as well as complications associated with the anesthesia process.

**SURT 108 OPERATING ROOM FUNDAMENTALS
6 CREDITS**

The course integrates the theoretical and practical knowledge necessary in the field of surgical instrumentation in order to assure an excellent patient care, before, during and after the surgical procedure. The student will apply those skills needed for an effective intervention for pre-surgery preparations, surgical instrumentation and post- operative handling of contaminated materials and equipment. The course emphasizes the intervention of the surgical technician in maintaining aseptic techniques during all the operatory process in order to prevent infections.

**SURT 108L OPERATING ROOM FUNDAMENTALS LAB
0 CREDITS**

The course integrates the theoretical and practical knowledge necessary in the field of surgical instrumentation in order to assure an excellent patient care, before, during and after the surgical procedure. The student will apply those skills needed for an effective intervention for pre-surgery preparations, surgical instrumentation and post- operative handling of contaminated materials and equipment. The course emphasizes the intervention of the surgical technician in maintaining aseptic techniques during all the operatory process in order to prevent infections.

**SURT 110 CLINICAL PRACTICE II
6 CREDITS**

The operating room technician is actively involved in different operatory procedures of the diverse surgical specializations in a real working environment. The practice involves the practical application of those competencies acquired in the theoretical phase for the intervention with the surgical patient. Emphasis is given to the development of skills for preparing different surgical processes and the execution of instrumentation during operatory intervention, always under close supervision of the professor and the operation room staff. The student must complete a total of three hundred sixty (360) hours during the semester.

SURT 201 INTRODUCTION TO THE WORLD OF SURGERY

3 CREDITS

This course prepares the student to acquire the basic knowledge of the operating room, the operating equipment components and the general medical-legal aspects related to the profession.

SURT 202 DISINFECTION AND STERILIZATION

4 CREDITS

The course is designed to provide the student with the knowledge and skills related to the different methods of disinfection and sterilization used with sterile supplies and in the operating room. Student will perform effective decontamination, disinfection and sterilization procedures of surgical supplies, tools and products, in order to assure patient safety and wellness.

SURT 202L DESINFECTION AND STERILIZATION LAB

0 CREDITS

The course is designed to provide the student with the knowledge and skills related to the different methods of disinfection and sterilization used with sterile supplies and in the operating room. Student will perform effective decontamination, disinfection and sterilization procedures of surgical supplies, tools and products, in order to assure patient safety and wellness.

SURT 203 HUMAN RELATIONS AND THE SURGICAL PATIENT

3 CREDITS

This course prepares the student to acquire the basic knowledge of the operating room, the operating equipment components and the general medical-legal aspects related to the profession.

SURT 204 FOUNDATIONS OF ANESTHESIA

3 CREDITS

The course is designed for the student to acquire the fundamental concepts and knowledge of anesthesia. It covers the historical background, different types and administering methods, and the drugs used by the anesthesiologist to facilitate the surgical procedure. The different stages of anesthesia are covered, as well as complications associated with the anesthesia process.

SURT 205 FUNDAMENTALS OF OPERATING ROOM

6 CREDITS

The course integrates the theoretical and practical knowledge necessary in the field of surgical instrumentation in order to assure an excellent patient care, before, during and after the surgical procedure. The student will apply those skills needed for an effective intervention for pre-surgery preparations, surgical instrumentation and post- operative handling of contaminated materials and equipment. The course emphasizes the intervention of the surgical technician in maintaining aseptic techniques during all the operatory process in order to prevent infections.

SURT 205L FUNDAMENTALS OF OPERATING ROOM LAB

0 CREDITS

The course integrates the theoretical and practical knowledge necessary in the field of surgical instrumentation in order to assure an excellent patient care, before, during and after the surgical procedure. The student will apply those skills needed for an effective intervention for pre-surgery preparations, surgical instrumentation and post- operative handling of contaminated materials and equipment. The course emphasizes the intervention of the surgical technician in maintaining aseptic techniques during all the operatory process in order to prevent infections.

SURT 209 CLINICAL PRACTICE

6 CREDITS

The operating room technician is actively involved in different operatory procedures of the diverse surgical specializations in a real working environment. The practice involves the practical application of those competencies acquired in the theoretical phase for the intervention with the surgical patient. Emphasis is given to the development of skills for preparing different surgical processes and the execution of instrumentation during operatory intervention, always under close supervision of the professor and the operation room staff. The student must complete a total of three hundred (360) hours during the semester.

THMA 101 INTRODUCTION TO MASSAGE AND CHAIR MASSAGE

3 CREDITS

Study of the theoretical fundamentals on the history and origin of massage. Aspects discussed: professional, ethics, legal, hygienic and safety in the massage room, types of customers, techniques of consultation and preparation of the environment, equipment and the most used products, with their general effects and contraindications. It includes the study of massage techniques using a professional chair, as well as a common chair. It emphasizes the development of knowledge and skills of anatomy and physiology, pathology, contraindications, benefits and physiological effects of techniques that manipulate soft tissue and body biomechanics. These competencies will be developed through demonstrations and practical exercises that will allow the student to offer their clients massage therapies that result in the holistic benefit of the patient (physical, emotional and mental), while offering chair therapy to release stress and pain in the patient. It also allows the development of critical thinking, communication, ethics and diversity skills.

THMA 101L INTRODUCTION TO MASSAGE AND CHAIR MASSAGE

0 CREDITS

Study of the theoretical foundations on the history and origin of massage. Aspects are discussed: professional, ethical, legal, hygienic and safety in the massage room, types of clients, consultation techniques and preparation of the environment, the equipment and the most used products, with their general effects and contraindications. It includes the study of massage techniques using a professional chair, as well as a common chair. Emphasis is placed on the development of knowledge and skills in anatomy and physiology, pathology, contraindications, benefits, and physiological effects of techniques that manipulate soft tissue and body biomechanics. These competencies will be developed through demonstrations and practical exercises that will allow the student to offer his clients massage therapies that result in the holistic benefit of the patient (physical, emotional and mental), and at the same time offer therapy in a chair to release stress. and pain in the patient. It also allows the development of critical thinking, communication, ethics and diversity skills.

THMA 102 THERAPEUTIC MASSAGE I

3 CREDITS

This course is geared to providing students with the basic knowledge of techniques of Therapeutic Massage. It is considered as a general introduction to both the theory and practice of massage. The student will be able to fully perform the basic concepts and manipulations of massage, and at the same time demonstrate such concepts and skills in the classroom.

THMA 102L THERAPEUTIC MASSAGE LAB I

0 CREDITS

This course is geared to providing students with the basic knowledge of techniques of Therapeutic Massage. It is considered as a general introduction to both the theory and practice of massage. The student will be able to fully perform the basic concepts and manipulations of massage, and at the same time demonstrate such concepts and skills in the classroom.

THMA 108 THERAPEUTIC MASSAGE II

3 CREDITS

Basic review of the anatomy of the muscular system and its implications on the therapeutic massage. Includes the theoretic support and Quiromassage techniques to muscular system. Students will be trained in the use of different techniques to specifically treat muscular conditions.

THMA 108L THERAPEUTIC MASSAGE LAB II

0 CREDITS

Basic review of the anatomy of the muscular system and its implications on the therapeutic massage. Includes the theoretic support and Quiromassage techniques to muscular system. Students will be trained in the use of different techniques to specifically treat muscular conditions.

THMA 111 THERAPEUTIC MASSAGE III

3 CREDITS

This course prepares the student with the knowledge and skills needed to develop therapies specifically directed to improve the muscular system of the client. It also trains the future masseur to treat this muscular condition. The course cover techniques such as deep tissue massage, myofascial release and stretching techniques.

THMA 111L THERAPEUTIC MASSAGE LAB III

0 CREDITS

This course prepares the student with the knowledge and skills needed to develop therapies specifically directed to improve the muscular system of the client. It also trains the future masseur to treat this muscular condition. The course cover techniques such as deep tissue massage, myofascial release and stretching techniques.

THMA 117 SUPERVISED PRACTICUM

2 CREDITS

The Supervised Practicum Course constitutes the most important clinical experience in the Therapeutic Massage Technician certificate. In this course the student will have the opportunity to apply all the knowledge, skills and techniques acquired throughout the development of the program. Practicum will take place in entities or venues that meet all requisites and standards established by applicable laws, in order to be authorized to provide therapeutic massage (sports facilities, health centers, elderly centers, therapy centers, institutional activities), and will be supervised by a licensed professional in the field. The student must complete a total of one hundred twenty (120) hours during the semester.

THMA 118 REFLEXOLOGY AND SPA TECHNIQUES

4 CREDITS

Study of therapy that works the stimulation of the points on the feet, hands, nose or ears by means of pressures performed to achieve an energy connection with glands, organs, systems and parts of the body. It includes the discussion of techniques used in SPAs and how these are used to treat diseases allowing restoring health to the circulatory, nervous and body systems. It emphasizes the development of knowledge and skills of anatomy and physiology, evaluation and re-evaluation of the client/patient, benefits and physiological effects of techniques that manipulate soft tissue and body biomechanics. These competencies are developed through demonstrations and hands-on exercises that allow students to apply relaxation massage techniques and stress-fighting therapies. It also allows the development of critical thinking, communication, ethics and diversity skills.

THMA 118L REFLEXOLOGY AND SPA TECHNIQUES LAB

0 CREDITS

Study of the therapy that works by stimulating the points on the feet, hands, nose or ears by means of pressure to achieve an energetic connection with glands, organs, systems and parts of the body. It includes the discussion of the techniques used in SPAs and how they are used to treat diseases, allowing the circulatory, nervous and corporal systems to be restored to health. Emphasis is placed on the development of knowledge, skills and abilities of anatomy and physiology, evaluation and reevaluation of the client patient, benefits and physiological effects of techniques that manipulate soft tissue and body biomechanics. These skills are developed through demonstrations and practical exercises that allow students to apply relaxation massage techniques and therapies to combat stress. It also allows the development of critical thinking, communication, ethics and diversity skills.

THMA 120 THERAPEUTICAL MASSAGE SEMINAR

3 CREDITS

In this course, the student will review all the massage concepts and techniques learned. It emphasizes the application of knowledge, competencies and attitudes acquired through his/her development in the program, through conferences, group discussions, demonstrations and practical exercises, which allow the student to take the board test and obtain the license as Massage Therapist in Puerto Rico.

THMA 121 ANATOMY AND PHYSIOLOGY FOR MASSAGE

4 CREDITS

This course trains students in the basic concepts related to human anatomy and physiology, the organization of a body structure at the chemical level, cells, tissues, organs and regulatory systems and body rhythms. The structures and functions of skeletal, nervous, muscular and endocrine systems are integrated.

THMA 123 MUSCULOSKELETAL ANATOMY

4 CREDITS

Study of the muscles of the body and their relationship to the bones. It emphasizes the development of critical thinking knowledge and skills. These skills are developed through demonstrations and practical exercises that allow the student to identify the muscles of the body. In addition, the course reinforces the development of information skills.

THMA 125 CLINICAL PATHOLOGY, EVALUATION AND DOCUMENTATION

4 CREDITS

Introduction to clinical pathology including the study of diseases or conditions of the human body. The course covers how to recognize each condition through laboratory analysis, diagnosis, observation of the body's biochemical processes and medical terminology related to each disease. In addition, it discusses the process of assessing patient needs using the Simple Object Access Protocol (S.O.A.P.) to evaluate the recipient and thus formulate a therapy aimed at a specific condition. It emphasizes the development of pathology knowledge and competencies through conferences, interview exercises, and in the preparation of clinical records, allowing the student to document the client's conditions in a correct clinical history.

THMA 127 ORIENTAL TECHNIQUES

3 CREDITS

This course trains students in different stretching techniques on joints, acupressure skills, energy points, and their benefits and contraindications. Develops skills in patient handling applied from the toes to the head.

THMA 127L ORIENTAL TECHNIQUES LAB
0 CREDITS

This course trains students in different stretching techniques on joints, acupressure skills, energy points, and their benefits and contraindications. Develops skills in patient handling applied from the toes to the head.

THMA 129 SPORT MASSAGE AND STRUCTURAL KINESIOLOGY
4 CREDITS

The course studies the functioning of organs and body systems that are injured by practicing a sport, and ways to apply the basic notions about sports massage. It includes the study of movement focusing on the action of muscles in conjunction with bones. The origin and insertion of muscle is discussed, in addition to the antagonistic and synergistic muscles of the locomotive system. Includes muscle tests to identify weak and strong muscles in the body. It emphasizes the development of knowledge, skills and competencies of anatomy and physiology, evaluation and re-evaluation of the patient, benefits and physiological effects of techniques that manipulate soft tissues and kinesiology. These skills are developed through demonstrations and practical exercises that allow the student to provide sports therapy, both at the training and competition level, and as a means to help the athlete achieve an optimal level and care at the same time.

THMA 129L SPORTS MASSAGE AND STRUCTURAL KINESIOLOGY LAB
0 CREDITS

The course studies the functioning of organs and body systems that are injured by practicing a sport, and ways to apply the basic notions about sports massage. It includes the study of movement focusing on the action of muscles in conjunction with bones. The origin and insertion of muscle is discussed, in addition to the antagonistic and synergistic muscles of the locomotive system. Includes muscle tests to identify weak and strong muscles in the body. It emphasizes the development of knowledge, skills and competencies of anatomy and physiology, evaluation and re-evaluation of the patient, benefits and physiological effects of techniques that manipulate soft tissues and kinesiology. These skills are developed through demonstrations and practical exercises that allow the student to provide sports therapy, both at the training and competition level, and as a means to help the athlete achieve an optimal level and care at the same time.

THMA 131 MASSAGE FOR SPECIAL POPULATIONS AND LYMPHATIC DRAINAGE
3 CREDITS

In this course the student will develop the methods, techniques and modalities of clinical massage that are combined to treat all kinds of conditions and disease in people of special needs. They apply to clients who often have poor physical condition that limit their abilities so requiring massage therapy. It includes the discussion of anatomy related to the lymphatic system and the main theories that support lymphatic fields. It emphasizes the development of knowledge, skills and competencies of pathology, and covers contraindications, benefits and physiological effects of techniques that manipulate soft tissues and body biomechanics. These skills are developed through demonstrations and practical exercises that allow the student to execute the different techniques that apply to clients with special needs. In addition, the course allows the student to learn the main conditions and diseases that affect the lymphatic system and to apply handling protocols to follow in the lymphatic drainage.

THMA 131L MASSAGE FOR SPECIAL POPULATIONS AND LYMPHATIC DRAINAGE LAB
0 CREDITS

In this course the student will develop the methods, techniques and modalities of clinical massage that are combined to treat all kinds of conditions and disease in people of special needs. They apply to clients who often have poor physical condition that limit their abilities so requiring massage therapy. It includes the discussion of anatomy related to the lymphatic system and the main theories that support lymphatic fields. It emphasizes the development of knowledge, skills and competencies of pathology, and covers contraindications, benefits and physiological effects of techniques that manipulate soft tissues and body biomechanics. These skills are developed through demonstrations and practical exercises that allow the student to execute the different techniques that apply to clients with special needs. In addition, the course allows the student to learn the main conditions and diseases that affect the lymphatic system and to apply handling protocols to follow in the lymphatic drainage.

THMA 201 INTRODUCTION TO MASSAGE AND CHAIR MASSAGE
3 CREDITS

Study of the theoretical foundations on the history and origin of massage. Aspects are discussed: professional, ethical, legal, hygienic and safety in the massage room, types of clients, consultation techniques and preparation of the environment, the equipment and the most used products, with their general effects and contraindications. It includes the study of massage techniques using a professional chair, as well as a common chair. Emphasis is placed on the development of knowledge and skills in anatomy and physiology, pathology, contraindications, benefits, and physiological effects of techniques that manipulate soft tissue and body biomechanics. These competencies will be developed through demonstrations and practical exercises that will allow the student to offer his clients massage therapies that result in the holistic benefit of the patient (physical, emotional and mental), and at the same time offer therapy in a chair to release stress. and pain in the patient. It also allows the development of critical thinking, communication, ethics and diversity skills.

THMA 201L INTRODUCTION TO MASSAGE AND CHAIR MASSAGE LAB

0 CREDITS

Study of the theoretical fundamentals on the history and origin of massage. Aspects discussed: professional, ethics, legal, hygienic and safety in the massage room, types of customers, techniques of consultation and preparation of the environment, equipment and the most used products, with their general effects and contraindications. It includes the study of massage techniques using a professional chair, as well as a common chair. It emphasizes the development of knowledge and skills of anatomy and physiology, pathology, contraindications, benefits and physiological effects of techniques that manipulate soft tissue and body biomechanics. These competencies will be developed through demonstrations and practical exercises that will allow the student to offer their clients massage therapies that result in the holistic benefit of the patient (physical, emotional and mental), while offering chair therapy to release stress and pain in the patient. It also allows the development of critical thinking, communication, ethics and diversity skills.

THMA 202 THERAPEUTIC MASSAGE I

3 CREDITS

This course provides students' knowledge about the basic techniques of therapeutic massage. It is considered as a general introduction to both the theory and practice of massage. The student will be able to fully perform the basic concepts and manipulations of massage, and at the same time demonstrate such concepts and skills in the classroom.

THMA 202L THERAPEUTIC MASSAGE I LAB

0 CREDITS

This course provides students' knowledge about the basic techniques of therapeutic massage. It is considered as a general introduction to both the theory and practice of massage. The student will be able to fully perform the basic concepts and manipulations of massage, and at the same time demonstrate such concepts and skills in the classroom

THMA 206 EVALUATION AND DOCUMENTATION

3 CREDITS

In this course trains the future masseur to design and personalize the massage session according to the specific needs of its client. Using the S.O.A.P. techniques, the therapist will be able to assess the needs of the client in order to define a therapy according to the specific condition. Initial evaluation is crucial to define the service needed, but it should be supported with written documentation. The course also prepares the student to document such conditions through a clinical history. Palpation methods, as well as posture and march evaluation will be covered in the course as important skills for the massage therapist.

THMA 208 THERAPEUTIC MASSAGE II

3 CREDITS

In this course a basic review of the anatomy of the muscular system and its implications on the therapeutic massage. Includes the theoretic support and quiromassage techniques to muscular system. Students will be trained in the use of different techniques to specifically treat muscular conditions.

THMA 208L THERAPEUTIC MASSAGE II

0 CREDITS

In this course a basic review of the anatomy of the muscular system and its implications on the therapeutic massage. Includes the theoretic support and quiromassage techniques to muscular system. Students will be trained in the use of different techniques to specifically treat muscular conditions.

THMA 209 REFLEXIOLOGY AND SPA TECHNIQUES

4 CREDITS

Study of the therapy that works by stimulating the points on the feet, hands, nose or ears by means of pressure to achieve an energetic connection with glands, organs, systems and parts of the body. It includes the discussion of the techniques used in SPAs and how they are used to treat diseases, allowing the circulatory, nervous, and corporal systems to be restored to health. Emphasis is placed on the development of knowledge, skills and abilities of anatomy and physiology, evaluation and reevaluation of the client patient, benefits and physiological effects of techniques that manipulate soft tissue and body biomechanics. These skills are developed through demonstrations and practical exercises that allow students to apply relaxation massage techniques and therapies to combat stress. It also allows the development of critical thinking, communication, ethics and diversity skills.

THMA 209L REFLEXOLOGY SPA TECHNIQUES

0 CREDITS

Study of therapy that works the stimulation of the points on the feet, hands, nose or ears by means of pressures performed to achieve an energy connection with glands, organs, systems and parts of the body. It includes the discussion of techniques used in SPAs and how these are used to treat diseases allowing restoring health to the circulatory, nervous and body systems. It emphasizes the development of knowledge and skills of anatomy and physiology, evaluation and re-evaluation of the client/patient, benefits and physiological effects of techniques that manipulate soft tissue and body biomechanics. These competencies are developed through demonstrations and hands-on exercises that allow students to apply relaxation massage techniques and stress-fighting therapies. It also allows the development of critical thinking, communication, ethics and diversity skills.

THMA 216 THERAPEUTIC MASSAGE III

3 CREDITS

This course prepares the student with the knowledge and skills needed to develop therapies specifically directed to improve the muscular system of the client. It also trains the future masseur to treat this muscular condition. The course cover techniques such as deep tissue massage, myofascial release and stretching techniques.

THMA 216L THERAPEUTIC MASSAGE III LAB

0 CREDITS

This course prepares the student with the knowledge and skills needed to develop therapies specifically directed to improve the muscular system of the client. It also trains the future masseur to treat this muscular condition. The course cover techniques such as deep tissue massage, myofascial release and stretching techniques.

THMA 225 CLINICAL THERAPEUTIC MASSAGE SEMINAR

3 CREDITS

In this course, the student will review all the competencies and concepts needed to take the Board tests and to obtain the Massage Therapist Certification in Puerto Rico.

THMA 228 CLINICAL THERAPEUTIC MASSAGE PRACTICUM COURSE

2 CREDITS

The Supervised Practicum Course constitutes the most important clinical experience in the Therapeutic Massage Technician program. In this course the student will have the opportunity to apply all the knowledge, skills and techniques acquired throughout the development of the program. Practicum will take place in entities or venues that meet all requisites and standards established by applicable laws, in order to be authorized to provide therapeutic massage (sports facilities, health centers, elderly centers, therapy centers, institutional activities), and will be supervised by a licensed professional in the field. The student must complete a total of one hundred twenty (120) hours during the semester.

THMA 230 ANATOMY AND PHYSIOLOGY

4 CREDITS

This course trains students in the basic concepts related to human anatomy and physiology, the organization of a body structure at the chemical level, cells, tissues, organs and regulatory systems and body rhythms. The structures and functions of skeletal, nervous, muscular and endocrine systems are integrated.

THMA 232 MUSCULOSKELETAL ANATOMY

4 CREDITS

Study of the muscles of the body and their relationship to the bones. It emphasizes the development of critical thinking knowledge and skills. These skills are developed through demonstrations and practical exercises that allow the student to identify the muscles of the body. In addition, the course reinforces the development of information skills.

THMA 234 CLINICAL PATHOLOGY, EVALUATION AND DOCUMENTATION

4 CREDITS

Introduction to clinical pathology including the study of diseases or conditions of the human body. The course covers how to recognize each condition through laboratory analysis, diagnosis, observation of the body's biochemical processes and medical terminology related to each disease. In addition, it discusses the process of assessing patient needs using the Simple Object Access Protocol (S.O.A.P.) to evaluate the recipient and thus formulate a therapy aimed at a specific condition. It emphasizes the development of pathology knowledge and competencies through conferences, interview exercises, and in the preparation of clinical records, allowing the student to document the client's conditions in a correct clinical history.

**THMA 236 ORIENTAL TECHNIQUES
3 CREDITS**

This course trains students in different stretching techniques on joints, acupressure skills, energy points, and their benefits and contraindications. Develops skills in patient handling applied from the toes to the head.

**THMA 236L ORIENTAL TECHNIQUES
0 CREDITS**

This course trains students in different stretching techniques on joints, acupressure skills, energy points, and their benefits and contraindications. Develops skills in patient handling applied from the toes to the head.

**THMA 238 SPORTS MASSAGE AND STRUCTURAL KINESIOLOGY
4 CREDITS**

The course studies the functioning of organs and body systems that are injured by practicing a sport, and ways to apply the basic notions about sports massage. It includes the study of movement focusing on the action of muscles in conjunction with bones. The origin and insertion of muscle is discussed, in addition to the antagonistic and synergistic muscles of the locomotive system. Includes muscle tests to identify weak and strong muscles in the body. It emphasizes the development of knowledge, skills and competencies of anatomy and physiology, evaluation and re-evaluation of the patient, benefits and physiological effects of techniques that manipulate soft tissues and kinesiology. These skills are developed through demonstrations and practical exercises that allow the student to provide sports therapy, both at the training and competition level, and as a means to help the athlete achieve an optimal level and care at the same time.

**THMA 240 MASSAGE FOR SPECIAL POPULATIONS AND LYMPHATIC DRAINAGE
3 CREDITS**

In this course the student will develop the methods, techniques and modalities of clinical massage that are combined to treat all kinds of conditions and disease in people of special needs. They apply to clients who often have poor physical condition that limit their abilities so requiring massage therapy. It includes the discussion of anatomy related to the lymphatic system and the main theories that support lymphatic fields. It emphasizes the development of knowledge, skills and competences of pathology, and covers contraindications, benefits and physiological effects of techniques that manipulate soft tissues and body biomechanics. These skills are developed through demonstrations and practical exercises that allow the student to execute the different techniques that apply to clients with special needs. In addition, the course allows the student to learn the main conditions and diseases that affect the lymphatic system and to apply handling protocols to follow in the lymphatic drainage.

**THMA 240L MASSAGE FOR SPECIAL POPULATIONS AND LYMPHATIC DRAINAGE LAB
0 CREDITS**

In this course the student will develop the methods, techniques and modalities of clinical massage that are combined to treat all kinds of conditions and disease in people of special needs. They apply to clients who often have poor physical condition that limit their abilities so requiring massage therapy. It includes the discussion of anatomy related to the lymphatic system and the main theories that support lymphatic fields. It emphasizes the development of knowledge, skills and competences of pathology, and covers contraindications, benefits and physiological effects of techniques that manipulate soft tissues and body biomechanics. These skills are developed through demonstrations and practical exercises that allow the student to execute the different techniques that apply to clients with special needs. In addition, the course allows the student to learn the main conditions and diseases that affect the lymphatic system and to apply handling protocols to follow in the lymphatic drainage.

**WEBD 105 FUNDAMENTALS OF WEB DEVELOPMENT
3 CREDITS**

This course is designed for the student to describe the structure and functionality of the World Wide Web - WWW. It allows the student to identify, understand, evaluate and acquire the main technological components (domain, host, web page editors, among others) necessary for the design, development and publication of web sites. In this course, students make a comparison between the main programming editors available in the market. Differences between web page programming languages HTML, CSS, Java Script; and a brief introduction of the structure of each of these programming languages is made.

WEBD 106 CONTENT MANAGEMENT SYSTEMS (CMS) FOR WEB CONTENT PUBLISHING

3 CREDITS

The Content Management System (CMS) course for publishing content on websites is one that allows the student to work in the cloud making use of a variety of web portal design and development resources and platforms. User interface design techniques (UI User Interface) are incorporated, as well as experiences are shared (UX User Experience) with the use of web sites, applications, browsers and mobile devices. The course is designed for students to evaluate the pros and cons of the main Content Management System platforms with the aim of designing attractive, functional and compatible web sites as required with most devices and browsers. Among the Content Management System platforms that students will be exposed to are WordPress, Wix, Google Site, Joomla!, Odoo, Drupal, Concrete CMS among others.

WEBD 107 HTML PROGRAMMING

3 CREDITS

This course is designed for the student to learn how to develop web pages using the HTML language. Students will develop situation analysis skills as basis to design and develop web pages. The course explains why HTML is a structural programming language. The course describes and implements the structure, semantics, syntax, and main HTML elements in the development of a web page. Students will be able to incorporate a variety of objects such as tables, images, videos, links, forms, among others. At the end of the course, students will be able to design, develop and publish attractive, functional, and web sites compatible with the main electronic devices and internet browsers.

WEBD 108 CASCADING STYLE SHEETS PROGRAMMING

3 CREDITS

This course prepares the student in the development of Web applications. CSS is a style language that defines the presentation of HTML documents. For example, with CSS we can change fonts, colors, margins, sizes, images of background, layout, create animations and other effects and more. This course allows learn the fundamentals of CSS, essential for working with web pages today.

WEBD 109 JAVASCRIPT PROGRAMMING

3 CREDITS

The course is designed for the student to learn how to develop web pages using the JavaScript language. Students will develop situation analysis skills and then design and develop dynamic webpages, adding different attributes and events. The course explains why JavaScript is an interactive or event language. In addition, this course describes and implements the structure, semantics, syntax, and main elements of JavaScript. In the development of web pages, students will be able to incorporate into their pages a series of objects to their pages such as tables, images, videos, links, forms, among others. Students will be able to incorporate HTML and CSS elements to design attractive, functional and compatible web sites with the main electronic devices and internet browsers.

WEBD 110 FUNDAMENTALS OF GRAPHICS DESIGN

3 CREDITS

This course provides the student with the fundamentals about design and bases for good designing. Topics on graphic composition, typography, use of colors and symbols, materials for reproduction, as well as the history of design and what is its role and importance in society, and how it has evolved in visual communication are addressed.

WEBD 115 WEB DESIGN SEMINAR

3 CREDITS

In the Capstone course, students will demonstrate the knowledge and skills acquired in previous courses in the analysis, design, development and implementation of attractive, functional, responsive web sites and compatible with most of the browsers and devices available on the market. In this course, students integrate different web site programming techniques such as HTML, CSS, JavaScript and PHP. Similarly, students have the opportunity to integrate graphic design tools, user interface design (UI / XU) and Content Management System (CMS) platforms to publish web pages. At the end, the participants will publish their web site or professional electronic portfolio showing their knowledge and having acquired a host and domain.