



Sistema Universitario Ana G. Méndez
Universidad Metropolitana
San Juan, Puerto Rico

UNDERGRADUATE CATALOG



2013-2014

Universidad Metropolitana Undergraduate Catalog 2013-2014

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Our Profile

Universidad Metropolitana is a private post-secondary educational institution and a member of the Ana G. Méndez University System (AGMUS), a non-profit organization. The AGMUS, is governed by a fifteen-member Board of Directors. Five members of the board are permanent and ten are appointed by the Board to four-year terms.

The Executive Officers of the Central Administration are: the President, the Executive Vice-President, the Vice-President for Financial Affairs, the Vice President for Planning, Research, and Academic Affairs, the Vice-President for Administrative Affairs, the Vice-President for Marketing and Student Affairs, and the Vice-President and General Manager for Channel 40. They are selected by the Board of Directors.

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.

History of Universidad Metropolitana

More than six decades ago, three distinguished educators: Ana G. Méndez, Florencio Pagán Cruz, and Alfredo Muñiz Souffront recognized the need for new approaches in education to keep pace with social and economic changes in Puerto Rico. In 1949, they laid the groundwork for the creation of modern, flexible institutions of higher education.

The first of such institutions, Puerto Rico Junior College, opened its doors in 1949. It started with a campus in Río Piedras, and in 1959 moved to new facilities in Cupey. In 1969, the founders organized the Ana G. Méndez Educational Foundation (AGMEF) in order to extend their twenty years of experience in higher education to a broader population. Presently, the Ana G. Mendez University System operates three institutions: Universidad del Turabo (UT), Universidad del Este (UNE), Universidad Metropolitana (UMET), and WMYJ-TV Station Channel 40.

As part of this ongoing development, the Colegio Universitario Metropolitano was established in the Cupey campus in 1980, and became Universidad Metropolitana in 1985, when UMET began to offer the first Master's Degrees in Business Administration and in Education. The first doctoral degree in Education started in 2004.

Vision

Universidad Metropolitana will be recognized globally as a leading higher education institution for its inclusiveness, its excellence and innovation in teaching, outstanding research and community engagement. UMET will be the established leader in environmental affairs and education in Puerto Rico and the Caribbean, promoting policies and best practices for a sustainable and competitive economy.

Mission Statement

Universidad Metropolitana is a private, not for profit higher education institution committed to fulfill a relevant role in the social and economic development of Puerto Rico. Its mission is to provide a diverse student body with opportunities to acquire professional and personal competencies through education, research and community service in order for them to become agents of change, life-long learners and responsible contributors to a globalized and sustainable world.

To fulfill its Mission, UMET:

- Subscribes to a “flexible admissions policy” in order to serve a diverse student body. By “flexible admission”, UMET means the availability of total open access to university level education while maintaining more specific and selective admission criteria in some designated academic areas. Admissions policies are nondiscriminatory to any eligible applicant regardless of age, race, color, national origin, religion, gender, marital status, academic or economic disadvantage, or disability.
- Provides its students with innovative undergraduate, graduate, technical and continuing education programs through different learning modalities in the fields of Social Sciences, Humanities and Communications; Nursing and Allied Health Sciences; Education; Business Administration; Environmental Affairs; and, Sciences and Technology.
- Fosters undergraduate and graduate academic and scientific research as a critical element for the creation of knowledge, as well as to promote innovation and economic development.
- Develops local and international internship opportunities; collaborative alliances; student and faculty exchange programs with other prestigious institutions; and, public engagement and community service in order to enrich the student’s learning experience.
- Believes and commits to the enhancement of the “First Year Students' Experience” as a transition period to university life and to provide an optimal, inclusive environment of learning and support at the beginning of students’ life until graduation.

- Provides students the opportunity to develop a world vision and to become members of pluralistic communities by interacting with people with different backgrounds, cultures, ideas and values.
- Delivers and implements comprehensive curricular and co-curricular initiatives to engage the students in knowledge acquisition for personal and professional growth and life-long learning; and, to become engaged citizens, leaders and active contributors to society.
- Recruits, develops, and retains highly sensitive and qualified faculty members, committed to teaching, academic excellence and the diverse needs of our students.
- Develops and implements strategies and support programs geared to enhance student academic achievement to guarantee their persistence, retention and degree completion within a flexible admissions' policy.
- Implements systematic and ongoing assessment of the learning process in curriculum and co-curriculum, and overall institutional effectiveness in order to provide input for planning and resource allocation in support of the institutional mission.
- Applies the most advanced emerging technologies to enrich the processes of learning, management and student services.
- Fosters an inclusive environment; an atmosphere of academic freedom; intellectual challenge; the necessary resources to enable students' development of high cultural and ethical values; intellectual curiosity; information literacy; critical thinking; communication skills in English and Spanish; team work; leadership and decision-making skills; scientific and quantitative reasoning; and technological competencies necessary for their successful participation in today's Global World.
- Implements innovative learning modalities in order to fulfill its educational mission, including classroom-based courses, as well as distance learning delivery systems to expand higher education options in Puerto Rico and abroad.
- Ensures a campus with adequate, attractive physical and ground facilities; and, a safe environment to guarantee an integral sense of belonging, and professional and personal well being.
- Maintains leadership in the field of environmental affairs and resources preservation, and their sustainable development thus helping solve socioeconomic issues, and contributing to Puerto Rico's global competitiveness.

UMET's Core Values:

- **Excellence** as the maximum aspiration of all teaching, research, creative activities and service endeavors.
- **Freedom** of thought and expression as an indispensable basis in the search and diffusion of knowledge.
- **Respect** for the diversity and dignity of human beings.
- **Integrity** in all dealings as an educational, research and public service entity.
- **Equality** recognizing the value of education as an instrument to provide better opportunities and to fully develop the potential of human beings.
- **Innovation** to constantly guarantee the pertinence and quality of programs and services.
- **Social Responsibility** regarding the needs of the community, the country and the humanity of which we are part.

Licensures and Accreditations

Licensures

Puerto Rico Council of Education

P.O. Box 19900, San Juan, PR 00910-1900

Phone: (787) 724-7100

Regional Accreditation

Middle States Commission on Higher Education

3624 Market Street, Philadelphia, PA 19104

Phone: (215) 662-5606

Specialized Accreditations

Accreditation Commission for Education in Nursing (ACEN)

3343 Peachtree Road NE

Suite 850

Atlanta Georgia 30326

Phone: (404) 975-5000

Accreditation Council for Business Schools and Programs (ACBSP)

11520 West 119th Street

Overland Park, Kansas 66213

Phone: (913) 339-9356

Commission for Independent Education

Florida Department of Education

2650 Apalachee Parkway Suit A

Tallahassee, Florida 32301

Phone: (850) 245-3200

International Association for Continuing Education and Training (IACET)

8405 Greensboro Drive

Suite 800

Mclean, VA 22102

Phone: (703) 506-3275

Memberships

American Association for Adult and Continuing Education
American Association of Collegiate Registrars and Admissions Officers
American Association for Higher Education
American Council on Education
American Library Association
American Physical Plant Association
Asociación de Administradores de Asistencia Económica Estudiantil de Puerto Rico (PRASFAA)
Asociación de Colegios y Universidades Privadas de Puerto Rico (ACUP)
Asociación Universitaria de Programas de Honor de Puerto Rico
Association of Caribbean University and Research Libraries
Association for Educational Communication and Technology
Association of English Departments
College Entrance Examination Board
Communication and Educational Technology Association
Council of Higher Education Accreditation
Council for Continuing Education Units (CEU)
Consortio Recursos Universitarios Sembrando Alianzas de Alerta a las Drogas el Alcohol y la
Violencia en Puerto Rico (CRUSADA)
Hispanic Association of Colleges and Universities (Hets)
International Facility Management Association
Learning Resources Network
Liga Atlética Interuniversitaria (LAI)
Middle States Association of Colleges and School
National Association of Student Financial Aid Administrators (NASFAA)
National Collegiate Honors Council
National League for Nursing
National University Continuing Education Association (NUCEA)
Physical Education and Recreation Association
Puerto Rican Association for Higher Education
Puerto Rico Chamber of Commerce
Puerto Rico e Islas Vírgenes Asociación de Oficiales Certificadores de Veteranos (PRIVAOC)
Puerto Rico Library Association
Puerto Rico Association of Colleges Registrars and Admissions Officers (PRACRAO)
Puerto Rico Association for Professional Counseling
Service members Opportunity Colleges (SOC)
Training for Intervention Procedures (TIPS)
U. S. Environmental Protection Agency (USEPA)

Statement of Policy

The catalog contains the major points of the current agreement between the students and Universidad Metropolitana. Regardless of the date on which the agreement shall become effective, the Institution will maintain its right to admit, re-admit or register a student only for a semester, part-of-term or session, separately. The Institution will also limit its agreement to the semester, part-of-term or session in which the student has properly enrolled and has paid the corresponding fee. Through its academic policies, Universidad Metropolitana ensures students completion of academic programs. The process of closing a program begins with a moratorium that spends over three years prior to final closing. During this period the entire university community and the external community served are informed. Academic offerings are planned according to student's needs to complete program requirements to graduation and final closing of programs. The Associate Vice-chancellorship of Licenses and Accreditation is the unit charged of overseen the implementation of this academic policy.

It is the student's responsibility to know and comply with the instruction expressed herein, which coincide with by-laws and regulations of the Institution, the administrative instructions, and the federal laws on civil rights.

Norms and regulations contained in this document are subject to institutional and/or administrative changes without previous notification.

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Director of the University Center of Jayuya
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**Associate Vice Chancellor for Institutional
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**Associate Vice Chancellor for Student
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**Associate Vice Chancellor Evening and
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**Assistant Vice Chancellor of Student and
Institutional Assessment**
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**Associate Dean, School of Business
Administration**
Dean of the School of Environmental Affairs
Dean of the School of Science and Technology
**Associate Dean, School of Science and
Technology**
Dean of the School of Health Science
Associate Dean of the School of Health Science
Director of the Graduate Program of Nursing
Director, of the Department of Nursing
Director of the Department of Respiratory

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Barbara Ponce, MEd	Associate Dean, Undergraduate Program of Education
Eloísa Gordon, PhD Vacant	Dean of the School of Social Sciences, Humanities and Communication Associate Dean of the Department of Humanities
Mariveliz Cabán, PhD	Associate Dean of the Department of Social Sciences
Yomarie García, MA	Associate Dean, Department of Communications
Vilmania Mambrú, PhD	Director of the Graduate Programs of Social Sciences and Humanities
Laura Aponte, MBA	Acting Dean of School of Technical Studies

Ana G. Méndez University System Schools

Mildred Rivera Cordero, MBA	Dean School of Professional Studies
Melissa Guilliani, MBA	Associate Dean, School of Professional Studies
Keila Roche, MEd	Associate Dean in Academic Affairs

School of Continuing Education

Carlos F. Rosado, EdD	Assistant Vice President and Dean
Lorna Martínez, MA	Associate Dean

Admission Requirements

General Admission

The following are the general admission requirements:

- Graduation 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 that certifies the equivalency of a high school degree.
- Applicants should submit College Entrance Examination Board (CEEB) scores. This is not required for applicant's ages twenty-five (25) or older.
- Health vaccination certification for applicants younger than twenty-one (21) years.
- Non-refundable application fee (\$15.00).

Eligibility Index

A grade point average of 2.00 for most degree programs is needed, but some specific associate or bachelor degree programs require other specific requirements. (Below is a list of some programs)

****Note: See the School section of this catalog for other programs and their admissions requirements.***

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.
- Enclose the non-refundable application fee (\$15.00).
- Submit College Entrance Examination Board results if applicant is under the age of 25 years old.
- Applicants for the Health Sciences, Hospitality or Culinary Arts Programs are also required to submit a Health Certificate.
- 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 urged to submit all the required 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 year (summer sessions will not be considered) and wishes to continue studying. The student must meet the academic requirements established in the Institution.

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 Universidad Metropolitana's by-laws, rules and regulations.

Procedure for readmissions

- Submit an application for readmission.
- Enclose a non-refundable \$15.00 readmission fee.

Transfer Students

A transfer student is an active or former student of an accredited, post-secondary institution.

Requirements for Transfer

- Passing grades in at least twelve credits from an accredited post-secondary institution.
- Cumulative grade point average equivalent to the retention index.
- A letter of recommendation from the Dean of Student Affairs of the last institution where the applicant studied.
- Comply with the admission requirements for transfer as established by his/her program of choice.
- Compliance with all Universidad Metropolitanas' by-laws, rules and regulations.
- 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.
- Enclose payment of a transfer fee of \$15.00. This is non-refundable.
- 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 having a Bachelor's Degree who wish to take courses to fulfill a professional requirement or complete another Bachelor's Degree may apply as Special Students. The following documents must be submitted with the application form:

- Official transcript with certification of the degree obtained.
- Admission fee of \$15.00 payable to Universidad Metropolitana.
- Compliance with all Universidad Metropolitana's by-laws, rules and regulations.

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 Transitory Student

- Submit an application for admission.
- Enclose payment of an application fee of \$15.00. This fee is non-refundable.
- 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

Foreign and International Students that apply as new students must submit the following documents:

- High School official transcript.
- An official certificate of High School equivalence from the Department of Education of Puerto Rico.
- College Entrance Examination Board scores (CEEB).
- Form I-134, stating the financial support, provided by the Admissions Office. (this only applies to non residents)
- Student Visa (F1) approved, card that indicates the classification that has permits the Foreign or International Student to study.
- Admission fee of \$15.00 payable to Universidad Metropolitana.

Foreign Students applying as transfer students must bring the following documents:

- Official transcript of last recent studies. In case of a foreign University an official credential evaluation by an approved agency is required.
- A copy of the Catalog of the University last attended, if necessary.
- Form I-134, stating the financial support, provided by the Admissions Office. (this only applies to non residents)
- Evidence of Visa (F1), Card of permanent resident or evidence of card that indicates that the classification allows the Foreign or International Student to study.
- Admission fee of \$15.00 payable to Universidad Metropolitana.

*The student has 45 days to deliver the credit transcript, if the students do not comply with this term, their registration will be cancelled.

Rights Reserved:

The Universidad Metropolitana 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

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 examine regularly the bulletin boards in the different buildings of the Institution in order to be informed of official announcements.

Admissions Policy

The two main objectives of the Universidad Metropolitana 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.

Academic Information**Registration and Other Related Procedures**

The Office of the Vice Chancellor of Student Affairs determines the registration procedure, and no program of study is valid without the approval of this administrative officer. The Office of the Registrar in coordination with the Office of the Vice Chancellor of Enrollment Management 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, as well as submitting or mailing the grade reports to students.

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. Accompanying this statement, the student will receive a registration schedule with the date and hour assigned to them.

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.

Changes in class programs will only be allowed with the written recommendation of the student coordinators, deans, or other academic representatives. The academic representatives approve the changes in class programs based on the existing requirements. 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 particular continuation course.

Late Registration

Late registration will be 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.

After the period allowed for registration, all courses will become a permanent part of the student's record. Students may ask the Registrar to cancel their registration by filling the appropriate cancellation request forms and submitting them to the Office of the Registrar or the Office of the Vice Chancellor of Student Affairs before the end of the late registration period.

Reallocation of Students

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

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.

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:

A. By credit hours enrolled

1. **Full-time Students**-those who have fulfilled the admission requirements of the Institution and are carrying twelve or more credit hours per semester in a program leading to a degree.
2. **Part-time Students**-those who have fulfilled the admission requirements of the Institution and are carrying less than twelve credit hours per semester in a program leading to a degree.

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.

C. By grade point average (See Student Academic Status' section)

1. Students No Progress
2. Students on Academic Suspension
3. Honor Students

D. By type of admission

1. **Special Students** - Those students who come to the Institution with a written authorization from the Institution they attend as regular students, or any other student who enrolls in a course not leading to a degree or a professional certificate.
2. **Readmission Students** - Those students who have interrupted their studies for at least one semester, and wish to continue studying.
3. **Transfer Students** – Those active or former students of an accredited post-secondary Institution.

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 degree program. These types of re-classifications are authorized

as long as 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. However, the Institution discourages professional students and will reserve the right to admit, readmit or register any student in any semester, part-of-term session or class. For the same reasons, the Institution reserves the right to suspend a student temporarily or permanently.

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 in order 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

- Total or partial withdrawals are allowed during a regular semester, part-of-term, or summer session as specified in the academic calendar.
- Any student who is officially registered, and completes the required procedure for withdrawal, will receive a withdrawal **(W)** grade.
- Any student, who fails to complete the required procedure for dropping a course before the stipulated date and whose absences exceed the maximum allowed, will receive a withdrawal failure **(WF)**.
- Total withdrawal is allowed at any moment before the date stipulated in the academic calendar of the semester, part-of-term, or summer session.
- 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, before the final examinations begin.
- The institution reserves the right to require a student to withdraw from any course or from the Institution, for any of the following reasons:

- a. Possibility of hazard to the health of the student or that of other students, if enrollment were continued.
- b. Refusal to obey regulations or serious misconduct on the part of the student.

Census

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.

A census is made during the first weeks of each part of term to determine whether the student attended at least once during the period of enrollment.

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. These partial grades may consist of tests or any other kind of evaluation activity chosen 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 particular 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 a part-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 90 – 100 - 4 excellent
B 80 – 89 - 3 good
C 70 – 79 - 2 satisfactory
D 60 – 69 - 1 deficient
F 0 – 59 - 0 failure (no grade credit)

In special cases the following grading system will be used:

W Withdrawal

WN Withdrawal No Show (no grade points)

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

IB, IC, ID, IF Incomplete work.

Student 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.

WA Administrative withdrawal. Processed by the Vice Chancellor of Student Affairs

P Pass

NP Non passed

I or E Repeated Course, reflected in the transcript as included or excluded for grade point average

T Transfer course

AU Audit Course

NR Non Reported Grade by professor

W indicates a withdrawal from a course with the official approval of the Office of the Registrar.

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 *Student Assistance Register* by the professor.

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

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.

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 first 20 days of the subsequent semester or summer session. The professor has the responsibility of removing all Incompletes. The Dean or Associate Dean of the School or the Director or Coordinator of Academic Affairs of the Off-Campus University Center, 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 UMET will be the only ones used to compute the student's grade point average.

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 from the Registrar's Office at the end of each part of term through *MiUMET*, students on line 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.

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.

Standards for Satisfactory Academic Progress

The purpose of the Standards for Satisfactory Academic Progress is to evaluate that the students approve the credits percentage required, with an accumulated academic index equal or higher to the retention index, according to their program of studies. It also establishes a formal process through which students that are encountering academic difficulties can be identified and the necessary help can be provided.

The student has a right to appeal the Institution's determination regarding his/her status if the student understands that there is academic progress and that the Institution's determination is due to an administrative error or that, during the academic year, a critical situation existed that prevented him/her from obtaining satisfactory academic progress as established by the Institution.

Student Academic Status

There will be four types of students based on the cumulative academic grade point average: honor students, students in progress, students on academic probation, and students on academic suspension.

- **Honor Students** - Those students carrying not less than twelve credit hours with a grade point average of 3.50 or more and who fulfill the requirements of the Vice Chancellor of Student Affairs.
 - a. The Vice Chancellor of Student Affairs will announce the names of all honor students, the School to which they belong, their status, and their area of major.
 - b. Honor students are eligible to serve as tutors and as assistants to faculty members.
- **Students in Progress** - Those whose grade point average is equal to or greater than the minimum retention grade point average.
- **Students in No Progress** - Those students with a grade point average, earned credit hours, or both, below the standards of the Progress Academic Rule for this category.
- **Students on Academic Suspension** - Those students who have been on extended academic probation and not been able to overcome their academic deficiencies.

Student Suspension for Academic Reasons

Students who fail to meet the academic standards are subject to suspension from UMET for one (1) academic year. The student has the right to study one academic year on probation.

Academic Probation

A suspended student may qualify for academic probation if recommended by the Satisfactory Academic Progress Appeals Committee, upon completion of the following procedure:

- Submit a written request to the Vice Chancellor of Student Affairs who will refer it for probation to the Satisfactory Academic Progress Appeals Committee.
- The Satisfactory Academic Progress Appeals Committee will consider only situations related to student's personal affairs, economic problems or dysfunctions in family relations.

- The probation period will last two semesters.
- Students who do not reach the minimum academic average for retention during the probationary period will be suspended. If the student is placed on a second probationary period and again does not meet the minimum academic average for retention, he will be permanently suspended.
- Veteran students and beneficiaries who were suspended from UMET due to failure to meet the academic standards; and qualify for academic probation, the benefits should remain suspended as well.

The decisions reached by the Satisfactory Academic Progress Appeals Committee will be put in writing and will be final.

Minimum Grade Average Required by Earned Credits

- Readmission to UMET will be based on the norms established by the Institution.
- The Satisfactory Academic Progress Appeals Committee must approve readmission to UMET. As condition for readmission, the student must reach the minimum grade point average required, based on the number of credits in a term of two academic semesters: Otherwise, the student will be dismissed for a period of one academic year. If the student is suspended for a second time he will be permanently dismissed.
- Universidad Metropolitana will not give credit for courses taken by the students at other institutions during the time of their suspension.
- Students dismissed for academic deficiency cannot be registered.

Required Credits and Retention Index per Program

Definitions

- **Attempted Credits** - the number of credits of all registered courses, independently of the grades received. This includes accepted transfer credits.
- **Approved Credits** – the number of credits of all courses in which the grades of A, B, C, D, or P, including transfer credits, are obtained.

The students should approve the courses according to the Standard of Academic Progress for the type of academic program in which the student is enrolled: Certificate, associate and bachelor degrees according to the number of accumulated credits and the accumulative academic grade point average, as established in the *Table of Required Credits and Retention Index per Program*. Students will be able to view these requirements in ***the Academic Norms and Administrative Procedures Handbook***, located at the web site: www.suagm.edu/UMET under student services.

An example representing each academic program is presented on the next page:

Credits Required and Retention Index per Program

Associate Degree Programs

Associate Degree of 54 credits		
Accumulated Attempted Credits	% Required of Attempted Credits Approved	Retention Index Required
1-15	50%	1.50
16-30	54%	1.65
31-45	58%	1.75
46-60	62%	2.00
61-81	67%	2.00

Associate Degree of 60 credits		
Accumulated Attempted Credits	% Required of Attempted Credits Approved	Retention Index Required
1-16	50%	1.50
17-32	54%	1.65
33-48	58%	1.75
49-63	62%	1.90
64-80	64%	2.00
81-90	67%	2.00

Associate Degree of 63 credits		
Accumulated Attempted Credits	% Required of Attempted Credits Approved	Retention Index Required
1-16	50%	1.50

17-32	54%	1.65
33-48	58%	1.75
49-63	62%	1.90
64-80	64%	2.00
81-95	67%	2.00

Associate Degree of 64 credits		
Accumulated Attempted Credits	% Required of Attempted Credits Approved	Retention Index Required
1-16	50%	1.50
17-32	54%	1.65
33-48	58%	1.75
49-63	62%	1.90
64-80	64%	2.00
81-96	67%	2.00

Associate Degree of 65 credits		
Accumulated Attempted Credits	% Required of Attempted Credits Approved	Retention Index Required
1-16	50%	1.50
17-32	54%	1.65
33-48	58%	1.75
49-63	62%	1.90
64-80	64%	2.00
81-98	67%	2.00

Associate Degree of 66 credits		
Accumulated Attempted Credits	% Required of Attempted Credits Approved	Retention Index Required
1-16	50%	1.50
17-32	54%	1.65
33-48	58%	1.75
49-63	62%	1.90
64-80	64%	2.00
81-99	67%	2.00

Associate Degree of 68 credits		
Accumulated Attempted Credits	% Required of Attempted Credits Approved	Retention Index Required
1-17	50%	1.50
18-34	54%	1.65
35-51	58%	1.75
52-68	62%	1.90
69-85	64%	2.00
86-102	67%	2.00

Associate Degree of 69 credits		
Accumulated Attempted Credits	% Required of Attempted Credits Approved	Retention Index Required
1-17	50%	1.50
18-34	54%	1.65
35-51	58%	1.75

52-68	62%	1.90
69-85	64%	2.00
86-104	67%	2.00

Associate Degree of 70 credits		
Accumulated Attempted Credits	% Required of Attempted Credits Approved	Retention Index Required
1-18	50%	1.50
19-36	54%	1.65
37-54	58%	1.75
55-72	62%	1.90
73-90	64%	2.00
91-105	67%	2.00

Associate Degree of 71 credits		
Accumulated Attempted Credits	% Required of Attempted Credits Approved	Retention Index Required
1-18	50%	1.50
19-36	54%	1.65
37-54	58%	1.75
55-72	62%	1.90
73-90	64%	2.00
91-107	67%	2.00

Associate Degree of 73 credits		
Accumulated Attempted Credits	% Required of Attempted Credits Approved	Retention Index Required
1-18	50%	1.50
19-36	54%	1.65
37-54	58%	1.75
55-72	62%	1.90
73-90	64%	2.00
91-110	67%	2.00

Associate Degree of 74 credits		
Accumulated Attempted Credits	% Required of Attempted Credits Approved	Retention Index Required
1-18	50%	1.50
19-36	54%	1.65
37-54	58%	1.75
55-72	62%	1.90
73-90	64%	2.00
91-111	67%	2.00

Associate Degree of 75 credits		
Accumulated Attempted Credits	% Required of Attempted Credits Approved	Retention Index Required
1-21	50%	1.50
22-42	54%	1.65
43-63	58%	1.75

64-83	62%	1.90
84-100	64%	2.00
101-113	67%	2.00

Associate Degree of 76 credits

Accumulated Attempted Credits	% Required of Attempted Credits Approved	Retention Index Required
1-21	50%	1.50
22-42	54%	1.65
43-63	58%	1.75
64-83	62%	1.90
84-100	64%	2.00
101-114	67%	2.00

Associate Degree of 77 credits

Accumulated Attempted Credits	% Required of Attempted Credits Approved	Retention Index Required
1-21	50%	1.50
22-42	54%	1.65
43-63	58%	1.75
64-83	62%	1.90
84-100	64%	2.00
101-116	67%	2.00

Associate Degree of 78 credits		
Accumulated Attempted Credits	% Required of Attempted Credits Approved	Retention Index Required
1-21	50%	1.50
22-42	54%	1.65
43-63	58%	1.75
64-83	62%	1.90
84-100	64%	2.00
101-117	67%	2.00

Associate Degree of 81 credits		
Accumulated Attempted Credits	% Required of Attempted Credits Approved	Retention Index Required
1-21	50%	1.50
22-42	54%	1.65
43-63	58%	1.75
64-84	62%	1.90
84-105	64%	2.00
106-122	67%	2.00

Associate Degree of 83 credits		
Accumulated Attempted Credits	% Required of Attempted Credits Approved	Retention Index Required
1-21	50%	1.50
22-42	54%	1.65

43-63	58%	1.75
64-84	62%	1.90
85-105	64%	2.00
106-125	67%	2.00

Associate Degree of 84 credits		
Accumulated Attempted Credits	% Required of Attempted Credits Approved	Retention Index Required
1-21	50%	1.50
22-42	54%	1.65
43-63	58%	1.75
64-84	62%	1.90
85-105	64%	2.00
106-126	67%	2.00

Bachelor Degree Programs

Bachelor of 114 credits		
Accumulated Attempted Credits	% Required of Attempted Credits Approved	Retention Index Required
1-26	50%	1.50
27-52	53%	1.60
53-78	56%	1.70
79-104	59%	1.80
105-130	62%	1.90
131-151	65%	2.00
157-171	67%	2.00

Bachelor of 116 credits		
Accumulated Attempted Credits	% Required of Attempted Credits Approved	Retention Index Required
1-26	50%	1.50
27-52	53%	1.60
53-78	56%	1.70
79-104	59%	1.80
105-130	62%	1.90
131-151	65%	2.00
157-174	67%	2.00

Bachelor of 117 credits		
Accumulated Attempted Credits	% Required of Attempted Credits Approved	Retention Index Required
1-26	50%	1.50
27-52	53%	1.60
53-78	56%	1.70
79-104	59%	1.80
105-130	62%	1.90
131-151	65%	2.00
157-176	67%	2.00

Bachelor of 119 credits		
Accumulated Attempted Credits	% Required of Attempted Credits Approved	Retention Index Required
1-26	50%	1.50

27-52	53%	1.60
53-78	56%	1.70
79-104	59%	1.80
105-130	62%	1.90
131-151	65%	2.00
157-179	67%	2.00

Bachelor of 120 credits		
Accumulated Attempted Credits	% Required of Attempted Credits Approved	Retention Index Required
1-26	50%	1.50
27-52	53%	1.60
53-78	56%	1.70
79-104	59%	1.80
105-130	62%	1.90
131-156	65%	2.00
157-180	67%	2.00

Bachelor of 121 credits		
Accumulated Attempted Credits	% Required of Attempted Credits Approved	Retention Index Required
1-26	50%	1.50
27-52	54%	1.60
53-78	56%	1.70
79-104	59%	1.80
105-130	62%	1.90
131-156	65%	2.00

157-182	67%	2.00
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Bachelor of 122 credits

Accumulated Attempted Credits	% Required of Attempted Credits Approved	Retention Index Required
1-26	50%	1.50
27-52	53%	1.60
53-78	56%	1.70
79-104	59%	1.80
105-130	62%	1.90
131-157	65%	2.00
158-183	67%	2.00

Bachelor of 123 credits

Accumulated Attempted Credits	% Required of Attempted Credits Approved	Retention Index Required
1-26	50%	1.50
27-52	53%	1.60
53-78	56%	1.70
79-104	59%	1.80
105-130	62%	1.90
131-156	65%	2.00
157-185	67%	2.00

Bachelor of 124 credits

Accumulated Attempted Credits	% Required of Attempted Credits Approved	Retention Index Required
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1-27	50%	1.50
28-54	53%	1.60
55-81	56%	1.70
82-108	59%	1.80
109-135	62%	1.90
136-162	65%	2.00
163-186	67%	2.00

Bachelor of 125 credits		
Accumulated Attempted Credits	% Required of Attempted Credits Approved	Retention Index Required
1-27	50%	1.50
28-54	53%	1.60
55-81	56%	1.70
82-108	59%	1.80
109-135	62%	1.90
136-162	65%	2.00
163-188	67%	2.00

Bachelor of 126 credits		
Accumulated Attempted Credits	% Required of Attempted Credits Approved	Retention Index Required
1-27	50%	1.50
28-54	53%	1.60
55-81	56%	1.70
82-108	59%	1.80
109-135	62%	1.90

136-162	65%	2.00
163-189	67%	2.00

Veterans and their Beneficiaries Services

The Veteran’s Services, located at the Registrar’s Office is primarily directed toward the motivation of veterans and their dependents in order that they may effectively exercise their rights to an education.

They are helped in the completion and processing of required documents for the purpose of establishing eligibility, certification of service, and academic progress.

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. Therefore, **Academic Progress Norms** do not apply to veterans and their beneficiaries, who need to maintain a retention index of 2.00 when the 100% of the program is completed. The veterans and their beneficiaries should follow the program sequence which is distributed by academic year. The following examples show time/length of various programs: Certificate program of 36 credits is 1 and half years; Associate degree program of 73 credits is 2 and half years; Bachelor degree program of 121 credits is 4 years. 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. Veterans should be evaluated utilizing both Veteran’s Benefits and Pell Grant criteria, if they are beneficiaries of these.

Graduation Requirements

The student usually graduates from the Universidad Metropolitana 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 Coordinator of Student Services for a progress evaluation of his academic program yearly.

To receive a degree from the Universidad Metropolitana, 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 2.00 (C) or higher or as required in their program of studies. Students

receiving associate or bachelor degrees with a grade point average ranging from 3.50 to 3.70 will graduate with honors *Cum Laude*, and those within the 3.71 to 3.94 range will graduate with honors *Magna Cum Laude*, and those with a grade point average ranging from 3.95 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 at the end of the first or second summer session or at the end of the first semester (August-December) should apply to the Registrar's Office for a certified statement showing that they have completed the requirements of their respective programs of study.

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 Universidad Metropolitana 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 U.S.C.S. 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: (I) Directory Information Records, (2) LIMITED ACCESS RECORDS.

(1.) Directory Information, which may be made public, includes the student's name, last known address, telephone number, date and place of birth, major field of study, 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 Vice Chancellor 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 may 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.

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.

- 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.

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

Office of the Vice Chancellor of Student Affairs

The Vice Chancellor of Student Affairs is the person responsible for planning, coordinating, developing, and maintaining the system of services, which the institution offers its student body. These services respond to the academic, vocational, social and human resource needs of students and are offered by well-prepared, responsible, and committed professionals. The following offices provide student services:

Admissions and Marketing	Sports Program
Registrar	Quality of Life and Students’ Wellness
Social and Cultural Activities	Student Associations Program
Guidance and Counseling	Bursar
Student Support Services	Program Financial Aid
Health Services	

Quality of Life and Students’ Wellness

The dramatic changes of the dynamic society are also reflected in our students’ population. The needs of the younger students, the adult student who is coming back to the university and the special populations, are continuously assessed in order to offer them relevant services.

Quality of Life and Students’ Wellness focuses its services and projects on the new paradigms: integral human development, prevention and pro-active educational strategies to develop special skills for life and career.

The main objectives are geared to enhance the student self-esteem, help them achieve self-knowledge, help them learn and develop skills for decision making and conflict resolution, to develop leaderships skills and to assume responsibility with themselves and their community.

Specials projects are established according to students’ assessment and in coordination with the university community resources; to promote healthy lifestyles as well as to prevent academic failures or withdrawals, and personal risky behaviors.

The program emphasizes outreach and pro-active stance in the delivery of services. The services include: individual and group personal counseling, crises management, consultation, personalization and humanization of campus environment searching for the quality of students

life, establishment of self helps groups, enhancement of leadership skills, follow up, referrals and others. Professional counselors offer all services. Among the services are:

- Personal, academic, vocational and occupational counseling.
- Workshops and seminars according to the student needs.
- Psychological services.
- Career center - coordinate workshops and activities related with career life planning. Students can explore careers develop goals and identify employment opportunities.
- Placement services - refer students who are seeking part-time job so they can have career related work experience and supplement their economic needs.

Student Support Services Program

The Student Support Services Program at Universidad Metropolitana provides an integrated gamma of academic and counseling services to over 400 UMET students a year that meet the eligibility criteria established by federal law for participation in this program.

The United States Department of Education Grant Award permits the Program to offer personal, academic and career counseling; and academic support such as tutoring in all subject areas, special tutoring for disabled students and socio-cultural and career oriented off-campus activities; concerts, and conferences.

To qualify as a program participant, a student must be an American citizen or resident alien, have obtained final admission to the school, be the first generation of his family to graduate with a baccalaureate degree, be of low income and/or have a documented disability. Certain documentation may request of those students interested in becoming program participants.

Health Services

First aid and medical services are offered at the Health Services Office of the Institution. In the event of an emergency or illness, the student should report to the Health Services Office to receive first-aid.

The Health Services Office offers preventive medicine and medical materials, free of charge, for all students. The nurse and or doctor provide information on a variety of health related topics which includes medical clinic sessions as well as personal health care education

In case of an emergency, an ambulance from the metropolitan area will be called and the student will be taken to a local hospital. This same procedure will be followed in the Off-campus sites.

The Off-campus sites do not have nurses, therefore, the services of an ambulance are provided to them in case of an emergency free of charge.

Social and Cultural Activities

The Social and Cultural Activities Program gives the students, the faculty and the community an opportunity to watch films and theatrical performances, attend concerts, shows, lectures, workshops and seminars.

Participation in these activities is open to all interested persons and it aims at developing attitudes, values, sensibility towards art and good citizenship.

Sports Program

The Athletic program is geared to the promotion and active participation of students in all sports activities. It is a fundamental component of the students' life in our Institution, which aims at contributing to the physical and mental growth and well-being of its students.

The Sports Complex provides to the students and community recreational and athletic activities to promote physical well-being such as: swimming lessons, aerobics, athletic therapy and gym membership. The institution has a bus that provides free transportation to and from Main Campus and the Complex for the university community.

The Sports and Recreation Program offers intramural and extramural activities. Through this program, students are encouraged to get involved in extracurricular activities that help to enhance their development and quality of life.

The Intramural Component sponsors tournaments and competitions in the following sports: basketball, volleyball, tennis, cross-country, table tennis, and chess, among others. In addition, the program includes other physical fitness and recreational activities such as aerobic exercise, sports exhibitions, and invitational tournaments.

The extramural program organizes teams for men and women in the following sports: basketball, volleyball, softball, table tennis, chess, tennis, cross country, track and field, weight lifting, and baseball.

The teams participate in intercollegiate activities, organized by the LAI (Liga Atlética Interuniversitaria) and compete with other universities in Puerto Rico.

Bookstore

The Universidad Metropolitana has a bookstore where textbooks, reading materials requested by the faculty, school and office supplies, and other personal supplies are available.

Student Activities

Universidad Metropolitana offers students the opportunity for social, cultural and athletic programs in order to develop leadership, responsibility and initiative.

All students are urged to join the clubs and organizations that most correspond to their needs and interests.

Student Associations

All student organizations must be recognized and approved by the Office of the Vice Chancellor of Student Affairs. Any group consisting of ten or more regular students may organize and apply for official recognition of its organization.

Interested students should request an application from the Office of the Vice Chancellor of Students Affairs. The purpose of the organization and the name of the advisor should be stated. Each group or club has an adviser who counsels its members and helps to promote the activities of the group.

Participation in student associations fosters leadership by developing mutual understanding and respect for social and human values.

Through students' participation in organizations, they have the opportunity to collaborate in the Institution plans and development. Also, the students develop their own leadership skills and help enhance the students' quality of life in the Institutional setting.

Student Council

There is a Student Council which meets monthly and has, among others, the following functions: to represent the student body, make recommendations to the Vice Chancellor of Student Affairs, participate in various committees, serve as liaison between students, professors and the administration, and to promote the general well-being of the Institution.

There is a Student Government Assembly that guarantees student participation in the life of the Institution. Delegates to this organization are student body representatives and must be elected responsibly.

Delegates must be regular students who are in compliance with institutional regulations and Academic Progress Norms. They must attend and participate in meetings of campus and must establish relationships among faculty, administration and students of their corresponding sections. The Vice Chancellor of Student Affairs supervises campus delegate meetings. Delegates must provide for the discussion of those matters pertaining to their particular campus and must acquaint themselves with administrative standards and procedures that are related to the needs and problems that affect students' welfare.

Important Note:

All students' activities and student organizations mentioned above must be governed by the student regulations and other institution's standards. Failure to comply with existing rules and regulations will incur disciplinary measures and/or penalties, accordingly.

Disciplinary Regulations

Universidad Metropolitana's has approved disciplinary rules and regulations that were ratified by the Ana G. Mendez University System Board of Directors.

The students at Universidad Metropolitana are expected to honor, obey and respect these rules and regulations in all their ramifications. These principles, rules and regulations are clearly stated in the Institutions by-laws, the Student Handbook, and in the other regular or periodic publications of the Administration.

Vocational Rehabilitation Program

The Department of Labor in coordination with the AGMUS provides the services of the Vocational Rehabilitation Program.

Students with any physical or mental condition that substantially limits their capabilities to achieve their vocational goals are eligible to receive the services of a vocational rehabilitation counselor.

Services include: medical evaluations to determine the rehabilitation potential, physical restoration to minimize the limitations caused by the handicap, student registration, interpreters, readers, tutorial services, books, transportation, and monthly stipends, among others. The vocational rehabilitation counselor also offers personal and career development counseling.

The services include the coordination of other services such as access to classrooms, parking permits, library services, and consultation with faculty members.

The program also helps students in the process of job searching and job placement.

Important Note:

Due to the importance of the Disciplinary Regulations each student is required to commit himself to read and become familiar with the Student's Handbook contents, Student's Regulations, and Academic Norms and Administrative Procedures Handbook. These requirements cannot be waved or omitted under any circumstances. These documents are available at the institutions web site: www.suagm.edu/UMET under the heading student services.

Student Financial Aid

The mission of the Student Financial Aid Program is to provide students financial aid assistance to financial their studies according to the criteria of financial need, federal, state and institutional regulations.

Our Student Financial Aid Program operates under the basic principle that the primary responsibility of financing higher education is of the family. Therefore, the majority of the funds are offered under the economic criterion of need. The objectives of providing a fair distribution of the financial resources are in agreement 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 permits 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

This grant helps undergraduate students to pay for their postsecondary education and students must be enrolled at least on three credits to receive the benefit. For the academic year 2013-2014 the maximum annual award is \$5,645 and the student must meet the eligibility requirements of the program.

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.

State Student Incentive Grant (SSIG)

The Council of Education of Puerto Rico (CEPR) manages this program. The institution participating in this program must submit the candidates to the CEPR and after the qualifying is made, the institution receives the fund for those students.

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” the government pays the interest while you are in school; for “Unsubsidized Direct” you are 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)

“PLUS” loans are borrowed by parents for dependent students or graduated students. The interest rate is fixed, with a cap of 9%. Repayment begins 60 days after the first disbursement.

Work and Study Program

Federal Work-Study Program (FWSP)

A program, that requires the student work a maximum of 80 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 talented high school students an opportunity to pursue their college education at UMET. Candidates will be evaluated based on high school GPA and CEEB scores.

Its main objectives are:

- Identify academically talented and economically disadvantaged students interested in pursuing a Bachelor’s degree.
- Facilitated academically talented student’s access to a high quality college education.
- Provide the necessary conditions to help these students develop their talents and capabilities to their full potential.

How to Apply for Financial Aid

Financial Aid is awarded annually so 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.gov. The amount of financial aid may vary each year according to your need, the type of aid you are eligible, your academic performance, available funding and other requirements.

Eligibility Requirements

In order 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 non 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 (required for male students).
- Be enrolled at least half-time except for the Federal Pell Grant, which allows less-than-half-time enrollment.
- Not receive a Bachelor's Degree for Pell and FSEOG.
- Provide documentation of any information requested by the Office of 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, which specifically governs access to records maintained by institutions to which funds are made available under any Federal program for which the U.S. Commission of Education has administrative responsibility, and the release of such records provided that such institutions must furnish parents of students access to official records directly related to the students and an opportunity for a hearing to challenge such records on the ground that they are inaccurate, misleading or otherwise inappropriate; that 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.

Refunds and Adjustments for Active and New Students

Refund Policy

A. Total Withdrawal

Students that totally withdraw from their classes during or before completing 60% of the academic term, will be charged or refunded if applicable, according to the formula* that guides this policy. The formula determines the balance due to the Institution and the corresponding reimbursement, if applicable. Total withdrawal after this period, will make the student responsible for 100% of the term cost.

The amount due or to be reimbursed is determined by dividing the number of days from the beginning of the term up to the total withdrawal date, by the number of days in the corresponding academic term, the percentage will be multiplied by the total cost paid for the term.

Student that submits a completed total withdrawal from within the academic term will be refunded according to the following formula:

$$\frac{\text{Total of days to the application dates}}{\text{Total of days of the academic term}} = \% (x) \text{ Enrollment} = \text{Debit balance Total cost}$$

This formula does apply to general fees. All institutional breaks of five days or more will be deducted from the calculation of the total days in the academic term. Financial aid from federal, state or institutional programs accredited to the student's account that is not used, will be reimbursed to the original program or to the student, as it corresponds. The amount will depend on the total withdrawal date.

Institutional recess of five or more working days will be subtracted from the number of days used to determine the period of study.

Note: This policy was made in compliance with the dispositions that rule Title IV Financial Aid programs.

B. Partial Withdrawal

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

C. Non Attendance

Students who do not attend their registered courses will be marked N/A by the professors, 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.

Adjustments and Refunds

Adjustment and refunds will be made in the event of total withdrawal. A student who made a total withdrawal during the first ten (10) days of classes during the regular semester and the first two (2) days of the summer session will receive a credit of two thirds (88%) of the total cost per credit withdrawn.

During the period of reallocation of students due to eliminated sections, all the students who can make adjustments have the authorization of the Treasurer's Office. Tuition paid for with financial aid is not eligible for refund.

Tuition, Fees, and Related Information*

Once a year the Vice-presidency for Financial Affairs publishes a circular letter with information about tuition costs for all academic programs and other fees for all institutional services. This circular letter is available at the Bursar's Office.

Average Annual Tuition and Fees \$5,660

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

Regular Programs	\$ 195.00
Special Programs	\$ 200.00
Certificate Programs	\$ 171.00

In addition, the institution has a general fee of \$450.00 per semester. Costs are subject to change from one academic year to the next.

Construction	\$300.00
Technology	\$ 75.00
Services	\$ 45.00
Parking	\$ 20.00
Library	\$ 7.00
Insurance	\$ 3.00

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 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. ****All tuition, general fees and service charges are subject to change during the life-term of this catalog (2013- 2014).***

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 \$150.00 that may be paid through a SUAGM's payment plan.

Invoices

The Bursar's Office will mail two invoices during the regular semester. The approximate dates for the mailing of such invoices are: September 30, November 15, February 28, and April 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.

Library

The Universidad Metropolitana library provides quality information services, which include resources that can be accessed remotely or in-person with the aid of competent personnel. The library is located in an attractive and modern facility. The automated system provides access to information resources in three branch libraries as well as the campus centers of the Ana G. Méndez University System.

From the Library Portal, <http://bibliotecaumet.suagm.edu>, you can obtain information from the available print resources, as well the available digital resources.

Information resources are provided in print and non-print formats that range from traditional books and periodicals to multimedia materials, and online electronic resources.

The library also offers a range of services which provide the skills needed for the effective use of the information resources that are offered, such as, Virtual Reference Services, Library Skills Program, Faculty Liaison Program, and Help and Tutorial Guides.

Users at the library can depend on the technology that provides Wi-Fi connection to the Internet from within the facility or the surrounding campus.

Center for the Access to Information Resources (CARI)

Provides access to audiovisual materials and the necessary equipment to view videos, DVD's, and televised courses that have been produced by the SEDUE program.

Center for Environmental Information in the Caribbean (CIAC)

This collection is specialized in environmental resources that include environmental planning, conservation of natural resources, environmental risk management, and environmental education.

Circulation

The main service point that provides general and specialized books that can be borrowed by library users.

Reserve

Include resources that have been identified in the course outline, such as textbooks and other information resources that are placed by faculty members for specific courses.

Reference

Provides specialized and basic reference sources that can be found in dictionaries, encyclopedias biographies, yearbooks, atlas, and government documents. Assists with library instruction and the use of electronic resources.

Olga Nolla Puertorrican Collection

This area is composed of the Olga Nolla Collection, the Eugenio Fernández Collection, the Puertorrican Collection, and the Information File. The Olga Nolla Puertorrican Collection has resources in a variety of formats that range from print formats (books and periodicals) to government documents, multimedia, digital resources and newspaper clippings that can be found in the Information File. The collection also harbors the theses that have been submitted by the graduate students at the University.

Collection Development

This unit is responsible for all the procedures that pertain to collection development, such as, selection, acquisition, receiving, cataloguing, labeling, distribution, bookbinding, and the weeding of library bibliographic resources.

The service is offered: Monday –Friday	7:30 am – 10:00 pm
Saturday	8:00 am – 5:00 pm
Sunday	12:00 m – 4:00 pm

Associate Vice-Chancellor for Retention & Student Development

The Associate Vice-Chancellor for Retention & Student Development office, develops, promotes and facilitates adjustment to university life all the way through the transition of the students up to becoming graduation candidates. This office fosters interaction among students, faculty and staff to provide the academic and personal support necessary for students to complete degree requirements. The following services are provided.

Center for the Evaluation, Diagnosis and Placement of First Year Students

The Center gathers information about the skills of the students at the beginning of their academic experience. A placement test in Mathematics, English and Spanish is administered to incoming students that have not taken the College Board Test. The results are utilized in three ways: first, it helps place students in the appropriate course level. Second, it identifies students who require certain developmental skills in languages. Finally, it identifies students who do not possess an adequate threshold in the language and must enroll in an immersion course.

The First-Year Office

The First-Year Office provides a comprehensive introduction to the academic and social environment with a focus on the success and retention of all first-year students. It also provides a wide range of services including orientation and counseling, academic advising, follow-up in the classroom (Early Alert System), enrollment according to the placement of the student, welcoming new students and academic orientation, application of satisfactory academic progress standards, academic evaluations and study plans.

Orientation and Counseling Program

The Professional Orientation and Counseling Program provide students with the experiences for academic, personal and vocational/occupational development. Professional Counseling is offered on an individual or group basis and facilitates student adjustment to the University environment.

Academic Advising Program

The Academic Advising Program is a core component and is set up as the most comprehensive strategy to support students in achieving academic success. Advisors provide an early, continuous, and intensive students' follow-up in order to address all matters of an academic nature.

Academic Monitoring System (Early Alert System Program)

The purpose of the Early Alert System Program is to identify and reach out to students who are experiencing absences in the classroom or academic, learning, behavioral, or personal concerns. The faculty teaching First-Year courses refer students with these difficulties to Professional Counselors and Academic Advisors. The Early Alert System Program is a collaborative effort that enhances academic success and student persistence.

First-Year Induction Program

The purpose for the First-Year Induction Seminar is to develop knowledge, skill techniques and attitudes to facilitate students' transition process throughout their college experience. This Seminar integrates four approaches directed to the achievement of the students' educational goals: strengthening of academic skills and techniques; development of logical and critical thinking as fundamental skills for learning; study of personality traits that are important for students' success; and exploration of vocational and career preferences from a holistic perspective.

Peer Mentoring Program

The Peer Mentor Program plays an integral role in the First-Year Induction Seminar by recruiting highly-skilled undergraduate students to mentor incoming students to the University. They serve as a mentor to students enrolled in the First-Year Induction Seminar by helping them with the transition from high school to university life. In addition to providing support, mentors are also bridge-builders between their first-year mentees and the student service departments across campus.

Faculty Mentoring Program

The Mentoring Program provides support for freshmen students, to positively impact student success, and to enhance student learning. As part of an integrated advising team, a professor is assigned to each participating student to ensure a successful transition to the college environment.

Parents and Family Program

The Parents and Family Program at UMET provides communication between the University and parents of our students in order to support student success, generate goodwill for the University, and promote an appropriate role for parents within the campus community.

The Parent and Family Program, in collaboration with offices and departments throughout the campus, works with parents to help them understand the student experience, support student learning, and empower students to take personal responsibility for their social and academic choices.

Learning Zone (Tutoring Program)

The Tutoring Program is a component of a student support in order to help students be more successful. Through one on one, groups and online tutoring, the student is aided in understanding a concept, clear any doubts from class, and go over techniques needed to complete assignments. During a tutoring session the student works at his or her own pace, style, and sets the level of the lesson. To accomplish this, the tutors task themselves with knowing how to stimulate the students according to their needs through use of various resources, tools, and teaching strategies. This service is available free of charge.

Academic Advising (Upper Division)

The Academic Advising Program at UMET is provided by both professional advisers and faculty advisers. We recognize that quality academic advising is integral to the academic development and well-being of students. Quality academic advising includes both the prescriptive elements of advising such as: assisting with course selection, maintaining curriculum checklists, and tracking degree progress. In the developmental aspects of advising are: major and career decision making, integration in campus and academic cultures, assistance with and referrals surrounding issues affecting a student's academic success.

Associate Vice-Chancellor of Scholarships and Internships

Offers academic and occupational opportunities and honor scholarships to the students of the Universidad Metropolitana. The internships can be done with a private or a public institution in Puerto Rico or abroad. These experiences compliment the academic preparation and promote the students to the workforce.

The program offers orientations about the available internships, the requirements of each program and provides support to the students in the process of applying them. The internships can be substituted for course credits.

Those students that demonstrate a high academic performance and economic need are eligible to apply for Honor Scholarships. This aid includes partial monetary assistance to pay for tuition fees and stipends to cover book costs. Also, monthly stipends are available for students that meet all requirements and criteria in each program.

The Vice-Chancellor of Scholarships and Internships encourages students to apply for aid with external organizations that are known to provide financial support for college education, professional travel and internships.

The scholarships program promotes the development of leadership, skills and the sense of civic responsibility to those students participating in seminars, associations and in labor community activities.

Child Development Center

The Child Development Center is located within the facilities of Universidad Metropolitana (UMET). The purpose of the Center is to offer child care services from 7:00 AM to 10:30 PM to children 2-8 to 4-8 years of age whose parents are eligible students and employees of Universidad Metropolitana. Activities at the Center are designed to foster the integral development of the children by providing them with fun and recreation. The aim is to contribute to the children's self-sufficiency and emotional stability in a safe, loving environment where they can learn to take care of themselves.

From 7:00 AM to 2:00 PM, an educational program sponsored by the San Juan Head Start Program and the Quintana Baptist Church is offered. From 2:00 PM to 10:30 PM the day care services are sponsored by ACUDEN.

UMET Extended Child Care from 2:00 PM to 10:30 PM an educational and recreational program that offers services with cost including mentoring to children of employees after its exit from the school. Also offers free educational services to children of student of the UMET.

Off Campus Sites (University Centers)

The Off Campus sites programs respond to the needs of the communities in the various geographical areas throughout Puerto Rico. The University Centers are located in the towns of Aguadilla, Bayamón, and Jayuya.

The academic programs offered are certificate, associate, bachelor degrees and Master.

The same educational support services that are available on campus are also available at the Centers. These services are: the Offices of the Guidance Counselor, Registrar, Financial Aid, Bursar's, Admissions, and Library. The faculty is from the surrounding community with master's degree and some with doctorates, all recommended for their excellent educational background and experience.

The Three Off-Campus sites offer the following academic programs:

Río Piedras

Mail Address

PO Box 21345

San Juan, PR 00928-1345

Tel. (787) 766-1717, ext. 7310

Physical Address

1399 Ave. Ana G. Méndez

San Juan, Puerto Rico 00926-2602

Associate degree in:

- Office Administration and Information Processing for Executive
- Marketing
- Entrepreneurship
- Criminal Justice
- Security and Protection
- Correctional Security
- Nursing
- Computer Sciences
- Respiratory Therapy

Bachelor in Business Administration:

- Management
- Accounting
- Information Systems
- Marketing
- Finance-Economics
- Office Administration and Information Processing
- Entrepreneurship

Bachelor in Education:

- Preschool Education
- Early Childhood Education (K-3)
- Elementary School Education (4-6)
- Special Education K-12
- Physical Education K-12
- Recreation and Sport Studies
- Secondary in English
- Secondary in Spanish
- Secondary in History

Bachelor of Arts/ Social Sciences:

- Cultural Entrepreneurial
- Criminal Justice
- Psychology
- Social Work
- Communications
 - Digital Production

- Media Management
- Public Relations

Bachelor in Science:

- Microbiology
- Biology
- Molecular Biology
- Chemistry
- Environmental Sciences
- Bio-Mathematics
- Computer Sciences
- Nursing
- Respiratory Therapy

Bachelor in Public Affairs:

- Health Services Management

Post Graduate Certificate Program:

- Case Management (X)
- Polysomnography (X)

Bayamón

Mail Address

PO Box 278

Bayamón, PR 00960-0278

Tel. (787) 288-1100, fax (787) 288-1137

Physical Address

Edificio Paseo del Parque: B, C y D

Esquina Santiago Dr. Veve, al lado de la

Biblioteca Municipal, carr. # 167

Bayamón Puerto Rico

Associate degrees in:

- Executive Secretary with Word Processing
- Medical Secretary with Medical Billing
- Criminal Justice with emphasis in:
 - Security and Protection
 - Correctional Security
- Health Sciences
 - Medical Sonography
 - Vascular Sonography
- Respiratory Therapy
- Nursing

Bachelor's degrees in:

- Management
- Marketing
- Computerized Information Systems
- Administrative Secretary
- Social Work
- Criminal Justice

- Early Childhood and Primary Education
- Health Services Management
- Nursing (Inglés & Spanish)

Bachelor in Health Sciences:

- Medical Sonography Periferovascular
- Language Therapy

Post Graduate Certificate Program:

- Oncology Nursing **(X)**

Note: (X) means associate, bachelors or a professional degree is required to be admitted to one of these certificates.

Aguadilla

Mail Address

PO Box 70

Aguadilla, P.R. 00605

Tel. (787) 882-7070

Physical Address

Carretera 111 km 0.6

Barrio Palmar Aguadilla, Puerto Rico 00605

Associate degree in:

- Computer Sciences
- Nursing
- Office Administration and Information Processing for Executive Secretary

Bachelor's degree in:

- Management
- Marketing
- Accounting
- Office Administration and Information Processing
- Computerized Information Systems
- Nursing
- Early Childhood Education (k-3)
- Elementary School Education (4-6)
- Physical Education K-12
- Health Services Management
- Social Work
- Criminal Justice
- Psychology

Jayuya

Mail Address

PO Box 1527

Jayuya, PR 00664

Fax: (787) 828-1445

Tel. (787) 828-1319; 828-1442

Physical Address

Calle Figueras # 100

Jayuya, Puerto Rico

Associate degrees in:

- Computer Sciences
- Criminal Justice
- Architectural Drafting
- Nursing

Bachelor's degrees in:

- Management
- Social Work
- Information Systems
- Early Childhood Education (k-3)
- Elementary School Education (4-6)
- Health Services Management

SCHOOL OF BUSINESS ADMINISTRATION

The School of Business Administration offers an innovative, competitive, and stimulating learning experience for motivated persons committed to acquiring the requisite technical, critical thinking and decision making skills for a successful professional career in a rapidly changing business and social environment. The curriculum supports our students' intellectual and ethical development with the state-of-the-art technology to build an extensive knowledge base and life-long learning skills that empower them to make efficient and principled choices, both for their personal growth and toward the development of a more just society.

The School of Business strives to stimulate its students to engage in ethical entrepreneurial behaviors that support the present and future economic and social development of Puerto Rico and its role on a world economy.

OBJECTIVES

The School of Business Administration encourages our students to:

- Develop a critical attitude towards the challenges and options facing contemporary society.
- Compete effectively in the current job market.
- Apply their skills to search for creative alternatives to the social and economic development issues of our time.
- Participate in the democratic exchange of ideas from a position of tolerance for diversity.
- Adhere to strong ethical standards and behave in a socially responsible way.
- Develop a life-long commitment to personal and professional growth.

ADMISSION REQUIREMENTS

Admission to the Undergraduate Programs of the School of Business Administration is subject to fulfillment of all required admissions policies of the institution. The Academic Board approved an admission formula that establishes a percentile based upon the applicants' scores on the College Entrance Examination Board test (CEEB) and the high school grade point average (HSCI). The minimum percentile is 63. Additional information may be obtained from the Admissions' Office.

OFFICE ADMINISTRATION LABORATORY

The laboratory was designed for teaching and for providing students training and experience in the uses of commercial programs like word processing, spreadsheet, electronic presentations, database, and electronic mail among other. The facilities are equipped with 20 microcomputers, one laser jet printer, and one projector.

OFFICE SIMULATION LABORATORY

- The laboratory was designed to help students in the transition from the classroom to the office environment.
- The facilities are equipped with 20 microcomputers, one laser jet printer, one projector, scanner, phone and transcription machines.
- The laboratory was designed to help students in the transition from the classroom to the office.
- The facilities are equipped with 20 microcomputers, two laser printers, one cannon photocopier, one microcomputer projector, one fax, and 18 transcription machines.

ADMINISTRATIVE STAFF

OTERO SERRANO, JUAN

Dean
BS, University of Puerto Rico
BS, Inter American University
MBA, Bayamon Central University
PhD., University of Puerto Rico

IBARRA PEREZ, TERESITA

Associate Dean
B.A., University of Puerto Rico
MBA, Universidad del Turabo
PhD., Inter American University

RIVERA TRUJILLO, ORLANDO

Director, Student Affairs
MBA, Universidad Metropolitana

SANTIAGO NIEVES, GRISELLE

Academic Assessor
MEd, Universidad Metropolitana

FACULTY

ALERS ROSADO, CARLOS

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B.B.A., University of Puerto Rico
M.B.A., Inter American University
Ed.D., Interamerican University

CANDAL VICENTE, ANA ANGÉLICA

Associate Professor
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M.B.A., Inter American University

VELÁZQUEZ RUIZ, CELIMAR

Instructor

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M.B.A., University of Puerto Rico

**Associate Degree in Business Administration
Office Administration and Information Processing**

65 Credits	Credits
General Education Courses	27
Business Core Courses	13
Specialization Courses	25

General Education Courses		
SPAN 101-102	Introductory Spanish Language - Basic Level	6
ENGL 101-102	Introductory English Language - Basic Level	6
SCIE 111	Integrated Sciences I	3
MATH 111	Intermediate Algebra I	3
FYIS 101	First Year Induction Seminar	3
HUMA 101	Introduction to the Study of Western Civilization	3
SOSC 103	Introduction to Social Sciences - Survey	3

Business Core Courses		
ENMA 101	Introduction to Entrepreneurship	3
ECON 123	Introduction to Economics Compendium	3
MARK 133	Principles of Marketing	3
ACCO 111	Introduction to Accounting	4

Specialization Courses		
OFAD 141	Keyboarding	3*
OFAD 142	Documents Production I	3*
OFAD 206	Documents Production II	3*
OFAD 280	Records Administration	3

OFAD 282	Office Administration	3
OFAD 307	Microcomputer Business Applications	3*
OFAD 380	Office Simulation	3*
OFAD 382	Specialized Office Practicum	4
*Requires an additional laboratory hour		

**Associate Degree in Business Administration
Marketing**

71 Credits	Credits
General Education Courses	30
Professional Business Application Courses	9
Business Core Curriculum	14
Specialization Courses	12
Major Electives	6

General Education Courses		
SPAN 101-102 or SPAN 103-104 or SPAN 105-106	Introductory Spanish Language - Course-Basic Level Introductory Spanish Language Course - Intermediate Level Introductory Spanish Language Course - Advanced Level	6
ENGL 101-102 or ENGL 103-104 or ENGL 105-106	Introductory English Language - Course-Basic Level Introductory English Language Course - Intermediate Level Introductory English Language Course - Advanced Level	6
SOSC 103	Introduction to the Study of Social Sciences-Survey	3
MATH 111	Intermediate Algebra I	3
HUMA 101	Introduction to the Study of Western Civilization	3
SCIE 111	Integrated Sciences I	3
COIS 101	Introduction to Computers	3
FYIS 101	First Year Induction Seminar	3

Professional Business Application Courses		
ECON 123	Introduction to Economics Compendium	3
FINA 202	Business Finance	3
ENMA 101	Introduction to Entrepreneurship	3

Business Core Curriculum		
MANA 210	Administrative Theories	3
ACCO 111-112	Introduction to Accounting I and II	8
MARK 133	Principles of Marketing	3

Specialization Courses		
MARK 206	Consumer Behavior	3
MARK 235	Retailing	3
MARK 237	Selling Principles	3
MARK 251	Advertising and Promotion	3

Major Electives (6 Credits)*		
MARK 302	Sales management	3
MARK 307	Service Marketing	3
MARK 311	Electronic Marketing	3
MARK 320	Marketing Research	3
MARK 403	Product Marketing	3
MARK 410	International Marketing	3
MARK 420	Marketing Internship	3
*The student will select two courses from this list.		

**Associate Degree in Business Administration
Entrepreneurship**

69 Credits	Credits
General Education Courses	30
Business Core Courses	20
Specialization Courses	13
Free Electives	6

General Education Courses		
SOSC 103	Introduction to the Study of Social Sciences-Survey	3
ENGL 101-102 or ENGL 103-104 or ENGL 105-106	Introductory English Language - Course-Basic Level Introductory English Language Course - Intermediate Level Introductory English Language Course - Advanced Level	6
SPAN 101-102 or SPAN 103-104 or SPAN 105-106	Introductory Spanish Language - Course-Basic Level Introductory Spanish Language Course - Intermediate Level Introductory Spanish Language Course - Advanced Level	6
FYIS 101	First Year Induction Seminar	3
MATH 111	Intermediate Algebra I	3
HUMA 101	Introduction to the Study of Western Civilization	3
SCIE 111	Integrated Sciences I	3
COIS 101	Introduction to Computers	3

Business Core Curriculum		
MANA 213	Personnel Management	3
FINA 202	Business Finance	3
ECON 123	Introduction to Economics Compendium	3
MARK 133	Principles of Marketing	3
ACCO 111-112	Introduction to Accounting I and II	8

Specialization Courses		
ENMA 101	Introduction to Entrepreneurship	3
ENMA 200	Entrepreneurial Innovation	3
ENMA 301	Business Financial Planning	4
ENMA 310	Franchises, Strategic Alliances, and Family Businesses	3

**Bachelor in Business Administration
Common Courses for all Majors**

90 Credits	Credits
General Education Courses	54
Professional Business Core Courses	36

General Education Courses		
SPAN 101-102 or SPAN 103-104 or SPAN 105-106	Introductory Spanish Language Course - Basic Level Introductory Spanish Language Course - Intermediate Level Introductory Spanish Language Course - Advanced Level	6
SPAN 215	Written Composition	3
ENGL 101-102 or ENGL 103-104 or ENGL 105-106	Introductory English Language Course - Basic Level Introductory English Language Course - Intermediate Level Introductory English Language Course - Advanced Level	6
ENGL 212	Second Year Business English Course - Basic Level	3
ENGL 350	Conversational English	3
SOSC 101-102 or SOSC 103 and PSYC 123	Introduction to the Study of Social Sciences Introduction to the Study of Social Sciences - Survey Course General Psychology – Survey Course	6
HUMA 101-102	World Cultures	6
MATH 112	Intermediate Algebra II	3
QUME 250	Basic Quantitative Methods	3
SCIE 111-112	Integrated Sciences I and II	6
COIS 101	Introduction to Computers	3
HIST 101	Introduction to the Study of History	3
FYIS 101	First Year Induction Seminar	3

Professional Business Core Courses		
ACCO 111 – 112	Introduction to Accounting I and II	8
STAT 201	Intro. To Business Statistics I	3
ECON 123	Introduction to Economics Compendium	3
ECON 325	Introduction to International Business	3
ENMA 101	Introduction to Entrepreneurship Development	3
MANA 210	Administrative Theories	3
MANA 131 or MANA 213	Human Relations in Business (for Management and Office Administration Majors) Personnel Management (for Entrepreneurship Majors) or Other Management Course (for other Majors)	3
BUSI 204	Business Law	4
FINA 202	Business Finance	3
MARK 133	Principles of Marketing	3

**Bachelor in Business Administration
Major in Accounting**

124 Credits	Credits
General Education Courses	54
Professional Business Core Courses	36
Major Required Courses	25
Major Electives	6
Free Elective	3

Major Required Courses		
ACCO 201-202	Intermediate Accounting I and II	8
ACCO 203	Cost Accounting	4
ACCO 205 or ACCO 320	Taxes of Puerto Rico or Federal Income Tax	3
ACCO 304	Auditing	3
ACCO 308	Contemporary Accounting	3
ACCO 450	Advanced Accounting	4

Major Electives		
ACCO 250	Computerized Accounting	3
ACCO 295	Managerial Accounting	3
ACCO 297	Funds and Government Accounting	3
ACCO 306	Accounting Information Systems	3
ACCO 205 or ACCO 320	Taxes of Puerto Rico or Federal Income Tax	3
ACCO 402	Advanced Cost Accounting	3
FINA 301	Financial Statements Analysis	3

Free Electives	3
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**Bachelor in Business Administration
Major in Management**

123 Credits	Credits
General Education Courses	54
Professional Business Core Courses	36
Major Required Courses	21
Major Electives	9
Free Electives	3

Major Courses		
FINA 240	Risk and Insurance	3
MANA 125	Business Ethics	3
MANA 213	Personnel Management	3
MANA 230	Organizational Behavior	3
MANA 340	Production and Operations Management	3
MANA 404	Labor Relations	3
MANA 401	Seminar in Strategic Management	3

Major Electives		
ACCO 295	Managerial Accounting	3
MANA 350	Business and Society	3
ENMA 200	Entrepreneurial Innovation	3
ENMA 301	Business Financial Planning	3
ENMA 310	Franchises, Strategic Alliances, and Family Businesses	3
FINA 308	Real Estate and Property Administration	3
OFAD 141	Keyboarding	3

Free Electives	3
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**Bachelor in Business Administration
Major in Marketing**

123 Credits	Credits
General Education Courses	54
Professional Business Core Courses	36
Major Required Courses	21
Major Electives	9
Free Electives	3

Major Courses		
MARK 235	Retailing	3
MARK 206	Consumer Behavior	3
MARK 237	Selling Principles	3
MARK 251	Advertising and Promotion	3
MARK 307	Services marketing	3
MARK 320	Marketing Research	3
MARK 410	International Marketing	3

Major Electives		
MARK 302	Sales Management	3
MARK 311	Electronic Marketing	3
MARK 403	Product Marketing	3
MARK 405	Public Relations in Business	3
MARK 420	Marketing Internship	3

Free Electives	3
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**Bachelor in Business Administration
Major in Finance - Economics**

120 Credits	Credits
General Education Courses	54
Professional Business Core Courses	36
Major Required Courses	21
Major Electives	6
Free Electives	3

Major Courses		
FINA 204	Money and Banking	3
FINA 305	Public Finance	3
FINA 401	Investments	3
ECON 253	Economic Development of Puerto Rico	3
ECON 400	Managerial Economics	3
ECON 401	Intermediate Macroeconomics Theory	3
ECON 403	Environmental Economics	3

Major Electives		
ECON 363	Global Economic Trends	3
ECON 420	International Economics and Finance	3
FINA 240	Risk and Insurance	3
FINA 301	Financial Statements Analysis	3
FINA 308	Real Estate and Property Administration	3
FINA 312	Financing Institutions	3
FINA 320	Banking Policies Administration	3
FINA 200	Personal Financial Planning	3

Free Electives	3
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**Bachelor in Business Administration
Major in Information Systems**

125 Credits	Credits
General Education Courses	54
Professional Business Core Courses	36
Major Required Courses	26
Major Electives	6
Free Electives	3

Major Courses		
OFAD 141	Keyboarding	3
COIS 110	Introduction to Information Systems	4
COIS 215	Introduction to Applications Development	3
COIS 216	Designing and Implementing Desktop Applications	4
COIS 304	Software and Hardware Concepts	3
COIS 312	Designing and Implementing Distributed Applications	3
COIS 320	Solution Architecture	3
COIS 412	Network Technology	3

Major Electives		
COIS 408	Topics in Information Systems	3
COIS 411	Database Development	3
COIS 424	Web Pages and Electronic Commerce	3

Free Electives	3
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Bachelor in Business Administration
Major in Office Administration and Information Processing

124 Credits	Credits
General Education Courses	54
Professional Business Core Courses	36
Major Required Courses	25
Major Electives	6
Free Electives	3

Major Required Courses		
OFAD 141	Keyboarding	3*
OFAD 142	Documents Production I	3*
OFAD 206	Documents Production II	3*
OFAD 282	Office Administration	3
OFAD 285	Specialized Machine Transcription	3*
OFAD 307	Microcomputer Business Applications	3*
OFAD 380	Office Simulation	3*
OFAD 382	Specialized Office Practicum	4

Major Electives		
OFAD 240	Spanish Alphabetic Speedwriting	3
OFAD 280	Records Administration	3
OFAD 340	English Alphabetic Speedwriting	3

Free Electives	3
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* Requires an additional laboratory hour

**Bachelor in Business Administration
Major in Entrepreneurship**

121 Credits	Credits
General Education Courses	54
Professional Business Core Courses	36
Major Required Courses	19
Special Interest Electives	12

Major Required Courses		
ENMA 200	Entrepreneurial Innovation	3
ENMA 301	Business Financial Planning	4
ENMA 310	Franchises, Strategic Alliances, and Family Businesses	3
MARK 311	Electronic Marketing	3
ENMA 407	Legal, Tax and Environmental Responsibility	3
ENMA 408	Entrepreneurial Seminar	3

Special Interest Electives	12
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Courses are selected from those required for minors by schools of UMET and vary according to the student's area of interest.

COURSES DESCRIPTIONS

ACCOUNTING

ACCO 111 Introduction to Accounting I **Four Credits**

Fundamentals of accounting. Analyzing and recording business transactions, the accounting cycle and preparation of Financial Statements. Includes accounting for cash, accounts receivable and inventories.

ACCO 112 Introduction to Accounting II **Four Credits**

Tangible and intangible assets, current liabilities and the payroll system, application of accounting principles to partnerships and corporations, investments and bonds.

Prerequisite: ACCO 111

ACCO 201 Intermediate Accounting I **Four 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.

Prerequisite: ACCO 112

ACCO 202 Intermediate Accounting II **Four Credits**

Control, evaluation, 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.

Prerequisite: ACCO 201

ACCO 203 Cost Accounting **Four 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.

Prerequisite: ACCO 201

ACCO 205 Taxes in Puerto Rico **Three Credits**

History and purpose of income taxation, property taxes, sales taxes of individuals, partnerships and corporations, and employer's payroll taxes according to Puerto Rico legislation. Includes

concepts and methods for determining gross income, inclusions and exclusions of gross income, deductions and credits to determine taxable income and the basis for computation of ordinary and capital gains and losses. Preparation of income and property taxes returns and municipal patents is required.

Prerequisites: ACCO 112

ACCO 250 Computerized Accounting

Three Credits

The use of accounting software to record business data. Use of software in recording transactions in registers and journals obtaining general and subsidiary ledgers, financial statements and other accounting reports. Emphasis and reinforcement of accounting principles and spreadsheets applications. Requires laboratory.

Prerequisites: ACCO 112, COIS 101.

ACCO 295 Managerial Accounting

Three Credits

Development and use of accounting information in the managerial functions of planning, control and decision making. Includes funds flow analysis, cost-volume profit relationship, and the preparation of the Master Budget and standard costing. Analysis of short-term decisions and the capital budget.

Prerequisites: ACCO 112

ACCO 297 Funds and Government Accounting

Three Credits

The accounting principles related to the control, record and the statements required by the government and other non-profit organizations. Includes applications of these principles to municipal and state governments, budgets and funds.

Prerequisites: ACCO 112

ACCO 304 Auditing

Three 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.

Prerequisite: ACCO 202

ACCO 306 Accounting Information Systems

Three Credits

Principles, concepts, methods, and mechanisms used in the design, administration and implementation of accounting information systems. Design of journals, general ledgers, subsidiary ledgers and business documents. Includes accounting system design using computers. Introduction to auditing and controls of accounting information systems.

Prerequisite: ACCO 112, COIS 101

ACCO 308 **Contemporary Accounting**

Three Credits

Analysis and interpretation of generally accepted accounting principles (GAAP). The conceptual framework that provides the basis for the preparation and presentation of financial statements. Development and current status of financial accounting theories and analysis of the Financial Accounting Standards Board (FASB) Statements and Accounting Principles Board (APB) opinions.

Prerequisites: ACCO 202

ACCO 320 **Federal Income Tax**

Three Credits

Study of the historical development and purpose of the federal income tax system, basic tax concepts, types of income, determination of taxable income, and preparation of federal income tax return for individuals, partnerships and corporations.

Prerequisites: ACCO 112

ACCO 402 **Advanced Cost Accounting**

Three Credits

Relationship between cost accounting and cost control, estimated and predetermined costs and advanced problems in job order costs, process costs, joint costs and by-products costs.

Prerequisite: ACCO 203

ACCO 450 **Advanced Accounting**

Three Credits

Generally accepted accounting principles as applied to business combinations, Investment in Common Stocks, partnerships, and consolidated financial statements. Accounting principles applicable to government funds. Control, recording process, and reporting of financial information of governmental units.

Prerequisites: ACCO 202

BUSI 204 **Business Law**

Four Credits

Introduction to our legal system. History of law. The Constitution of USA and the Constitution of Puerto Rico. Origin and development of business law. Sources of legal obligations between parties. Civil, business, and criminal cases. Includes the study of civil and business contracts, its formation and validity. Warranty contracts, such as: mortgages, bonds, guarantees, pound shops contracts, and conditional sales. Business organizations, such as sole proprietorships, partnerships, and corporations. Introduction to negotiable instruments', bankruptcy, patents, and copy rights laws. Applicable laws on contracts performed via Internet, the long arm statutes, the digital signature and obligations between parties. Proceedings of federal cases to sue of citizens of other states.

INFORMATION SYSTEMS

COIS 101 Introduction to Computers

Three Credits

This course develops in the student levels of productivity in the use of computers, necessary to perform effectively in their personal and work environment. Throughout the course, the student will acquire the competencies of a beginner level user, while being exposed to the most recent technological developments. The student will learn desktop applications used to create documents, spreadsheets, audiovisual presentations, electronic mail, and internet searches. Requires laboratory.

COIS 110 Introduction to Information Systems

Four Credits

Introduction to systems concepts, information technology and DBMS software. It covers how information is used in organizations and how information technology improves the operations of the organization. Requires laboratory.

Prerequisite: COIS 101

COIS 215 Introduction to Application Development

Three Credits

Introduction to application development. This course develops the skills necessary to create software. It includes software design and the use of a programming language. Requires laboratory.

Prerequisite: COIS 110

COIS 216 Designing and Implementing Desktop Applications

Four Credits

Teaches Microsoft Visual Basic programmers, the skills to successfully create and deploy applications and components. Requires laboratory.

Prerequisite COIS 215

COIS 304 Software and Hardware Concepts

Three 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. Requires laboratory.

Prerequisite: COIS 110

COIS 312 Designing and Implementing Distributed Applications

Three Credits

Basic principles of how to build three-tier client/server solutions. Designed for Microsoft Visual Basic programmers, who currently build distributed applications that access corporate databases. Requires laboratory. Prerequisite: COIS 216

COIS 320 Solutions Architecture

Three 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 models. It includes database modeling, Structured Query Language (SQL), and data base administration. It also includes basic concepts on project management. Requires laboratory. Prerequisite: COIS 312

COIS 408 Topics in Information Systems

Three Credits

Current topics of interest in the area of computer information systems.

COIS 411 Database Development

Three 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. Requires laboratory. Prerequisite: COIS 110

COIS 412 Network Technology

Three Credits

Provides the background necessary to understand technology for local area networks (LANs), wide area networks (WANs), and the Internet. Requires laboratory. Prerequisite: COIS 304

COIS 424 Web Pages and Electronic Commerce

Three Credits

This course develops the skills necessary to design, create, implement and maintain electronic web pages. Includes experiences with web pages designing tool, database management and transactions processing. Requires laboratory. Prerequisite: COIS 412

ECONOMICS

ECON 123 Introduction to Economics Compendium

Three Credits

Provides the student with the theoretic knowledge and applied basis of Economics. The student will learn the essential principles and theories for the micro and macroeconomic analysis. Time is devoted to develop the skills needed to identify and solve the problems encountered by the public and private sectors. Prerequisite: SOSC 103 or SOSC 102

ECON 253 Economic Development of Puerto Rico
Three Credits

Characteristics and trends in Puerto Rico's economic history, economic structure, manufacture, agriculture, banking, transportation, communications, industrial development, public policy toward business, and international trade. Emphasis on contemporary ideas, issues and policies. Prerequisite: ECON 123

ECON 325 Introduction to International Business
Three Credits

Analyzes economic political, legal and social systems and their effect on the commercial behavior of countries. Emphasizes the relationships between business enterprises, government, and the financial sectors and their involvement in to international business activities. Corporate policies and strategies in the global operations. Prerequisite: ECON 123

ECON 351 History of Economic Thought
Three Credits

An analysis of economic sciences seen through its great economists and different schools up to the present. Prerequisite: ECON 123

ECON 363 Global Economic Trends
Three Credits

Study of, the economic, social, population, political, cultural and geographic environment that affects de economic development of the nations and regions of the world. Special emphasis on modern economic trends amid diversity. Prerequisite: ECON 325

ECON 375 Labor Economics
Three Credits

The human resource and its importance in the economic system of a country. Interrelationships between labor market supply and demand, labor union and job discrimination from the point of view of the individual as a production resource. Prerequisite: ECON 123

ECON 400 Managerial Economics
Three 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. Prerequisite: ECON 123

ECON 401 Macroeconomic Theory
Three Credits

Determination of national income, price systems, employment, fiscal and monetary policies in economic growth, analysis of expense, savings, investment and money. Prerequisite: ECON 123

ECON 403 Environmental Economics

Three Credits

Problems of the environment: pollution, government functions and market techniques to stop pollution. Economic analysis of the costs and benefits of environmental quality. Analysis of government control measures and international efforts to protect the environment.

Prerequisite: ECON 123

ECON 420 International Economics and Finance

Three Credits

The economy and international trade, the international monetary system, balance of payments, trade barriers, commercial policies and international financial institutions. Prerequisite: ECON 325 y ECON 401

FINANCE

FINA 200 Personal Financial Planning

Three 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

Three Credits

Introduction to financial theories and techniques and their application to management, financial analysis, planning and control, working capital management, decisions involving long-term assets, sources and forms of long-term financing, financial structure, cost of capital and dividend policy. Prerequisites: ACCO 111-112

FINA 204 Money and Banking

Three Credits

The nature of money, the development and functions of financial institutions, and the structure and operations of the U.S. Central Banking System and its relationship with monetary policy and international monetary markets. It includes analysis of the impact of monetary, fiscal and income policies on our economy. Prerequisite: ECON 123

FINA 240 Risk and Insurance

Three Credits

Types of risks and methods of handling risks by insurance companies. Detailed study of insurable risks, risk management, different types of underwriters, factors to be considered in the selection of an insurance company, functions and organization of the insurance companies, and legal principles applicable to the insurance contract.

FINA 301 Financial Statement Analysis

Three 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.

Prerequisite: FINA 202

FINA 305 Public Finance

Three 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. Prerequisite: FINA 202

FINA 308 Real Estate and Property Administration

Three Credits

Principles and practices of acquisition, sale and administration of real estate. Presentations cover brokerage, financing, mortgages and appraisal.

FINA 312 Financing Institutions

Three 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. Prerequisite: FINA 204

FINA 320 Banking Policies Administration

Three Credits

Analysis of the variables that affect commercial banking, structure, operations and profit. Includes the balance sheet and its relation to other operational variables, strategies to maximize profit and control risk, liquidity and evaluation of capital structure. Prerequisite: FINA 204

FINA 401 Investments

Three Credits

Fundamentals of investment, speculation and games, types of investments, risks, information sources, liquidity and market behavior, portfolio analysis, diversification and interpretation of financial information. Includes the study of economic cycles and their effects on the securities market. Prerequisites: FINA 312, ECON 123

ENTREPRENEURSHIP

ENMA 101 Introduction to Entrepreneurial Development

Three Credits

This course offers students a basic understanding and overview of the business world and the entrepreneurial. This includes topics related to writing a business plan, business ethics, management, marketing, finance, accounting and the legal aspects of commercial operations.

ENMA 200 Entrepreneurial Innovation

Three 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.

Prerequisites: ENMA 101

ENMA 301 Business Financial Planning

Three 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.

Prerequisites: ENMA 101, COIS 101, FINA 202

ENMA 310 Franchises, Strategic Alliances, and Family Businesses

Definition, nature and analysis of particular characteristics of family business, franchises, and strategic alliances. Analysis of the advantages and disadvantages of each option. Management of business relationships, conflicts, and shared decision making.

Prerequisites: ENMA 101, ECON 325

ENMA 407 Legal, Tax and Environmental Responsibility

Three 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.

Prerequisites: ENMA 101, ACCO 112 and BUSI 204

ENMA 408 Entrepreneurial Seminar

Three Credits

The knowledge acquired is tested in real business situations. The entrepreneur project is worked independently under the supervision of a professor.

Prerequisites: 15 credits in the concentration are required

MANAGEMENT

MANA 125 Business Ethics

Three Credits

Concepts related to moral aspects of human behavior within the whole social system, and particularly in business settings or in groups where the individual operates.

MANA 131 Human Relations in Business

Three Credits

Concepts dealing with the interaction and interpersonal relations of individuals and groups within business organizations. It includes an analysis of leadership and group behavior.

MANA 210 Administrative Theories

Three Credits

Study of all administrative theories and the management process in the sequence of planning, organizing, directing and controlling.

MANA 213 Personnel Management

Three Credits

Theories, principles and processes in the administration of human resources. It includes recruitment, training, supervision, motivation and direction of these resources and related legislation. Prerequisite: MANA 210

MANA 230 Organizational Behavior

Three 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. Includes case analysis and discussion.

Prerequisites: MANA 210, MANA 131

MANA 340 Production and Operations Management

Three Credits

Principles of production management applied to problems such as product design, objectives, policies, work methods and standards, plant location, layout, scheduling, maintenance, inventory, quality control, operation analysis, performance and cost control. Prerequisites: QUME 250, MANA 210

MANA 350 Business and Society

Three Credits

Study of the philosophies, interrelationships and viewpoints regarding the role of business in society, including selected issues in the context of social responsibility. Includes analysis of legislation related to the area.

Prerequisite: MANA 210

MANA 401 Seminar in Strategic Management

Three Credits

This is the capstone course of the Management major. It offers the student a hands-on overview of the strategic management process, focusing of the strategic analysis, strategy formulation and implementation phases. The student deepens his or her analytical

competencies while applying previously acquired knowledge, skills, and values to specific management issues.

Requisites; FINA 202, MANA 131, MANA 210, MANA 340, MARK 133

MANA 404 Labor Relations

Three Credits

Studies the worker-management relationships, development and operation of labor unions, public and private policies on labor relations, collective bargaining, job and union security, and labor laws.

Prerequisites: MANA 213, BUSI 204

MARKETING

MARK 133 Principles of Marketing

Three Credits

Presents the basic concepts and applications most relevant to the marketing decision-making process. Focuses on the universal concerns of managers who are responsible for marketing decisions. Includes the consumer's buying decisions process and types of consumer behavior as related to the basic marketing philosophies regarding products, price, promotion and distribution.

MARK 235 Retailing

Three Credits

Fundamentals of retail management: organization, store location, design and layout, aspects of buying and selling, operating activities, merchandising policies, inventory control systems, and opportunities.

Prerequisite: MARK 133

MARK 206 Consumer Behavior

Three Credits

Study of the 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.

Prerequisite: MARK 133

MARK 237 Selling Principles

Three Credits

Develops the principles of the selling approach: the salesperson's functions, responsibilities and sales techniques. Preparation of sales manuals, product portfolios, demonstrations, and selling strategies. It also includes the social implications of the selling process.

Prerequisite: MARK 133

MARK 251 Advertising and Promotion

Three Credits

History, social and economic aspects of advertising and promotion. Includes advertising plans and media, organization, background and planning of advertising strategy and how to select the advertising agency.

Prerequisite: MARK 133

MARK 302 Sales Management

Three Credits

Study of the planning, organization, control, and supervision of the sales force and the role of the sales manager in the administration of the business resources and in the marketing function. Analysis of problems related to the demand forecasting, planning, communication, evaluation, and control of sales, including case studies.

Prerequisite: MARK 133

MARK 307 Services Marketing

Three Credits

Analysis of the controllable variables in consumption and industrial services. Emphasis in design and application of the business of customer relationships. The exchange, positioning, and the marketing mix of services will be studied.

Prerequisite: MARK 133

MARK 311 Electronic Marketing

Three 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 a new businesses or the improvement of an existing one, taking into consideration the emerging technology and open markets. Requires laboratory.

Prerequisite: ENMA 101, MARK 133, COIS 101

MARK 320 Marketing Research

Three 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.

Prerequisites: MARK 133, STAT 201

MARK 403 Product Marketing

Three Credits

Systematic approach to the manufacturing process. Includes new product development and formulation of new strategies for existing products, and how to relate it to product life cycle.

Prerequisite: MARK 133

MARK 405 Public Relations in Business

Three Credits

Study of the principles and practices of public relations as a required activity in the promotion of the enterprise. Includes strategies to maintain and project the organization's image in the market and the community.

Prerequisite: MARK 133

MARK 410 International Marketing

Three Credits

Analysis of the characteristics of international marketing and the factors influencing the marketing program. Includes international policies that determine decisions about products, channels of distribution and promotion strategies, and legal and financial aspects of international markets.

Prerequisite: MARK 133

MARK 420 Marketing Internship

Three Credits

Course involves student in a working experience related to marketing strategy in which principles acquired in the classroom will be applied. Strategies in drafting marketing policies at management level will be studied: organization, demand analysis, product planning, pricing system, logistics, and sale promotion. Will also expose the student to actual work situations, which will develop the assurance and self-confidence required in professional life. The experience will also aid the student in deciding on a specific area in the marketing field. Requires one-hundred and sixty (160) full-time work hours.

Prerequisite: 15 credits approved among major courses.

OFFICE ADMINISTRATION

OFAD 141 Keyboarding

Three Credits

Special emphasis will be given to the touch method of typewriting using computer keyboard. Development of the basic skills of speed and accuracy and acceptable level of performance of writing simple office documents.

OFAD 142 Document Production I

Three Credits

This course is designed to continue the development and improvement of keyboarding skill and techniques. Emphasis is given in the production of moderate complexity of business documents, such as: letters, memos, two page reports and tables.

Prerequisite: OFAD 141

OFAD 206 Documents Production II

Three Credits

Further development of keyboarding skills in the production of complex office documents at an acceptable level of performance.

Prerequisite: OFAD 142

OFAD 240 Spanish Alphabetic Speedwriting

Three Credits

The course is designed to develop skills in the Spanish alphabetic speedwriting system. To develop the skills, it includes practice in reading, writing and dictation. In addition, it emphasizes the language and punctuation rules. Prerequisite: OFAD 141

OFAD 250 Commercial Writing Direct to the Computer

This course is designed for students writing business communication directly to the computer correctly and efficiently. It emphasizes punctuation, grammar, language, and the typewriting skills required to product different types of business documents.

OFAD 280 Records Management

Three Credits

Theoretical and practical knowledge of records management. Emphasis on the records management process and filing operations, such as: manual, mechanical and automated systems.

OFAD 282 Office Administration

Three 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 285 Specialized Machine Transcription

Three Credits

Learning, developing and mastering the art of transcribing recorded dictations to the computer. Review, development and integration of typewriting and language skills necessary for transcribing commercial documents.

Prerequisites: OFAD 142

OFAD 307 Microcomputer Business Applications

Three Credits

Training in the use of business applications, such as: Word processing, spreadsheet, electronic presentations, and database.

Prerequisites: OFAD 206, ACCO 111

OFAD 340 English Alphabetic Speedwriting

Three Credits

The course is designed to develop skills in the English alphabetic speedwriting system. To develop the skills, it includes practice in reading, writing and dictation. In addition, it emphasizes the language and punctuation rules.

Prerequisites: OFAD 141

OFAD 380 Office Simulation

Three 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.

Prerequisites: OFAD 280, OFAD 282, OFAD 307

OFAD 382 Specialized Office Practicum

Four Credits

Training in office techniques through the practice and performance of tasks pertaining to the Office Administration area in internship centers selected and supervised by the professor. Through work experience, the students practice skills and desirable personal behavior previously acquired.

Prerequisites: OFAD 206, OFAD 307, OFAD 380

STATISTICS

STAT 201 Introduction to Business Statistics I

Three Credits

Study of central tendency and dispersion measurements, sampling methods, probability theory, binomial probability distribution, normal density probability function and lineal regression.

Prerequisites: MATH 112

STAT 301 Introduction to Business Statistics II

Three Credits

Sampling distribution and test of hypotheses, including Z, t, Chi Square and F. Multiple linear regression and correlation.

Prerequisite: STAT 201

QUME 250 Basic Quantitative Methods

Three Credits

Pre-calculus for students of Business Administration and Economics. 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.

Prerequisites: MATH 112

QUME 251 Advanced Quantitative Methods

Three Credits

Differential calculus and an introduction to integral calculus with applications for Business Administration and Economics. Topics covered are: the concept of limit, continuity, derivative of a function, basic rules of differentiation, applications of the derivatives, compound interest, marginal analysis, graphics and function optimization. Introduction to integral calculus.

Prerequisites: QUME 250

SCHOOL OF EDUCATION

The School of Education, aware of its responsibility to improve the quality of education in Puerto Rico, provides teacher candidates a solid preparation in the field of education as well as the cultural background necessary to enhance their professional competence and teaching skills. The programs of study offered in this school are intended to respond to the students' needs and to the educational and social demands of Puerto Rican society. The humanistic framework of the programs enables students to establish relationships among history, tradition, and contemporary ideas.

The School offers undergraduate degrees in Preschool Education, Early Childhood Education (K-3), Elementary School Education (4-6), Special Education, Recreation and Sports Education, Physical Education, Exercise Science and Health Promotion, Secondary Education: English, Spanish and History and associate degree in Exercise Instructor.

Since 2013 to 2016, students need a minimum GPA of 2.80 to seek any teacher certification from the Puerto Rico Department of Education. They also need a 2.80 average in their major courses.

OBJECTIVES

To enable students to:

- successfully carry out their teaching assignments through the development of individual skills, attitudes, and abilities.
- be exposed to a variety of new situations that will help them strengthen their personalities and characters to become successful teachers.
- adopt a reflective and critical attitude when facing today's world problems.
- participate in an effective way with their colleagues in the revision and enrichment of curricula.
- understand the Puerto Rican cultural, social, ethical and aesthetic values in order to understand the values of other cultures.
- become aware of the great problems of human existence and their responsibility to help solve these in a fair and efficient way.
- understand that their mission as teachers is of great social and personal importance.
- accept the changes that will lead to the broadening of their knowledge and experience as teachers and to use that knowledge effectively in the teaching/learning process.
- choose and effectively use the resources and materials available in educational technology to improve their teaching methods and procedures.
- think critically and creatively.

ADMISSION REQUIREMENTS

To be admitted to the School of Education the student must fulfill all requirements for admission to the Institution. A general grade point average of 2.50 is required for admission to every program and their corresponding specialization. Specific admission requirements for some majors are revised periodically. The student should seek additional information regarding specific requirements from the Associate Dean of the School.

ADMINISTRATIVE STAFF

ÁNGEL L. CANALES ENCARNACIÓN, ED.D.

Dean of the School of Education

BÁRBARA E. PONCE MENDOZA, MEd.

Associate Dean

Undergraduate Program of Education

FACULTY

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M.A., Catholic University of Puerto Rico

Ph.D, Fordham University

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M.A, University of Puerto Rico

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CONCEPCIÓN ROSA, JUAN

Instructor

B.A Central University

M.A Central University

LÓPEZ ALEMÁN, ADOLFO.

Instructor

B.A University of Puerto Rico

M.A Metropolitan University

BACHELOR IN EDUCATION Major in Preschool Education

122 credits	Credits
General Studies Courses	51
Professional Courses	38
Major Courses	33

General Studies Courses		
SPAN 114-115	Spanish Basic Level I-II	6
SPAN 219	Written Composition	3
ENGL 114-115	English Basic Level I-II	6
SOSC113	Introduction to Social Sciences	3
HUMA 111-112	Introduction to the Study of Western Civilization I,II	6
MATH 103-104	Mathematics for teachers I,II	6
MATH 119	Intermediate Algebra	3
SCIE 116-117	Integrated Sciences I.II	6
HIST 258	History of Puerto Rico	3
HIST 277	History of the United States	3
FYIS 101	First Year Induction Seminar	3

Professional Courses		
EDUC 106	Introduction to Education	3
EDUC 173	Human Growth, Development and Learning	3
EDUC 180	Clinical Experiences I	1
EDUC 135	Foundations of Education	3
EDUC 204	Nature and Needs of Exceptional Children	3
EDUC 280	Clinical Experiences II	1

EDUC 202	Design and Production of Teaching and Learning Materials	3
EDUC 276	Classroom Management and Organization	3
EDUC 410	Introduction to Educational Research	3
EDUC 390	Curriculum Design	3
EDUC 409	Evaluation and Measurement in Education	3
EDUC 435	Interdisciplinary Seminar	3
EDUC 436	Pedagogical Seminar	3
COIS 202	Computers in Education	3

Major Courses		
EDUC 170	Introduction to Early Childhood Education	3
EDUC 270	Learning Environment for Preschool Education	3
EDUC 300	Preschool Curriculum	3
EDUC 315	Special Education: Early Intervention	3
EDUC 322	Preschool Education and Cultural Diversity	3
EDUC 323	Literature for Children	3
EDUC 324	Preschool Education for Exceptional Children	3
EDUC 360	Reading and Writing for Preschoolers	3
EDUC 427	Teaching Through Games	3
EDUC 440	Preschool Teaching Practice	6

BACHELOR IN EDUCATION**Major in Early Childhood Education (K-3) Major Elementary School Education (4-6)**

116 Credits		Credits
General studies Courses		51
Professional Courses		38
Major Courses		27
General Studies Courses		
SPAN 114-115	Spanish Basic Level I-II	6
SPAN 219	Written Composition	3
ENGL 114-115	English Basic Level I-II	6
ENGL 207	Reading and Writing in English	3
HUMA 111-112	Introduction to the Study of Western Civilization I,II	6
MATH 103-104	Mathematics for teachers I,II	6
MATH 119	Intermediate Algebra	3
SCIE 116-117	Integrated Sciences I,II	6
HIST 258	History of Puerto Rico	3
HIST 277	History of the United States	3
SOSC 113	Introduction to Social Sciences	3
FYIS 101	First Year Induction Seminar	3

Professional Courses		
EDUC 106	Introduction to Education	3
EDUC 173	Human Growth, Development and Learning	3
EDUC 180	Clinical Experiences I	1
EDUC 135	Foundations of Education	3
COIS 202	Computers in Education	3

EDUC 204	Nature and Needs of Exceptional Children	3
EDUC 280	Clinical Experiences II	1
EDUC 202	Design and Production of Teaching and Learning Materials	3
EDUC 276	Classroom Management and Organization	3
EDUC 410	Introduction to Educational Research	3
EDUC 390	Curriculum Design	3
EDUC 409	Evaluation and Measurement in Education	3
EDUC 435	Interdisciplinary Seminar	3
EDUC 436	Pedagogical Seminar	3

Major Courses

A) Early Childhood Education (K 3)		
EDUC 220	The Teaching of Language Arts in Early Childhood Education	3
EDUC 223	The Teaching of English in Early Childhood Education	3
EDUC 323	Literature for Children	3
EDUC 356	Teaching Social Studies in Early Childhood Education	3
EDUC 352	Teaching Mathematics in Early Childhood Education	3
EDUC 350	Teaching Science in Early Childhood Education	3
PHED 207	Games and Sports	3
EDUC 443	Teaching Practice In Early Childhood Education	6

B) Elementary School Education (4-6)		
EDUC 221	The Teaching of Language Arts in Elementary School	3
EDUC 222	The Teaching of English in the Elementary School	3
EDUC 323	Literature for Children	3
EDUC 357	Teaching Social Studies in Elementary School	3
EDUC 353	Teaching Mathematics in Elementary School	3

EDUC 351	Teaching Science in Elementary School	3
PHED 207	Games and Sports	3
EDUC 445	Teaching Practice in Elementary School	6

**Bachelor In Education
Major Special Education K - 12**

119 Credits	Credits
General Studies Courses	51
Professional Courses	35
Major Courses	33

General Courses		
SPAN 114-115	Spanish Language Basic Level I-II	6
SPAN 219	Written Composition	3
ENGL 114-115	English Language Basic Level I-II	6
ENGL 207	Reading and Writing	3
HUMA 111-112	Introduction to the Study of Western Civilization I,II	6
MATH 103-104	Mathematics for teachers I,II	6
SCIE 116-117	Integrated Sciences I, II	6
HIST 258	History of Puerto Rico	3
HIST 277	History of the United States	3
SOSC113	Introduction to Social Sciences	3
Math 119	Intermediate Algebra	3
FYIS 101	First Year Induction Seminar	3

Professional Courses		
EDUC 106	Introduction to Education	3
EDUC 173	Human Growth, Development and Learning	3
EDUC 180	Clinical Experiences I	1

EDUC 135	Foundations of Education	3
COIS 202	Computers in Education	3
EDUC 202	Design and Production of Teaching and Learning Materials	3
EDUC 204	Nature and Needs of Exceptional Children	3
EDUC 280	Clinical Experiences II	1
EDUC 276	Classroom Management and Organization	3
EDUC 410	Introduction to Educational Research	3
EDUC 390	Curriculum Design	3
EDUC 435	Interdisciplinary Seminar	3
EDUC 436	Pedagogical Seminar	3

Major Courses		
SPED 303	Neurological Development, Sensory Functions: Implications	3
SPED 324	Preschool Education for Exceptional Children	3
SPED 210	Foundations, History and Legal Aspects of Special Education	3
SPED 320	Nature and Needs of Students with Mild Disabilities	3
SPED 326	Methodology, Innovative, Practice, Inclusion and Transition	3
SPED 390	Methodology for the teaching of mathematics in the Special Education	3
SPED 391	Teaching reading and writing in Special Education for the elementary level	3
SPED 392	Teaching reading and writing in Special Education for the secondary level	3
SPED 415	Diagnostic and Evaluation Techniques for Exceptional Children	3
SPED 451	Teaching Practice k-12	6

**Bachelor In Secondary Education
Major In English**

125 Credits	Credits
General Studies Courses	45
Professional Courses	41
Major Courses	39

General Studies Courses		
SPAN 114-115	Spanish Language Course - Basic Level I-II	6
SPAN 219	Reading and Writing	3
ENGL 114-115	English Language Course-Basic Level I-II	6
SOSC 113	Introduction to Social Sciences	3
HUMA 111-112	Introduction to the Study of Western Civilization I,II	6
MATH 114-115	Intermediate Algebra I, II	6
SCIE 116-117	Integrated Sciences I-II	6
HIST 258	History of Puerto Rico	3
HIST 277	History of the United States	3
FYIS 101	First Year Induction Seminar	3

Professional Courses		
EDUC 106	Introduction to Education	3
EDUC 173	Human Growth and Development	3
EDUC 180	Clinical Experiences I	1
EDUC 135	Foundations of Education	3
COIS 202	Computers in Education	3
EDUC 204	Nature and Needs of Exceptional Children	3
EDUC 280	Clinical Experiences II	1

EDUC 276	Classroom Management and Organization	3
EDUC 331	Methodology for the Teaching of English as a Second Language	3
EDUC 390	Curriculum Design	3
EDUC 400	Language Arts in Secondary School	3
EDUC 409	Evaluation and Measurement in Education	3
EDUC 410	Introduction to Educational Research	3
EDUC 435	Interdisciplinary Seminar	3
EDUC 436	Pedagogical Seminar	3

Major Courses		
ENGL 201-202	Second Year English-Basic Level	6
ENGL 213-214	Written Communication	6
ENGL 245	English Grammar I	3
ENGL 351	Adolescent's Literature	3
ENGL 303	Introduction to English Phonetics	3
ENGL 305	English Grammar II	3
ENGL 371	Introduction to Linguistics	3
BIED 401	Contrastive Analysis	3
EDUC 449	Teaching Practice in Secondary School	6
Electives		3

**Bachelor In Secondary Education
Major In History**

125 Credits	Credits
General Studies Courses	54
Professional and/or Related Courses	41
Major Courses	30

General Studies Courses		
SPAN 114-115	Spanish Language Course - Basic Level I-II	6
SPAN 219	Reading and Writing	3
ENGL 114-115	English Language Course - Basic Level I-II	6
HUMA 111-112	Introduction to the Study of Western Civilization I,II	6
SOSC 109-110	Introduction to Social Sciences	6
MATH 114-115	Intermediate Algebra I, II	6
SCIE 116-117	Integrated Sciences I-II	6
HIST 255-256	History of Puerto Rico	6
HIST 275-276	History of the United States of America	6
FYIS 101	First Year Induction Seminar	3

Professional Courses		
EDUC 106	Introduction to Education	3
EDUC 173	Human Growth and Development	3
EDUC 180	Clinical Experiences I	1
EDUC 135	Foundations of Education	3
COIS 202	Computers in Education	3
EDUC 204	Nature and Needs of Exceptional Children	3
EDUC 280	Clinical Experiences II	1

EDUC 276	Classroom Management and Organization	3
EDUC 332	Methodology of Teaching History	3
EDUC 390	Curriculum Design	3
EDUC 400	Language Arts in Secondary School	3
EDUC 409	Evaluation and Measurement in Education	3
EDUC 410	Introduction to Educational Research	3
EDUC 435	Interdisciplinary Seminar	3
EDUC 436	Pedagogical Seminar	3

Major Courses		
HIST 221	Renaissance, Reformation and the Rise of the State	3
HIST 203-204	Ancient and Medieval History	6
HIST 261-262	Latin American History	6
GEOG 202	Human Geography	3
HIST 232	Contemporary World Problems	3
HIST 320	African History	3
or HIST 305	Caribbean History	
EDUC 449	Teaching Practice in Secondary School	6

**Bachelor In Secondary Education
Major In Spanish**

125 Credits	Credits
General Studies Courses	45
Professional and/or Related Courses	41
Major Courses	39

General Studies Courses		
SPAN 114-115	Spanish Language Course - Basic Level I-II	6
SPAN 219	Reading and Writing	3
ENGL 114-115	English Language Course - Basic Level I-II	6
HUMA 111-112	Introduction to the Study of Western Civilization I,II	6
HIST 258	History of Puerto Rico	3
HIST 277	History of the United States	3
SOSC 113	Introduction to Social Sciences	3
MATH 114-114	Intermediate Algebra I, II	6
SCIE 116-117	Integrated Sciences I,II	6
FYIS101	Fist Year Induction Seminar	3

Professional Courses		
EDUC 106	Introduction to Education	3
EDUC 173	Human Growth and Development	3
EDUC 180	Clinical Experiences I	1
EDUC 204	Nature and Needs of Exceptional Children	3
EDUC 280	Clinical Experiences II	1
EDUC 135	Foundations of Education	3
COIS 202	Computers in Education	3

EDUC 276	Classroom Management and Organization	3
EDUC 330	Methodology for Teaching Spanish Secondary Schools	3
EDUC 390	Curriculum Design	3
EDUC 400	Language Arts in Secondary School	3
EDUC 409	Evaluation and Measurement in Education	3
EDUC 410	Introduction to Educational Research	3
EDUC435	Interdisciplinary Seminar	3
EDUC 436	Pedagogical Seminar	3

Major Courses		
SPAN 213-214	Literary Genres	6
SPAN 265	Advanced Grammar	3
SPAN 221-222	Introduction to Spanish Literature	6
SPAN 235	Linguistics	3
SPAN 451-452	Puerto Rican Literature	6
SPAN 461-462	Latin American Literature	6
SPAN 218	Oral Communication	3
EDUC 449	Teaching Practice in Secondary School	6

**Bachelor In Education
Major In Physical Education For Elementary School**

117 Credits	Credits
General Studies Courses	51
Professional Courses	24
Major Courses	42

General Courses		
SPAN 114-115	Spanish Language Course-Basic Level I-II	6
SPAN 219	Reading and Writing	3
ENGL 114-115	English Language Course-Basic Level I-II	6
ENGL 207	Reading and Writing	3
SCIE 116-117	Integrated Sciences I,II	6
MATH 103-104	Mathematics for teachers I,II	6
MATH 119	Intermediate Algebra	3
HUMA 111-112	Introduction to the Study of Western Civilization I,II	6
HIST258	History of Puerto Rico	3
HIST 277	History of the United States	3
SOSC 113	Introduction to the Social Sciences	3
FYIS101	First Year Induction Seminar	3

Professional Courses		
EDUC 100	Education, Leisure and Society	3
EDUC 173	Human Growth, Development and Learning	3
EDUC 135	Foundations of Education	3
COIS 202	Computers in Education	3
EDUC 204	Nature and Needs of Exceptional Children	3

EDUC 410	Introduction to Research Methods	3
EDUC 435	Interdisciplinary Seminar	3
EDUC 436	Pedagogical Seminar	3
Major Courses		
PHED 105	Foundations of Physical Education	3
PHED 113	Clinical Experience I	1
PHED 115	Introduction to Physical Education Sciences and Movement	3
PHED 116	Clinical Experience II	1
PHED 200	Curriculum and Teaching Planning in Physical Education	3
PHED 210	Teaching Methods in Physical Education- Elementary	3
PHED 211	Clinical Experience III	1
PHED 309	Methodology and teaching physical education secondary level	3
PHED 310	Physical Education K-3: Theory and Practice	3
PHED 311	Physical Education 4-6 : Theory and Practice	3
PHED 330	Physical Education and Adapted Recreation	3
PHED 350	Assessment, Measurement and Evaluation in Physical Education	3
PHED 370	Planning and organization of extracurricular activities in elementary physical education	3
PHED 449	Teaching Practice K-12	6
Elective		3

Bachelor In Education Major In Recreation And Sports Studies

117 Credits		Credits
General Studies Courses		45
Professional Courses		12
Major in Recreation		48
Elective		12
General Studies Courses		
SPAN 114-115	Spanish Language Course-Basic Level	6
ENGL 114-115	English Language Course-Basic Level	6
SCIE 116-117	Integrated Sciences I,II	6
MATH 103-104	Mathematics for teachers I,II	6
MATH 119	Intermediate Algebra	3
HUMA 111-112	Introduction to the Study of Western Civilization I,II	6
HIST 101	Introduction to History Study	3
SOSC 113	Introduction to the Social Sciences	3
COIS 101	Introduction to Computers	3
FYIS 101	First Year Induction Seminar	3

Professional Courses		
EDUC 100	Education, Leisure and Society	3
EDUC 173	Human Growth, Development and Learning	3
EDUC 327	Foundations of Health and Nutrition	3
EDUC 317	Basic Statistics in Education	3

Major Courses		
REED 105	Introduction to Recreation and Sports Studies	3
REED 106	Recreation Governmental	3
REED 107	Therapeutic Recreation	3
REED 108	Private and Commercial Recreation	3
REED 200	Recreation Program Development	3
REED 205	Managing Recreation Services	3
REED 210	Leadership and Supervision in Recreation	3
REED 303	Parks and Natural Resources	3
REED 315	Legal Aspects in Sports and Physical Activities	3
REED 320	Management and Designs of Recreational Installations	3
REED 400	Assessment, Measurement and Evaluation in Recreation	3
EDUC 410	Introduction to Research Methods	3
REED 420	Internship in Recreation, Sports and Fitness Public	6
REED 425	Internship in Recreation, Sports and Fitness Private	6
Electives		12

Bachelor In Education Major In Exercise Science and Health promotion

114 Credits		Credits
General Studies Courses		45
Major Courses		48
Minor Courses		18
Elective		3
General Studies Courses		
SPAN 114-115	Spanish Language Course-Basic Level	6
ENGL 114-115	English Language Course-Basic Level	6
SCIE 116-117	Integrated Sciences I,II	6
MATH 103-104	Mathematics for teachers I,II	6
HUMA 111-112	Introduction to the Study of Western Civilization I,II	6
HIST 258	History of Puerto Rico	3
SOSC 113	Introduction to the Social Sciences	3
COIS 202	Computers in Education	3
PSYC 125	General Psychology Survey Course	
FYIS 101	First Year Induction Seminar	3

Major Courses		
EDUC 100	Education, Leisure and Society	3
EDUC 327	Foundations of Health and Nutrition	3
ENMA 101	Introduction to Entrepreneurship	3
ESHP 101	Exercise industry , health promotion, leadership and ethics	3
ESHP 201	Anatomy and Kinesiology applied to the physical exercise	3
ESHP 202	Exercise Physiology	3

ESHP 203	Design and prescription of exercise programs	3
ESHP 204	Exercises with special populations	3
ESHP 300	Psychological Foundations of Exercise	3
ESHP 301	Managing and teaching classes of exercises	3
REED 110	First Aids for Sports and Physical Activities	3
ESHP 302	Practice as Instructor and Trainer	3
ESHP 303	Management of physical efficiency programs	3
ESHP 304	Evaluation of physical efficiency programs	3
ESHP 305	Practice in administration of physical efficiency programs	6

Minor Courses		
REED 105	Introduction to Recreation and Sports Studies	3
REED 301	Camps Development	3
REED 200	Recreation Program Development	3
REED 205	Managing Recreation Services	3
REED 210	Leadership and Supervision in Recreation	3
REED 315	Legal Aspects in Sports and Physical Activities	3
REED 320	Management and Designs of Recreational Installations	3
REED 400	Assessment, Measurement and Evaluation in Recreation	3
REED 410	Research Methods in Recreation	3

Elective		3
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Associate in Education Major In Exercise Instructor

60 Credits	Credits
General Studies Courses	24
Professional Courses	6
Major Courses	30
Elective	3

General Studies Courses

SPAN 114	Spanish Language Course-Basic Level	3
ENGL 114	English Language Course-Basic Level	3
SCIE 117	Integrated Sciences II	3
MATH 103	Mathematics for teachers I	3
HUMA 111	Introduction to the Study of Western Civilization I	3
COIS 202	Computers in Education	3
PSYC 125	General Psychology Survey Course	3
FYIS 101	First Year Induction Seminar	3

Professional Courses

EDUC 100	Education, Leisure and Society	3
EDUC 327	Foundations of Health and Nutrition	3

Major Courses

ESHP 101	Exercise industry , health promotion, leadership and ethics	3
ESHP 201	Anatomy and Kinesiology applied to the physical exercise	3
ESHP 202	Exercise Physiology	3
ESHP 203	Design and prescription of exercise programs	3
ESHP 204	Exercises with special populations	3
ESHP 300	Psychological Foundations of Exercise	3

ESHP 301	Managing and teaching classes of exercises	3
REED 110	First Aids for Sports and Physical Activities	3
ESHP 302	Practice as Instructor and Trainer in exercise	3

COURSES DESCRIPTIONS

COIS 202 Computers in Education

Three Credits

Introduction to the computer as an educational resource through the study of its origin, basic concepts, description, implications, roles, and uses in education. Application of computer techniques as aids to the educator. Emphasis on the use and impact of the computer in our lives and the use of educational materials designed for computers. One hour per week of laboratory required using computers with educational software as basic practice tools.

EDUC 100 Education, Leisure and Society

Three Credits

Interdisciplinary view of education as a social commitment and as an academic and professional field. The course covers education, formation of integral instruction, One semester three hours per week.

EDUC 106 Introduction to Education

Three 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 135 Foundations of Education

Three Credits

Analysis of sociological, psychological and philosophical foundations and their relation to the teaching and learning process. Requisites: EDUC 106, EDUC 173, EDUC 180, SOSC 101-102, SOSC 103

EDUC 170 Introduction to Preschool Education

Three Credits

Discuss the history of preschool education, characteristics of young children and of preschool programs. Analysis of philosophical, sociological and psychological theories of child development.

Requisites: EDUC 106, EDUC 173, EDUC 180, EDUC 135

EDUC 173 Human Growth, Development and Learning

Three 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. One semester. Three hours per week.

Requisites: EDUC 106

EDUC 180 Clinical Experiences I

One credits

Observational experiences related to the teaching-learning process in educational settings. Students engage, through observations, in the multiple phenomena of teaching and learning as it happens in classrooms, playgrounds, dinners, administration offices and counseling groups. Students are required to submit a final report of their observational experiences. The course requiring this observational experience is: EDUC 173

Requisites: EDUC 106

EDUC 202 Design and Production of Teaching and Learning Materials

Three Credits

Laboratory course in the selection, production, and evaluation of educational technology materials. Students use production techniques for the creation of their own materials with the maximum use of the educational technology facilities available.

Requisites: EDUC 106, EDUC 135, EDUC 173, EDUC 180

EDUC 204 Nature and Needs of Exceptional Children

Three Credits

Basic introductory course covering the diversity of exceptional children. Includes classification, etiology, characteristics, and deviations of normal population. Covers intellectual, emotional, physical, perceptual, motor and sensory topics, and reviews federal and local (Puerto Rico) legislation pertaining to the education of the exceptional child. Discusses the inclusion and mainstreaming of this population into the regular classroom. Identifies existing centers and available resources in the community. Laboratory requirements are fulfilled through participation in one of the identified centers. This experience will equip teachers with the appropriate cognitive and effective skills necessary to teach exceptional children.

Requisites: EDUC 106, EDUC 135, EDUC 173, EDUC 180

EDUC 220 Teaching Language Arts in Early Childhood Education

Three Credits

A systematic study of the development of language that analyzes the strategies and techniques used in the teaching of language arts from Kinder through third grade, and the Spanish Language curriculum as it relates to the development of basic skills and standards. Emphasis is given to reading and writing connections.

Requisites: SPAN 101-102, EDUC 173, EDUC 180, EDUC 135, EDUC 106, EDUC 390, EDUC 276

EDUC 221 The Teaching of Language Arts in Elementary School

Three Credits

A systematic study of the development of language that analyzes the strategies and techniques used in the teaching of language arts from fourth to sixth grade and the Spanish language curriculum as it relates to the development of basic skills inherent in a language arts program.

Emphasis is given to the relationship of language and thinking. Planning and demonstration classes are required.

Requisites: EDUC 173, EDUC 180, EDUC 390, EDUC 135, EDUC 106, EDUC 276, SPAN 101-102

EDUC 222 The Teaching of English in the Elementary School

Three Credits

Introduction to the principles and strategies of teaching English as a second language from fourth to sixth grade. Includes discussion and analysis of the English program, standards curriculum, and textbooks. Planning and demonstration classes are required.

Requisites: EDUC 173, EDUC 180, EDUC 106, EDUC 135, EDUC 390, EDUC 276, ENGL 101-102 or ENGL 103-104 or ENGL 105-106

EDUC 223 The Teaching of English in Early Childhood Education

Three Credits

The students will demonstrate the dominion of the acquired skills to teach English in the degrees of the K to 3rd grade. Includes the planning and development of demonstrations five classes using the techniques, materials and competitions that the Department of Education of Puerto Rico uses. The standards of the program of English will be studied study from K to 3er grade. The preparation of the Portfolio for the evaluation of the course will be emphasized.

Requisites: Educ. 173, EDUC 180, EDUC 106, EDUC 135, EDUC 390, EDUC 276, ENGL. 101-102 or ENGL 103-104 or ENGL 105-106

EDUC 270 Learning Environment for Preschool Education

Three Credits

Analysis of learning theories during early years and it's application to the selection of instructional activities, exploration of classroom environment, materials and equipment. Identification of high qualities and standards for early childhood professionals. Techniques of teaching and working with preschoolers and parents. Study of the planning of organization of the preschool classroom and its environment.

Requisites: EDUC 170, EDUC 106, EDUC 173, EDUC 180, EDUC 135

EDUC 276 Classroom Management and Organization

Three Credits

This course deals with the observation, practice and analysis of the daily routine of teachers. Discussion is geared to theories, models, techniques and strategies of classroom management. All documents related to the daily work of the teacher are studied. Fifteen hours of classroom observations in a school are required.

Requisites: EDUC 106, EDUC 173, EDUC 180, EDUC 135

EDUC 280 Clinical Experiences II

One Credits

Students must engage in the teaching-learning process as teachers' aides in a special education classroom. In these collaborative experiences, students have to assist teachers in the

development of daily learning activities of students with disabilities. Eighteen hours of these collaborative experiences are required for students with disabilities. Students are required to submit a final report of their collaborative experiences. The course requiring this observational experience is: EDUC 204.

Requisites: EDUC 106, EDUC 173, EDUC 180, EDUC 135

EDUC 300 Curriculum and Methodology for Early and Preschool Education

Three Credits

The student will have to take this course close to the practicum experience. It offers to the student clinical experiences in the methodology of education and its application to infants and children in early education. In addition, it studies the knowledge and skills related to the different areas of curriculum and the application of the theories of learning in education. This course emphasize the study of special curriculum for infants and children in early education, the preparation of instructional materials, methods, strategies, techniques and educational programs, as well as the diagnosis, evaluation the individualization of instruction. It also studies the value game as a strategy in the early education of infants and children.

Requisites: EDUC 170, EDUC 270, EDUC 390

EDUC 315 Special Education: Early Intervention

Three credits

The principles of early intervention with emphasis on the social, historical, legal and philosophical foundations of special education for young children. This course considers nature, causes and characteristics of developmental delay

Requisites: EDUC 170, EDUC 270, EDUC 300

EDUC 317 Basic Statistics in Education

Three Credits

Introduction to basic statistical principles with emphasis on descriptive methods. Specifically designed to prepare students for graduate-level research in education. Includes data collection procedures, probability, normal curve, central tendency measures, and dispersion measures (for ungrouped and grouped data). Includes an introduction to the study of the most commonly used inferential statistics.

Requisites: MATH 103-104 or MATH 111-112

EDUC 318 Data Software Analysis

Three 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 Preschool Education and Cultural Diversity

Three Credits

Overview of the social elements responsible for cultural diversity in society: age, sex, race and life style, and its curriculum implications for contemporary preschool professionals.

Requisites: EDUC 300, EDUC 106, EDUC 135, EDUC 173, EDUC 180

EDUC 323 Literature for Children

Three 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.

Requisites: EDUC 106, EDUC 173, EDUC 180, EDUC 135, SPAN 101-102, SPAN 213-214

EDUC 324 Preschool Education for Exceptional Children

Three credits

Skills and techniques enabling students to develop and organize educational experiences for the exceptional child at the Preschool level. Emphasis is on stimulating children's growth in motor development (fine and gross), reasoning, receptive and expressive language, visual perception, social and emotional development, self-help, and cognitive development. Analysis of the capabilities of handicapped students who receive appropriate education in an unrestrictive environment that motives their integral development and exploits their learning potential. Includes review, analysis and study of early stimulation exercises for psychomotor development that may be adapted to the handicapped Preschooler.

Requisites: EDUC 170 EDUC 270 EDUC 300

EDUC 327 Foundations of Health, Hygiene and Nutrition

Three 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.

Requisites: EDUC 106, EDUC 135, EDUC 173, EDUC 180

EDUC 330 Methodology for Teaching of Spanish in Secondary Schools

Three Credits

This course offers an integrated vision of the Spanish Program at the Secondary Level. The participants will acquire basic knowledge of the new approach in teaching the Spanish Language. The methods, strategies, contemporary and innovative techniques will be emphasized to develop the teaching-learning process in the vernacular language. Study of the standards of Spanish teaching used In the Puerto Rico Department of Education.

Requisites: EDUC 106, EDUC 173, EDUC 180, EDUC 135, EDUC 390, EDUC 276, SPAN 101-102 or SPAN 103- 104 or SPAN 105-106, SPAN 213-214

**EDUC 331 Methodology for the Teaching of English as a Second
Three Credits Language in Secondary Schools**

Students are familiarized with the materials procedures, contents, methodology and strategies for the teaching of English as a second language in secondary school. Study of English standards used In the Puerto Rico Department of Education.

Requisites: EDUC 106, EDUC 135, EDUC 173, EDUC 180, EDUC 276, EDUC 390, ENGL. 101-102 or ENGL 103-104 or ENGL 105-106, ENGL 201-202

EDUC 350 Teaching Science in Early Childhood Education (K-3)

Three Credits

Designed to develop teaching competencies and professional standards which allow students to perform effectively as science teachers of early childhood young students, using science as a mode of inquiry. Analysis of methods, science content standards, programs, and materials for teaching science from Kinder to Third grade.

Requisites: EDUC 106, EDUC 135, EDUC 173, EDUC 180, EDUC 276, EDUC 390, SCIE 111-112

EDUC 351 Teaching Science in Elementary School (4-6)

Three 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.

Requisites: EDUC 106, EDUC 135, EDUC 173, EDUC 180, EDUC 276, EDUC 390, SCIE 111-112

EDUC 352 Teaching Mathematics in Early Childhood Education (K-3)

Three Credits

Analysis of methods, mathematics content standards, programs and teaching materials for Kinder to Third grade students. To develop teaching competencies and professional standards which allow students to perform effectively as Mathematics teachers of early childhood students.

Requisites: EDUC 106, EDUC 135, EDUC 173, EDUC 180, EDUC 276, EDUC 390, MATH 103-104 or MATH 111-112

EDUC 353 Teaching Mathematics in Elementary School (4-6)

Three Credits

Analysis of methods, mathematics content standards, programs and teaching materials for elementary school children from fourth to sixth grade. To develop teaching competencies and professional standards which allow students to perform effectively as mathematics teachers in the elementary school.

Requisites: EDUC 106, EDUC 135, EDUC 173, EDUC 180, EDUC 276, EDUC 390, MATH 103-104 or MATH 111-112

EDUC 356 Teaching Social Studies in Early Childhood Education (K-3)

Three Credits

Designed to develop teaching competencies and professional standards which allow students to perform effectively as social studies teachers of early childhood students from Kinder to Third grade. In this course students analyze teaching methods, social studies standards, programs, and instructional materials.

Requisites: EDUC 106, EDUC 135, EDUC 173, EDUC 180, EDUC 276, EDUC 390, HIST 253

EDUC 357 Teaching Social Studies in Elementary School (4-6)

Three 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.

Requisites: EDUC 106, EDUC 135, EDUC 173, EDUC 180, EDUC 276, EDUC 390, HIST 253

EDUC 360 Reading and Writing for Preschoolers

Three Credits

Basic concepts, principles and theories related to the teaching and learning process of reading and writing at the preschool level, are studied. It also includes clinical and laboratory experiences to provide the future teacher with the basic techniques used in preparing the preschool child for reading and writing.

Requisites: EDUC170, EDUC 106, EDUC 300, EDUC 135, EDUC 173, EDUC 180, EDUC 390, SPAN 101-102, SPAN 213-214

EDUC 390 Curriculum Design

Three Credits

Foundations and principles of curriculum design, evaluation and review. Includes content and teaching strategies. Examination of programs, trends and development in curriculum and instruction from preschool to secondary education.

Requisites: EDUC 106, EDUC 135, EDUC 173, EDUC 180

EDUC 400 Language Arts in Secondary School

Three Credits

Use of the vernacular as an aid to learning in the secondary school curriculum: the nature of the linguistic process; the importance and function of the vernacular as an instrument of speech and communication; the development of language ability; language arts in the secondary school curriculum as a sequence of the elementary school curriculum; the program for teaching Spanish through speaking, reading and writing; the materials and other resources which refine the basic skills in the use of the Spanish language.

Requisites: EDUC 106, EDUC 135, EDUC 173, EDUC 180, EDUC 276, EDUC 390

EDUC 409 Evaluation and Measurement in Education

Three Credits

Basic principles in the teaching/learning process and its application to the assessment and measurement techniques. Studies teaching methods, means and techniques for quantitative and qualitative evaluation of the learning process. It also includes, application, interpretation and analysis of the statistical procedures used. Analysis of the impact of teaching procedures to the assessment and measurement planning.

Requisites: EDUC 106, EDUC 135, EDUC 173, EDUC 180, EDUC 276, EDUC 317, EDUC 390, MATH 103-104 or MATH 111-112

EDUC 410 Introduction to Educational Research

Three 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.

Requisites: EDUC. 106, EDUC 135, EDUC 173, EDUC 180, EDUC 317, MATH 103-104 or MATH 111-112

EDUC 427 Teaching Through Games

Three 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.

Requisites: EDUC 170, EDUC106, EDUC 135, EDUC 173, EDUC 180

EDUC 435 Interdisciplinary Seminar

Three Credits

Interdisciplinary Seminar that integrates academic socio-humanistic and scientific knowledge developed by the student, future master, during his training. Discussion and analysis of trends, methods and innovations related to the fundamental knowledge and skills of the communication of the teacher in their local and global context. Emphasis is placed on the use of case studies, problem solving, thematic discussions and application technology.

Co- requisites: EDUC 436

Requisites: SPAN 114-115; ENGL 114 -115; MATH 103-104; SPAN 219; SOSC 113; HUMA 111-112; COIS 202; PSYC 125; SCIE 116-117; HIST 258

EDUC 436 Pedagogical Seminar

Three Credits

Professional seminar integrating all the academic knowledge students have acquired during their teacher preparation. Involved discussion and analysis of trends, methods and innovations related to the field of education.

Co- requisites: EDUC 435

Requisites: EDUC106, EDUC 135, EDUC 173, EDUC 390, EDUC 276, EDUC 409 and all Methodology courses

EDUC 440 Preschool Teaching Practice

Six Credits

Supervised teaching experience performing tasks in public or private accreditable preschool centers. Offers students the opportunity to develop and apply adequate professional, academic, psychosocial, curricular and innovative skills to prospective teachers. Applications for EDUC 440 need the approval of all required professional and specialization course with a minimum grade of B in each course.

EDUC 443 Teaching Practice (K-3)

Six Credits

Supervised teaching experience performing tasks in a public or private accredited school from Kinder to Third grade classrooms. Offers students the opportunity to develop and apply adequate professional, academic, psycho-social, curricular and innovative skills as prospective teachers. Includes lesson planning, preparing and handling professional records, interviews, and visits to children's homes. Various evaluation techniques are applied by students under the supervision of a regular teacher from an accredited school and a college supervisor. Students must apply to enroll in the Practice Teaching Program and obtain official approval from the program division. Applications for EDUC 443 need the approval of all required professional and specialization course with a minimum grade of B in each course.

EDUC 445 Practice Teaching in Elementary School

Six Credits

Final requirement in the teacher training program. Students are exposed to real teaching experiences, performing all professional activities required in this field. Offers students the opportunity to develop and apply adequate professional, academic, psycho-social, curricular and innovative skills as prospective teachers. Includes lesson planning, preparing and handling professional records, interviews, and visits to children's homes. Various evaluation techniques are applied by students under the supervision of a regular teacher from an accredited school and a college supervisor. Students must apply to enroll in the Practice Teaching Program and obtain official approval from the program division. Applications for EDUC 445 need the approval of all required professional and specialization course with a minimum grade of B in each course.

EDUC 449 Practice Teaching in Secondary School

Six Credits

The student teacher is assigned to a school by his/her supervisor where he/she is involved in all classroom activities: planning, evaluation, routine, and extra-curricular activities, under the supervision of a regular teacher and a supervisory professor from the University. The student must apply to enroll in Teaching Practice and obtain official approval from the program division. Applications for EDUC 449 need the approval of all required professional and specialization course with a minimum grade of B in each course.

PHYSICAL EDUCATION

PHED 105 Foundations of Physical Education

Three Credits

An overview of the physical education field including its philosophical, historical, psychological, and sociological foundations. Prerequisites: EDUC 135

PHED 113 Clinical Experience

One credits

First field experience to teaching elementary physical education. The course requiring this observational experience is: PHED 105

PHED 115 Introduction of the Science in Physical Education and movement.

Three credits

Overview study of the applied sciences in physical education, human anatomy, kinesiology, exercise physiology, physical fitness and motor learning and development.

Requisites: EDUC100, EDUC 173, EDUC 135, PHED 105,PHED 113

PHED 116 Clinical Experience II

One credits

Second field experiences in teaching physical education in elementary school. The course requiring this observational experience is: PHED 115, Requisites: PHED 105, PHED 113

PHED 200 Curriculum and teaching planification in physical education

Three credits

Study of the curriculum in elementary physical education, it design, implementation and evaluation.

Requisites: PHED 115

PHED 207 Games and Sports for Elementary School Children

Three 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.

Requisites: EDUC 135

PHED 210 Learning methods in elementary physical education.

Three credits

Study of the teaching methods in elementary physical education from k-3 and 4 to 6 grades. Emphasis on teaching foundations, theories and strategies.

Requisites: PHED 200

PHED 211 Clinical Experience III

One credits

Third field experiences in teaching elementary physical education. The course requiring this observational experience is: PHED 210

Requisites: PHED 200

PHED 309 Methodology and teaching physical education secondary level

Three credits

The course provides the student an opportunity to explore the effectiveness of the teaching at the secondary level of the physical education working with the development of objectives, observation and analysis of the instruction, study of the strategies, and research in this field.

Requisites: PHED 210, PHED 211

PHED 310 Theory and Practice in Physical Education k-3

Three credits

Theory and practices on teaching physical education in grades k-3. Analysis of theories and its applications. Emphasis in using play and games as instruments to archive children's development, motor abilities, physical fitness and emotionally and cognitively well being.

Requisites: PHED 210, PHED 211

PHED 311 Theory and Practice in physical education in elementary 4-6

Three credits

Theory and practices on teaching elementary physical education in grades 4 to 6. Analysis of theories and its applications. Emphasis on using play and games as instruments to develop children's holistically in order to introduce them to sports participation.

Requisites: PHED 310

PHED 330 Physical Education and Recreation Adapted

Three credits

Physical Education and Recreation adapted in elementary school. Includes the planning of physical education activities modified and adapted to improve physical aptitude, basic movements' skills, perceptual motor abilities, and the strategies and new techniques used to teach children.

Requisite: EDUC 204

PHED 350 **Assessment, Measurement and Evaluation of Physical Education**
Three Credits

Study of measurement concepts, assessment and evaluation and its use in the field of Physical Education for Elementary School. The assessment of the learning of knowledge is examined, motor, affective skill and of physical efficiency.

Requisites: PHED 200, PHED 210

PHED 370 **Planning and organization of extracurricular activities in**
Three credits elementary physical education.

Study of the planning process and managing aspect in the organization of extracurricular programs and activities in elementary physical education, games days and sports tournaments.

Requisites: PHED 330

PHED 449 **Teaching Practice in Physical Education K-12**
Six Credits

Practical Teaching in Physical Education in the K-12 levels is the final phase of the teacher preparation program. It is an experience in which the student teacher runs all tasks of the profession. The student will do the teaching practice in accredited schools to get involved in the processes of teaching and learning of physical education in the k-12 levels. Applications for PHED 449 need the approval of all required professional and specialization course with a minimum grade of B in each course.

EXERCISE SCIENCE AND HEALTH PROMOTION

ESHP 101 **Exercise industry, health promotion, leadership and ethics**

Three 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.

ESHP 201 **Anatomy and Kinesiology applied to the physical exercise**

Three credits

Introduction to the study of concepts and fundamental principles of Anatomy and human Kinesiology applied to the design and prescription of physical exercise for health promotion programs.

ESHP 202 **Exercise Physiology**

Three 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. Requisites: ESHP 201

ESHP 203 Design and prescription of exercise programs

Three credits

Evaluation 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 populations

Three credits

Assessment guidelines, 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). Requisites: ESHP 203

ESHP 300 Psychological Foundations of Exercise

Three 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 classes of exercises

Three credits

Theory and practice of teaching fitness classes as a personal trainer and group exercise instructor.

ESHP 302 Practical as Instructor and Trainer

Three credits

Supervised 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. Requisites: The approval of all required professional and specialization course.

ESHP 303 Management programs of physical efficiency

Three 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

Three credits

Study of models used to assess physical efficiency programs: evaluation of the achievement of objectives, evaluation for satisfaction and cost-effectiveness. Emphasis on the development of tools and techniques of data collection, data analysis and the drafting of the evaluation report.

ESHP 305 Practice in administration of physical efficiency programs

Six credits

Professional supervised experience where the student is involved in the management and monitoring a physical efficiency program. Requisites: The approval of all required professional and specialization course

RECREATION AND SPORTS

REED 105 Introduction to Recreation and Sports Studies

Three 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

Three Credits

The study of recreation as the instrument for human development and social changes for communities with social disadvantages.

Requisites: REED 105

REED 107 Therapeutic Recreation

Three Credits

The study of recreation as an instrument for the rehabilitation and human development with special populations with disabilities.

Requisites: REED 105

REED 108 Recreation Commercial and Private

Three Credits

The study of recreation in the private and commercial sector, as a product for profit consumer.

Requisites: REED 105

REED 110 First Aids for Sports and Physical Activities

Three Credits

Study of the more common first aid for sports and other recreational physical activities in case of an accident or injuries. The course is oriented to enable the professional of the recreation to facilitate first aids in cases of accidents. Study of the human body, its operation and the roll of the professional of the recreation first aid.

Requisites: EDUC 106, EDUC 173, EDUC 180, EDUC 204, EDUC 280, REED 105, REED 109, EDUC 327

REED 200 Recreation Program Planning

Three 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.

Requisites: REED 105, REED 107

REED 205 Management of Recreation and Leisure Services

Three Credits

Analysis of administrative concepts applied to recreation and leisure services. The study of administrator roles and responsibilities in recreation, leisure and sports. Includes aspects such as budgeting, marketing, financing, organizational structure, legal aspects, facility operations, maintenance, and crime prevention.

Requisites: REED 105, REED 200

REED 210 Leadership and Supervision in Recreation and Leisure

Three Credits

Basic concepts of group dynamics, leadership, and supervision related to employees and volunteers in recreation and leisure services.

Requisites: EDUC 173, REED 105, REED 200, REED 205

REED 301 Camps Development

Three Credits

Study of origin and practices in developing camps in Puerto Rico. Discussion of camp concepts, camp activities, job positions, functions and program aspects such as programming, marketing, safety, budgeting and evaluation.

REED 303 Parks and Natural Resources Planning and Administration

Three Credits

Analysis of aspects related to planning, designing and managing parks and other outdoor natural resources used for recreation and leisure. Requisites: REED 105

REED 315 Legal Aspect of Sports and Physical Activities

Three 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 320 Design and management recreation and sports facilities

Three Credits

The study of the design and development of recreation and sports facilities and the implications in the program management and usage. Requisites: REED 200

REED 400 Assessment, Measurement and Evaluation in Recreation

Three 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.

Requisites: EDUC 106, EDUC 173, EDUC 180, EDUC 204, EDUC 280, EDUC 135, REED 105, REED 109, REED 200, REED 205 REED 310

REED 415 Seminar Issues related to Recreation and Leisure Studies

Three Credits

Analysis of local and international issues related to recreation, leisure, sports and fitness. An emphasis on the study of social, political, economic and legislative issues and their impact on the development of recreation and leisure services in Puerto Rico.

Requisites: EDUC 106, EDUC, 135, EDUC 173, EDUC 180, EDUC 317, REED 105, REED 109, REED 200, REED 205, REED 210, PHED 300, PHED 315, REED 310, REED 400, REED 410

REED 420 Internship in Recreation and Sports

Six Credits

Supervised field experience in recreation and sports. Students are assigned to an agency to develop, implement, evaluate, or manage recreation and sports programs.

REED 425 Internship in Recreation and Sports

Six 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.

SPECIAL EDUCATION K - 12

SPED 210 History and Legal Foundations of Special Education

Three Credits

Study of the, theoretical and legal foundations of the special education. Analysis of history, the philosophical principles and theories that sustain the special education and that give bases for their practice. It includes the analysis of the state and federal laws that endorse the special education. It includes the study of document and of procedures and the study of cases of litigation in court in P. R. and E.U. Discussion of the main concepts of transition and assistive technology.

Requisites: EDUC 106, EDUC 173, EDUC 180, EDUC 135, EDUC 204, EDUC 280

SPED 303 Neurological Development, Sensory Functions and their

Three credits Implications in Specific Learning Disabilities

A broad overview of the field of learning disabilities: definitions, characteristics, theories, diagnoses, and teaching strategies for children with learning disabilities. The normal

development of children will serve as the basis for the study of the nervous system. Students will be exposed to maturation and neurological concepts of evolution and the laws that govern such processes. Reviews the relationship between neurological development, sensorial functions, and linguistic skills. Considers the abnormalities in these relationships in the integral development of the child, including emotional side effects. Teaches students the skills and information necessary to identify, diagnose, and establish intervention procedures.

Prerequisites: EDUC 204, EDUC 280, SPAN 101-102 or SPAN 213-214 or SPAN 221-222

SPED 320 Nature and Needs of Students with Mild Disabilities

Three Credits

Study of the general aspects of the characteristics of the children with mild disabilities and their psychological, emotional, social and educative necessities with this population. In addition, knowledge, practice and strategies of intervention are included on the roll that carries out the educator within the area of Special Education, study of innovation practices, new tendencies and investigations in the area of Special Education including work in equipment and collaborative strategies.

Requisites: EDUC 204, EDUC 280

SPED 324 Preschool Education of Exceptional Children

Three Credits

Skills and techniques enabling students to develop and organize educational experiences for the exceptional child at the Preschool level. Emphasis is on stimulating children's growth in motor development (fine and gross), reasoning, receptive and expressive language, visual perception, social and emotional development, self-help, and cognitive development. Analysis of the capabilities of the students with disabilities who receive appropriate education in the least restrictive environment that motivates their integral development and exploits their learning potential. Includes review, analysis and study of early stimulation exercises for psychomotor development that may be adapted to the Preschooler with disabilities.

Requisites: EDUC 204, EDUC 280

SPED 326 Methodology, Innovative, Practice, Inclusion and Transition

Three Credits

This course brings to the student innovating experiences in the implantation of effective strategies of education, methodologies, practices and areas of curriculum and their application to children, young people and adults with disabilities. It gives emphasis, in the preparation of individualized activities, training materials, strategies, individual education plan, educative intervention and individualization of education in special education.

Requisites: EDUC 204, EDUC 280, SPED 320

SPED 390 Methodology for the teaching of mathematics in the Special Education

Three 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. Requisites: SPED 326

SPED 391 Teaching reading and writing in Special Education for the elementary level
Three credits

Analysis of reading and writing learning disabilities and its implications in the teaching of students at the elementary level (K-6). Discussion of the implications of differentiated teaching methodology of Content Standards and Expectations of the Puerto Rico Department of Education, specifically in reading and writing at the elementary level (K-6th grade). Study of instructional adaptations such as teaching materials, teaching strategies, evaluation processes and technology for special education students who have difficulties in reading and writing. Requisites: SPED390, EDUC 204

SPED 392 Teaching reading and writing in Special Education for the secondary level
Three credits

Analysis of reading and writing learning disabilities and its implications in the teaching of students at the secondary level (7-12). Discussion of the implications of differentiated teaching methodology of Content Standards and Expectations of the Puerto Rico Department of Education, specifically in reading and writing at the secondary level secondary level (7-12). Study of instructional adaptations such as teaching materials, teaching strategies, evaluation processes and technology for special education students who have difficulties in reading and writing. Requisites: SPED390, SPED 391, EDUC 204

SPED 415 Diagnostic and Evaluation Techniques for Exceptional Children
Three Credits

Preparation and use of tests and other evaluation instruments in a multidisciplinary approach to diagnose the exceptional child. Evaluation of skills and measurement processes to help students in the organization of daily planning, strategies, and curricular activities for teaching the exceptional child. Analysis and discussion of evaluation and measurement of the elementary school curriculum.

Requisites: EDUC 173, EDUC 180, EDUC 204, EDUC 280, SPED 320, SPED 326

SPED 451 Practice Teaching in Special Education k-12
Six Credits

In this Teaching Practice the student plays as teacher for planning and implementing real-world experiences of teaching and learning. This course offers students the opportunity to show and apply academic and psychosocial skills required for the special educator, such as planning strategies and differentiated instruction, use of official documents, classroom management as well as interviews and home visits, and the opportunity for the use of various assessment techniques for students with disabilities in grades K-12. This experience takes place under the supervision of a faculty supervisor and a cooperative special education teacher. The hours required in this course are stated by the Department of Education of Puerto Rico. Applications for SPED 451 require professional and specialization course approval and a minimum grade of B in each.

SCHOOL OF SOCIAL SCIENCE, HUMANITIES AND COMMUNICATIONS

In accordance with the mission of Universidad Metropolitana, the School of Social Science, Humanities and Communications (SSSHC) is focused on developing the students' analytical, scientific, cultural, and ethical competencies through a solid array of academic programs and a wide range of co-curricular and extracurricular activities. While strengthening the students' critical awareness and the students' active insertion in the civic realm, the School aims to cultivate not only competent professionals, but also engaged citizens, capable of maximizing the quality of their own lives and that of their surrounding communities.

The School's Mission seeks to:

1. Provide academic programs that respond to the educational, social and employment needs of the students and the communities;
2. Offer individualized learning designed to support the particular needs of the students;
3. Maximize students' creative and intellectual potential; and,
4. Develop positive attitudes of curiosity, enthusiasm, tolerance, understanding and social responsibility among our students.

The School has three Associate Deans and a Director of Graduate Programs.

GORDON MORA, ELOISA, Dean of the School of Social Science, Humanities and Communications

B.A., Rockhurst University

M.A., University of Notre Dame

Ph.D., University of Notre Dame

CABÁN MONTALVO, MARIVELÍZ, Associate Dean of Social Science

B.A., University of Puerto Rico

M.A., University of Puerto Rico

Ph.D., University of Puerto Rico

CRUZ SANTOS, MARTIN, Associate Dean of the Humanities

B.A., Catholic University of Puerto Rico

M.A., Centro de Estudios de los Dominicanos del Caribe

Ph.D., Interamerican University of Puerto Rico

GARCÍA DE JESÚS, YOMARIE, Associate Dean of Communications

B.A., University of Puerto Rico

M.A., University of Puerto Rico

MAMBRÚ TAVAREZ, VILMANIA G., Director of Graduate Programs

B.A., Metropolitan University

M.A., Carlos Albizu University
Psy. D, Carlos Albizu University

DEPARTMENT OF SOCIAL SCIENCE

The Department of Social Science is strongly committed to interdisciplinary learning, social responsibility and applied research. The Department provides students with the academic opportunities to engage in critical thinking, act upon the world and connect creatively to community work while stressing the importance of diversity and global awareness throughout its programs. The Department also offers two of the components of the general education curriculum required by all academic programs at the University. At present, the Department offers a Bachelor of Arts in Social Science in one of three areas: **Psychology, Social Work and Criminal Justice.**

Objectives:

- To prepare highly competent professionals, who can be leaders in the field
- To provide relevant academic and extra-curricular activities that enrich the learning experience
- To promote and support student research and practical experiences
- To promote and international connections and exchanges.

Admission Requirements

To be admitted to the Department of Social Sciences, the student must fulfill all of UMET's general admission requirements, including a general grade point average of 2.00. The student can request additional information regarding specific requirements from the Associate Dean of the Department.

Students with needs have a number of available resources for the development of their academic skills that includes computer aids, academic counselors, study areas, tutoring, and a learning center with state-of-the art computer software and equipment.

FACULTY

BERRIOS PEREZ, LUIS A.

Assistant Professor
B.A., University of Puerto Rico
J.D., Interamerican University

GARCÍA RODRÍGUEZ, CARLOS A.

Assistant Professor
B.A., University of Connecticut, Hartford
M.A., Interamerican University of Puerto Rico
Ph.D., Catholic University of Puerto Rico

GONZÁLEZ RODRÍGUEZ, OSCAR I.

Assistant Professor
B.A., Universidad Metropolitana
Ph.D., University of California, Irvine

GORDON MORA, ELOÍSA

Associate Professor
B.A., Rockhurst University
M.A., University of Notre Dame
Ph.D., University of Notre Dame

IRIZARRY RODRIGUEZ, ALBERTO

Associate Professor
B.A., University of Puerto Rico
M.A., University of Puerto Rico
Ph.D., University of Puerto Rico

LOPEZ CRUZ, NILDA

Professor
B.A., University of Puerto Rico
M.S.W., University of Puerto Rico
Ph.D., Florida State University

MORENO VIQUEIRA, MARÍA JOSÉ

Assistant Professor
B.A., Brown University, Rhode Island
M. A., Columbia University, New York
Ph.D., Columbia University, New York
Pos Doctorate, Smithsonian Institution, Washington, D.C.

NIEVES AGOSTO, MAYRA

Instructor
B.A., University of Puerto Rico
M.S.W., University of Puerto Rico

NUN MARIN, YAMILE

Instructor
B.A., University of Puerto Rico
M.S.W., University of Puerto Rico
Grad. Certificate – Gerontology- UPR
Grad. Certificate – Geriatric- UPR

ORTEGA NOGUERA, JUSTO S.

Professor
B.A., University of Puerto Rico
M.A., The American University, Washington, D.C.

PLAZA ALONSO, JOSE L.

Associate Professor
B.A., Escuela Universitaria de Magisterio, Segovia, Spain
M.A., University of Madrid
Ph.D, University of Madrid

REBOLLO-GIL, GUILLERMO

Assistant Professor
B.A., University of Florida
M.A., University of Florida
J.D., University of Puerto Rico
Ph.D. University of Florida

RODRIGUEZ LOPEZ, NITZA

Instructor
B.A. University of Puerto Rico
M.S.W., University of Puerto Rico

TORRES ORTIZ, RAFAEL

Professor
B.A., University of Puerto Rico
M.S., Centro Caribeño de Estudios Postgraduados

Grad. Cert. - Gerontology - UPR
Ph.D., University of Puerto Rico

VAZQUEZ COLON, JAIME

Assistant Professor

B.A., University of Puerto Rico

J.D., Catholic University of Puerto Rico

LI.M., Catholic University of Puerto Rico

Bachelor of Arts In Social Sciences Major In Psychology

123 credits	Credits
General Education	54
Social Sciences	15
Psychology	27
Electives in Psychology	9
Electives in Social Sciences	12
Free Electives	6

General Education		
SOSC 101-102	Introduction to Social Sciences	6
ENGL 101-102	Introductory English Language Course - Basic Level	
or ENGL 103-104	Introductory English Language Course - Intermediate Level	
or ENGL 105-106	Introductory English Language Course - Advanced Level	6
ENGL 201-202	Second-Year English	6
or ENGL 205-206	Second Year English-Advanced Level	
SPAN 101,102	Basic Spanish Language Course – Basic Level	6
SPAN 104 or	Basic Spanish Language Course – Intermediate Level	
SPAN 106	Basic Spanish Language Course – Advanced Level	
SPAN 211	Appreciation of Puerto Rican Literature	3
SPAN 215	Written Composition	3
HUMA 101-102	Introduction to the Study of Western Civilization	6
HIST 253	History of Puerto Rico	3
MATH 101-102	Intermediate Algebra	6
SCIE 111-112	Introduction to the Study of Integrated Sciences	6
COIS 101	Literacy on Computer Science	3

Psychology and Social Sciences		
SOCI 201-202	Principles of Sociology	6
SOSC 225	Contemporary Economic and Political Issues	3
SOSC 303	Applied Statistical Methods for Social Sciences	3
SOSC 320	Introduction to Methods and Techniques on Social Investigation	3
PSYC 121-122	General Psychology	6
PSYC 225	Social Psychology	3
PSYC 321	Personality Theories	3
PSYC 330	Measurement of Personality Techniques	3
PSYC 350	Psychopathology Principles	3
PSYC 410	Experimental Psychology	3
PSYC 421	Experimental Social Psychology	
or PSYC 423	Physiological Psychology	3
PSYC 430	Theories and Systems in Psychology	3
Electives in Psychology		9
Electives in Social Sciences		12
Free Electives		6

Bachelor of Arts In Social Sciences Major In Criminal Justice

120 credits	Credits
General Education	57
Social Sciences	24
Criminal Justice	36
Electives in Criminal Justice	3

General Education		
SOSC 101-102	Introduction to Social Sciences	6
FYIS 101	Introduction to the University Life	3
ENGL 101-102	Introductory English Language Course - Basic Level	6
or ENGL 103-104	Introductory English Language Course - Intermediate Level	
or ENGL 105-106	Introductory English Language Course - Advanced Level	
ENGL 201-202	Second-Year English	6
SPAN 101-102	Introductory Basic Spanish Language Course - Basic Level	6
or SPAN 103-104	Introductory Basic Spanish Language Course - Intermediate Level	
or SPAN 105-106	Introductory Basic Spanish Language Course - Advanced Level	
SPAN 211	Appreciation of Puerto Rican Literature	3
SPAN 215	Written Composition	3
HUMA 101-102	Introduction to the Study of Western Civilization	6
HIST 253	History of Puerto Rico	3
MATH 101-102	Intermediate Algebra	6
SCIE 111-112	Introduction to the Integrated Sciences	6
COIS 110	Computer Literacy	3

Criminal Justice and Social Sciences		
SOCI 203	Principles of Sociology	3
SOSC 225	Contemporary Economic and Political Issues	3
SOSC 303	Applied Statistical Methods for Social Sciences	3
POSC 253 or	Puerto Rico Political System	
ECON 300	Economy of Puerto Rico	3
POSC 420 or	History of Political Thought	
ECON 350	International Economy	3
PSYC 123	General Psychology	3
PSYC 350	Psychopathology Principles	3
SOCI 325	Sociology of Deviance	3
CRIM 107	Introduction to Criminal Justice	3
CRIM 200	Criminal Justice System of Puerto Rico	3
CRIM 300	General Principles of Penal Law	3
CRIM 301	Criminal Legislation in Puerto Rico and Other Special Laws	3
CRIM 302	Criminal Procedure	3
CRIM 318	Police Organization and Management	3
CRIM 350	The Correctional System of Puerto Rico	3
CRIM 360	Criminal Investigation	3
CRIM 370	Law of Evidence	3
CRIM 380	Criminalistics	3
CRIM 400	Contemporary Human Rights	3
CRIM 401	Practicum in Criminal Justice	3
Electives in Criminal Justice		3

Bachelor of Arts In Social Sciences Major In Social Work

123 credits	Credits
General Education	57
Social Sciences	18
Social Work	45
Electives in Social Work	3

General Education		
FYIS 101	Seminario Inducción de Primer Años	
SOSC 101-102	Introduction to Social Sciences	6
SPAN 101-102	Introductory Basic Spanish Language Course - Basic Level	6
SPAN 211	Appreciation of Puerto Rican Literature	3
SPAN 215	Written Composition	3
ENGL 101-102	Introductory English Language Course - Basic Level	6
ENGL 201-202	Second-Year English	6
HUMA 101-102	Introduction to the Study of Western Civilization	6
SCIE 111-112	Introduction to the Study of Integrated Sciences	6
HIST 253	History of Puerto Rico – Compendium	3
MATH 101-102	Elementary Algebra	6
COIS 101	Introduction to Computer- Based Systems	3

Social Sciences		
PSYC 121-122	General Psychology	6
SOCI 203	Principles of Sociology	3
SOSC 225	Contemporary Economic and Political Issues	3
SOSC 303	Statistical Methods Applied to the Social Sciences (Survey)	3

SOCI 330	Sociology of the Marriage and the Family	3
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Social Work		
SOWO 260	Introduction to Social Work	3
SOWO 265	Social Policy and Social Services	3
SOWO 320	Communication Skills and Interview	3
SOWO 350	Social Work with Individual and Family	3
SOWO 358	Research Method, in Social Work	3
SOWO 370	Human Being and Social Environment	3
SOWO 373	Cultural Diversity, Special Needs Population and Social Work	3
SOWO 387	Social Work and the Health	3
SOWO 390	Family Violence and the Social Work Practice	3
SOWO 450	Social Work with Groups and Communities	3
SOWO 460	Recording and Analysis of Social Records	3
SOWO 480,482	Seminar I ,Seminar II	6
SOWO 481,483	Supervised Practice I,II	6

Electives in Social Work The student will select three (3) credits among the following courses:

SOWO 425	Social Work and Gender	3
SOWO 400	Social Work with the Elderly Population	3
SOWO 397	Social Work in Industries	3
SOWO 380	The Child, the Adolescent, and the Family	3
SOWO 360	Administration and Supervision in Social Welfare Agencies	3

COURSE DESCRIPTION

ANTH 205 Introduction to Anthropology

Three Credits

Study of the origin, evolution and development of the human being, society and culture. Comparative study of primates, other homo hails and homo sapiens. Social and cultural basis in the development of the human being. Theories, trends, approaches, methods, and techniques in anthropology.

Prerequisites: SOSC 101-102

CRIMINAL JUSTICE

CRIM 107 Introduction to Criminal Justice

Three Credits

This is an introductory course to the field of criminal justice, with an emphasis on studying the origins and the development of the schools of thoughts in the field of criminology throughout history. The course will provide ample discussion of the various theories that contributed to the development of the scientific field of criminology. Also, the structure, institutions and basic functions of Puerto Rico's criminal justice system will be studied. The course provides an opportunity for the study and analysis of crime in our society, identifying its causes and available options.

Prerequisites: SOSC 101 - 102

CRIM 200 Criminal Justice System of Puerto Rico

Three Credits

This course is aimed at the study of the legal, constitutional, and judicial protections and guarantees in accordance with Supreme Court decisions. Emphasis will be given to civil rights, the Bill of Rights, and the origins and development of the Constitution.

Prerequisites: SOSC 101 – 102, CRIM 107

CRIM 218 Civil System

Three Credits

The course seeks to provide the student with knowledge of the historical process that promoted the development of our civil law system and its main components, such as Property Law, Family Law, Contracts, Estate Law and Torts.

Prerequisites: SOSC 101 – 102, CRIM 107

CRIM 220 Social Problems: Poverty, Inequality, and Social Exclusion

Three Credits

This course is an interdisciplinary approach to the study of contemporary social problems of inequality, poverty, and social exclusion. Students will analyze specific situations and events in order to apply the concepts and theories studied in the course. Key issues addressed in the course include: classical liberalism, Keynesian liberalism, neo-liberalism, dependency,

colonialism and post-colonialism, race, gender and poverty, as well as international financial institutions.

Prerequisites: SOSC 101 – 102, CRIM 107

CRIM 300 General Principles of Penal Law

Three Credits

Introductory course to criminal law. The course will rely on Puerto Rico's Penal Code for the study of the nature of crime, its elements, available defenses for the accused, and the sentencing guidelines included in the Penal Code. During the course, both crimes against the individual and against property will be covered. Prerequisites: SOSC 101 – 102, CRIM 107

CRIM 301 Special Penal Laws in the Criminal Legislation in Puerto Rico

Three 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.

Prerequisites: SOSC 101 – 102, CRIM 107, CRIM 300

CRIM 302 Criminal Procedure

Three Credits

The course provides an opportunity for the analysis of the various procedural laws that regulate the application of criminal law. Also, the course covers the criminal law judicial process and its stages. Finally, the student has an opportunity to study the constitutional rights available to the accused through criminal investigation and the judicial process.

Prerequisites: SOSC 101 – 102, CRIM 107, CRIM 200, CRIM 300, CRIM 301

CRIM 311 Juvenile Delinquency

Three Credits

This course provides a multidisciplinary approach to the study of juvenile delinquency and its sociological, psychological, criminal, and legal perspectives. Students will study and analyze this social phenomenon and its relationship with family, neighborhood, school, religion, peer group, social class, and culture. The course also emphasizes juvenile delinquency in Puerto Rico, statistics, the criminal justice system structure, and processing regulations. Students will also be able to explore a variety of prevention strategies.

Prerequisites: SOSC 101 – 102, CRIM 107

CRIM 315 Administrative Law

Three Credits

The course will cover the analytical and critical study of the Uniform Law of Administrative Proceedings of the Commonwealth of Puerto Rico. (Law 170, of August 12, 1988, as amended). The basic aspects of administrative law litigation before government agencies will be studied. Emphasis will be given to the procedural guarantees provided in the administrative procedures.

Also, the process of judicial review of administrative decision both in quasi-judicial and quasi-legislative processes will be studied.

Prerequisites: SOSC 101 – 102, CRIM 107

CRIM 318 Police Organization and Management

Three Credits

Includes the study and analysis of the organizational structure and administrative procedures of the State and Municipal police in Puerto Rico. It's functions, duties, powers and relations with the community, are also studied.

Prerequisites: SOSC 101 – 102, CRIM 107, CRIM 300, CRIM 370

CRIM 320 Introduction to Social Investigation Methods and Techniques

Three Credits

The course provides a critical analysis of methods, techniques, and strategies used in social investigation. During the course students will analyze a variety of theoretical models and methods applied in this field, and will also study professional literature on the subject.

Prerequisites: SOSC 101 – 102, CRIM 107

CRIM 350 The Correctional System of Puerto Rico

Three Credits

This course provides an overview of the Correctional System in Puerto Rico. It also aims to provide students with information concerning the origin of the Correction System according to the dispositions of Law Num. 116 of July 22, 1993 and the 1993 reorganization plan. Students will get acquainted with the history, creation, and development of the Corrections Administration, the Department of Corrections and Rehabilitation, The Administration of Juvenile Institutions, the Parole Board, the Office of Services Prior to Trial, and the Work and Study Corporations. The students will develop an insight as to the nature of the penal population, their rights, rehabilitation programs, and incentives.

Prerequisites: SOSC 101 – 102, CRIM 107, CRIM 200, CRIM 300

CRIM 360 Criminal Investigation

Three Credits

The course emphasizes the study and guidelines of basic criminal investigation techniques, from their origins, through the evolution, to today's technological advances in investigative methods.

Prerequisites: SOSC 101 – 102, CRIM 107, CRIM 200, CRIM 300, CRIM 301, CRIM 302

CRIM 370 Law of Evidence

Three Credits

This course is aimed at the study of the rules of evidence both in civil law and criminal law judicial proceedings. The course is designed to develop an understanding of the basic concepts of the rules of evidence. Emphasis will be given to the structure of the evidence, evidence and the judicial process, the rule of relevance, rule of exclusion, hearsay rule and its exceptions, privileges, offer of proof, photographs, writings, recordings, and demonstrative and scientific evidence. Prerequisites: SOSC 101 – 102, CRIM 107, CRIM 200, CRIM 300, CRIM 301, CRIM 302

CRIM 380 Criminalistics**Three Credits**

An introductory course to forensic science which consists of the study of the most recent scientific techniques for the collection, identification, treatment, and preservation of evidence used in a criminal investigation. Also, the constitutional principles that guarantee due process to an individual in the handling of the various types of evidence during a criminal investigation. Strong emphasis will be given to the importance and use of evidence in a judicial proceeding and in crime solving.

Prerequisites: SOSC 101 – 102, CRIM 107, CRIM 200, CRIM 300, CRIM 301, CRIM 302, CRIM 360

CRIM 400 Contemporary Human Rights

The course will explore the development of the concept of human rights. Through the study; analysis and knowledge of these rights, emphasis will be given to the concept of defense human dignity. Among the topics to be studied, are the following: the historical trajectory of human rights, the internationalization and implementation of the charter of human rights of the organization of the United Nations, and the status of human rights in Puerto Rico.

Prerequisites: SOSC 101 – 102, CRIM 107, CRIM 200

CRIM 401 Practicum**Three Credits**

The Practicum experience provides students the opportunity to apply their knowledge of criminology theories, skills, and attitudes needed in the workplace. Students will do their student practice in a private or public agency related to the criminal justice system. The professor will act as a guide, resource provider, guidance counselor, and coordinator of this educational activity. The professor and the students will share the responsibility of selecting the agency which will best contribute to the students' professional development.

Prerequisites: SOSC 101-102, CRIM 107, CRIM 200, CRIM 300, CRIM 301, CRIM 302, CRIM 318, CRIM 350, CRIM 360, CRIM 370, CRIM 380

DEMOGRAPHY**DEMO 202 Introduction to Demography****Three Credits**

Principles of demography, with emphasis on population distribution, migration and urbanism. Other elements of population, such as their influence on society and on political, economical, and cultural development are included.

Prerequisites: SOSC 101-102

ECONOMICS

ECON 201-202 Principles of Economics

Six Credits

Fundamentals of the theory, methodology and the practice of economics. Micro and macroeconomic analyses. Principles of economic systems, international economics, economic development and welfare economics.

Prerequisites: SOSC 101-102

ECON 250 Microeconomic Analysis

Three Credits

Economic theory and price system. Study of such basic concepts as production, income, consumption, employment, saving and income distribution in a free enterprise system as well as in socialist economies.

Prerequisites: SOSC 101-102 or SOSC 103

ECON 260 Macroeconomic Analysis

Three Credits

Fundamentals of macroeconomic theory: methodology and the aggregative basic concepts in capitalist and socialist economic systems: study of national product, economic development and economic welfare.

Prerequisites: SOSC 101-102 or SOSC 103

ECON 300 The Economy of Puerto Rico

Three Credits

Analysis of economic history and the present characteristics and trends of the Puerto Rican economy, considering its developmental model and process. Special emphasis on its structural elements, production, employment, income and growth. Study of international trade, international relations, and the economic relationship between Puerto Rico and the United States.

Prerequisites: SOSC 101-102 or SOSC 103

ECON 350 International Economics

Three Credits

Principles of international economics. Theory and practice of international trade and international finance with emphasis on the international relations between developed and developing countries. Analysis of international organizations and the new international economic order.

Prerequisites: SOSC 101-102 or SOSC 103

ECON 370 Latin American and Caribbean Economy

Three Credits

History of the economic development of Latin American and Caribbean countries. Analysis and evaluation of their present structural elements, institutions, problems and factors encouraging or impeding economic growth and development. Emphasis on public economic policies,

external debt, regional integration, international trade and the different levels of development of the Latin American and Caribbean countries.

Prerequisites: SOSC 101-102 or SOSC 103

ECON 410 Economics of Welfare

Three Credits

Economic foundations of welfare and its implications for social organization and economic systems. Analysis of the public and private sectors, external factors and public utilities.

Prerequisites: SOSC 101-102 or SOSC 103

ECON 420 History of Economic Thought

Three Credits

Historical evolution of economic thought from classical economics to the present, with special emphasis on the contemporary world. Analysis of the origin, development and principles of capitalism, socialism, Marxism and mixed systems. Emphasis of their influence on contemporary world economic systems. Prerequisites: SOSC 101-102 or SOSC 103

GEOGRAPHY

GEOG 202 Elements of Geography

Three Credits

Principles of physical, human and cultural geography. Special attention to the relationship between physical and cultural patterns with emphasis on the economy, population and social development.

Prerequisites: SOSC 101-102

GEOG 225 Geography of Puerto Rico

Three Credits

Physical and human geography of Puerto Rico. Study of natural resources and environment and their interaction with, and influence on Puerto Rican society, its culture and standard of living.

Prerequisites: SOSC 101-102, GEOG 202

GERONTOLOGY

GERO 300 Introduction to Gerontology

Three Credits

Panoramic view of the gerontology field. Study of the principles, concepts and basic theories of this subject, emphasizing the biopsychosocial aspects of the aging process.

Prerequisites: SOSC 101-102

GERO 301 Psychological Aspects of the Aging

Three Credits

This course examines the psychological dimension of the aging process due to the changes in functional, social, cognitive behavior, furthering the exploration of some mental disorders in

the aging person. Study of theories related to the aging adjustment process on a psychological level.

Prerequisites: SOSC 101-102, PSYC 121-122

GERO 302 Biological Aspects of Aging

Three Credits

Normal physical changes in the organism as a result of the aging factor, as well as other changes that take place in the structure and the functions of the other systems in the human organism.

Prerequisites: BIOL 103-104

GERO 303 Clinical Aspects of Aging

Three Credits

This course provides knowledge of the biological aspects from a clinical point of view. It identifies the most common diseases of the aging, besides giving importance to the appropriate management of their health conditions.

Prerequisite: GERO 302

GERO 325 Death, Final Stage

Three Credits

Attitudes and practices of society around the concept of death. Aging and death are conceptualized in their psychological, sociocultural, biological and spiritual aspects. The different stages in the process of dying are analyzed, as well as mourning. Mediation strategies under these circumstances are discussed.

Prerequisite: SOCI 322

GERO 330 New and Traditional approaches in Services for the Elderly

Three Credits

The students are familiarized with different approaches to services offered to the elderly in order to satisfy their physical, psychological, and spiritual demands. The traditional approaches emphasize individual group therapy, exercise and recreation. The new approaches basically consist of chromotherapy, music therapy and drama.

Prerequisite: GERO 300

GERO 400 Problems, Controversies and New Trends in Gerontology

Three Credits

This course offers the student the opportunity to discover new trends in the gerontology field specially in areas of interest for the elderly such as health, housing, public policy, recreation, education, legal aspects, etc.

Prerequisite: GERO 300

GERO 404 Programs and Services for the Elderly Population
Three Credits

The course studies the policies, legislation and regulations of the services offered by public and private agencies in the field of gerontology. The course prepares the students to work in public or private institutions that offer services for the elderly population.

Prerequisite: GERO 300

GERO 420 Research Methods in Gerontology
Three Credits

The student is exposed to the principles involved in social research in gerontology, through critical analysis of the methodology, techniques and strategies utilized in social research. Through the study of different types of research, the student will be able to apply the theoretical concepts presented in the field of Gerontology. Laboratory included.

Prerequisites: SOSC 301-302

GERO 422 Practicum in Gerontology
Three Credits

The course has been designed to help the student integrate and apply the knowledge previously acquired by getting in touch with institutions that offer services to the elderly. Part of the course is held in these institutions. Lectures and a supervised practice are also part of the educational experience.

Prerequisites: GERO 300, 301, SOCI 332

POLITICAL SCIENCE

POSC 201-202 Introduction to the Study of Political Sciences
Six Credits

Study of political history, theory and practice. Analysis of the most important national political institutions and groups such as political parties and governments. Attention to the contemporary world in terms of international relations, ideologies, balance of power, political order, and international organizations.

Prerequisites: SOSC 101-102

POSC 253 Political System of Puerto Rico
Three Credits

Historical development of the judicial and political systems of Puerto Rico. Analysis of the political principles of the constitution vis-a-vis government organization. Special attention is given to the present political status, political parties, relationship with the United States, and international relations.

Prerequisites: SOSC 101-102 or SOSC 103

POSC 373 Political System of the United States

Three Credits

Historical background of the American political system. Study of political theory, the Constitution, and government organization. Emphasis on political parties, political participation, and international relations.

Prerequisites: SOSC 101-102 or SOSC 103

POSC 420 History of Political Thought

Three Credits

Critical analysis of political thought and history from Plato and Aristotle to the present. Analysis of the major schools of political thought and ideologies with special emphasis on twentieth century political systems.

Prerequisites: SOSC 101-102, ECON 202-202

PSYCHOLOGY

PSYC 121-122 General Psychology

Six Credits

Introduction to the basic areas of general psychology. Theories, concepts and methods used in psychological studies of individual and social behavior. Attention to the psychological elements of human growth and development.

Prerequisites: SOSC 101-102

PSYC 123 General Psychology Survey Course

Three Credits

Survey course in general psychology. Study of basic principles, concepts and theories of individual and social behavior.

Prerequisites: SOSC 101-102 or SOSC 103

PSYC 205 Group Dynamics

Three Credits

Study of theories, methods and techniques of group dynamics. Analysis of the structure, nature, functions and leadership of groups in society; special emphasis will be placed in the study of small groups. A theoretical systems approach is used towards the analysis of relevant aspects of group dynamics. Application of concepts through structured experiences of human processes within small groups. Prerequisites: SOSC 101-102, PSYC 121-122

PSYC 210 Sexual Psychology

Three Credits

Theories, concepts and approaches to human sexuality, sexual relations, sexual dysfunctions and education as parts of normal human growth and development. Attention to sexual problems affecting contemporary society (particularly in the adolescent), including illness, sexual dysfunction and so-called sexual abuse and deviation.

Prerequisites: SOSC 101-102, PSYC 121-122

PSYC 225 Social Psychology

Three Credits

Scientific study of social life from the point of view of the individual. Emphasis on a critical analysis of the relationship between culture and personality. Attention to language, suggestion, imitation, attitudes, stereotypes, propaganda, leadership and conflicts.

Prerequisites: PSYC 121-122

PSYC 226 Developmental Psychology

Three Credits

Study of human development from conception to death. Particular emphasis on interpersonal, cognitive and motivational processes. Learning, cognitive development and psychodynamic theories. Theoretical and empirical references for the study of human development.

Prerequisites: PSYC 121-122

PSYC 321 Personality Theories

Three 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. Prerequisites: PSYC 121-122

PSYC 322 Theories and Techniques in Psychotherapy

Three Credits

Theories of personality and learning for counseling, psychology and psychotherapy. Training and skills of the professional counselor. Behaviorist and humanistic approaches, and some laboratory experience.

Prerequisites: PSYC 121-122, PSYC 321

PSYC 323 Introduction to Community Psychology

Three Credits

Historical development and definition of community psychology. Analysis of the theories, concepts and available relevant data related to this discipline. Analysis of selected research.

Prerequisites: PSYC 121-122, PSYC 225

PSYC 330 Measurement of Personality Techniques

Three Credits

Methods and techniques for measuring adjustment, sociability, intelligence, attitudes, and emotional stability. Status of the projective techniques, questionnaires, rating scales, etc.

Prerequisites: PSYC 121-122

PSYC 343 Learning Theories

Three Credits

Study of the nature and types of variables involved in the learning process. Current issues in learning theory.

Prerequisites: PSYC 121-122

PSYC 350 Principles of Psychopathology

Three Credits

This course provides a critical analysis of what is considered normal and abnormal conduct using cultural and socio-economic elements as criteria to define both terms. Students will analyze the evolution of the concept of “mental illness” together with its epidemiology, etiology, diagnosis, and treatment. The course also explores different approaches to the treatment of mental illness. These approaches will be discussed considering the behavioral, biophysical, psychodynamic, phenomenological, integrative, and sociocultural points of view. Students will also become familiar with the nosological entities of the DMS IV TR.

Prerequisites: PSYC 121-122

PSYC 353 Psychology and Cinema

Three 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 a individual and collective level.

Prerequisites: PSYC 121-122 or PSYC 123

PSYC 355 Industrial Psychology

Three Credits

The main elements in the personnel selection process and organizational behavior, with special emphasis on the use of testing. Problems in testing different ethnic groups and nationalities. Study of the literature in these areas.

Prerequisites: PSYC 121-122 or PSYC 123

PSYC 360 Cognitive Psychology

Three Credits

This course provides a thorough analysis of the theories and principles involved in the cognitive process. Besides studying the origin and hypotheses regarding cognitive psychology, it will emphasize the following brain functions: cognition, sensation, perception, attention and learning.

Prerequisites: PSYC 121-122 or PSYC 123

PSYC 410 Experimental Psychology

Three 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.

Prerequisites: PSYC 121-122, SOSC 301-302

PSYC 421 Experimental Social Psychology

Three Credits

A review of the methodology of social psychology, focusing on theoretical and experimental design in areas such as leadership, attitude, communication and others. Laboratory included.

Prerequisites: PSYC 121-122, SOSC 301-302, PSYC 410

PSYC 423 Physiological Psychology

Three Credits

Study of the human organism, with emphasis on the central nervous system, autonomic functions, organization of movement, cortical functions, and the processes of sensation, perception, motivation and emotion. Laboratory included.

Prerequisites: PSYC 121-122, SOSC 301-302, PSYC 410

PSYC 425 Behavior Modification

Three 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. Prerequisites: PSYC 121-122

PSYC 430 Theories and Systems in Psychology

Three Credits

Comparative study of different theories, methods, concepts and techniques in psychology, with emphasis on the most recent trends and developments. Prerequisites: PSYC 121-122

SOCIOLOGY

SOCI 201-202 Principles of Sociology

Six Credits

Study of the human being in a socio-cultural context. Emphasis is given to the use of the scientific method in the study of society and the study of social theories. Study of social stratification and institutions such as family, religion, education, economy and politics. Analysis of contemporary social problems. Two semesters, three hours per week.

Prerequisites: SOSC 101-102

SOCI 203 **Principles of Sociology/Survey Course**

Three Credits

Survey course on principles of sociology. Study of the theories of groups, institutions and society. Analysis of social organization and social problems.

Prerequisites: SOSC 101-102

SOCI 250 **Sociology of Science**

Three Credits

Study of the scientific activity as a social and cultural affair. It examines the scientific approach as a typical way different from the non-scientific forms of knowledge: searching the limits between scientific and non scientific matters. It focuses on the historic perspective, the origin and development process of science and technology, including their social benefits and risks for the social well-being. This course also examines the interrelations of the scientific activity with the philosophy and ideology.

Prerequisites: SOSC 101-102 or SOSC 105-106

SOCI 325 **Sociology of Deviance**

Three Credits

Study of sociological theories explaining deviant behavior. Special attention to the role of cultural values and norms in the definition of deviant behavior. Pathological aspects such as poverty, family disorganization, overpopulation, prostitution and alcoholism are studied.

Prerequisites: SOSC 101-102, SOCI 201-202

SOCI 330 **Sociology of Marriage and the Family**

Three Credits

Study of the family from sociological and sociopsychological perspectives. Emphasis is given to the study of marriage and the family as a social institution as well as to the theories and methodology used in the scientific study of the family. Issues such as the family and social change, sex roles and gender, premarital, marital and extramarital relationships will be studied.

Prerequisites: SOSC 101-102; SOCI 201-202

SOCI 332 **Sociology of the Aging Process**

Three Credits

Study of the social, psychological and physiological aspects of the aging process. Emphasis is placed on the effects of the normative and non-normative transitions and adjustments required by the aging process, such as retirement, the empty nest syndrome, grandparenthood, widowhood, economic and health problems, elderly abuse, the effects of divorce in later life and the acceptance of death. Issues related to myths and social stereotypes of the elderly are addressed.

Prerequisites: SOSC 101-102, SOCI 201-202

SOCI 350 Sociological Theory

Three Credits

Study of the origins and development of sociological theory. Attention is given to the basic sociological schools of thought. Analysis of the methodology and techniques most widely used by the various sociological theorists.

Prerequisites: SOSC 101-102, SOCI 201-202

SOCI 355 Population Studies

Three Credits

A comprehensive survey of aspects of population: growth and distribution, birth and death rates, migration, and their social, political and economical implications. Emphasis on population trends in Puerto Rico.

Prerequisites: SOSC 101-102, SOCI 201-202

SOCI 360 Urban Sociology

Three Credits

A theoretical formulation of the origin, growth and development of the city and urban life. Study of urban living and habits, intergroup relations, public policy, and planning.

Prerequisites: SOSC 101-102, SOCI 201-202

SOCI 440 Relationship Patterns through the Family Life Cycle

Three Credits

Scientific and theoretical study of the relationship patterns through the various stages of the family life-cycle. Analysis of the sociological approach to the family: theory and problems. Field research is required.

Prerequisite: SOSC 101-102, SOCI 201-202, SOCI 330

SOCIAL SCIENCES

SOSC 101-102 Introduction to the Social Sciences

Six Credits

General principles of the social sciences and the fundamentals of the various disciplines: anthropology, sociology, psychology, economics and political sciences. Analysis of social problems in the contemporary world.

SOSC 103 Introduction to Social Sciences - Survey Course

Three Credits

Survey course on general principles and foundations for the social science disciplines: anthropology, sociology, psychology, economics and political sciences. Analysis of social problems.

SOSC 105-106 Introduction to the Social Sciences – Honor Course

Six Credits

General principles and foundations for the social sciences disciplines: anthropology, sociology, psychology, economics and political sciences. Analysis of selected readings on social problems. Essential methods and techniques of social research.

SOSC 225 Contemporary Socio-Political Dilemmas

Three Credits

The course provides an interdisciplinary approach to the study of the relationships among the social, political, economic, and cultural elements of the contemporary world. Situations, problems, and events of the modern world will be used as analysis and interpretation models of the concepts and theories discussed in the course. Key issues addressed in the course include: the structure of the state, colonialism, nationalism and post-colonialism, modernity and post-modernity, globalization and the New International Economic Order, globalization and environmental and social deterioration.

Prerequisite: SOSC 101-102

SOSC 301-302 Applied Statistics for Social Sciences

Six Credits

Descriptive and inferential statistical techniques and reasoning. Elements of statistical reasoning and mechanics involved in the computation of statistical measures in social sciences problems. Emphasis on when, why and how to use a specific technique in a research process.

Prerequisites: SOSC 101-102, MATH 111

SOSC 303 Statistical Methods Applied to the Social Sciences (Survey)

Three Credits

The statistical methods course applied to the Social Sciences is an introductory feature of the statistical methods field applicable to the Social Sciences. It provides a general vision of descriptive and inferential statistics pertinent to students of Criminal Justice, Psychology and Social Work.

Prerequisites: SOSC 101-102, MATH 101-102

SOSC 320 Foundations, Methods and Techniques in Social Research

Three Credits

Critical analysis of methods, techniques and strategies used in social research. Different theoretical and applied methods and models are examined for further application. Analysis of selected available research.

Prerequisites: SOSC 101-102, SOSC 303

SOSC 350 Experimental Design in Social Research

Three Credits

Experimental and quasi-experimental design. Theories and techniques used in their application, and their evaluation. Laboratory experience is required.

Prerequisites: SOSC 101-102, SOSC 301-302

SOSC 400 Interdisciplinary Seminar: Contemporary Social and Economic Problems

Three Credits

Relevant social, political and economic problems of contemporary society. Theory and definition of social problems through an interdisciplinary approach. Emphasis on Puerto Rican social problems and social service institutions.

Prerequisites: SOSC 101-102, SOCI 201-202, SOSC 225

SOSC 401 Survey Research Methods

Three Credits

Most often-used methods and techniques for survey research in the social sciences. History and current trends of these methods are discussed and analyzed. Laboratory experience is recommended.

Prerequisites: SOSC 101-102, SOSC 320

SOSC 402 Needs Assessment Techniques and Methods

Three Credits

History and current trends in needs assessment methods and techniques in the social sciences. A critical approach to theory and practice in Puerto Rico. Laboratory experience is recommended.

Prerequisites: SOSC 101-102, SOSC 320-321

SOSC 458 Practicum in Social Research

Three Credits

Field experience in social research. Methods and techniques used throughout the planning and development of an original, supervised research project. Students and professors will establish topics, methods, and techniques to be used. Laboratory experience is required.

Prerequisites: SOSC 101-102, SOSC 301-302, SOSC 320-321

SOCIAL WORK

SOWO 260 Introduction to Social Work

Three Credits

The course provides an introduction to social work as a profession. It studies its historical and philosophical development and its relationship with other help professions. Examination and analysis of its principles, values, goals and sanctions will be made. Also the ethical code that governs the practice will be studied. It also provides a general vision of professional functions and roles, and its professional organizations and social work as a profession. Prerequisites: SOSC 101-102

SOWO 265 Social Policy and Social Services

Three Credits

This course studies the history, philosophy and development of social welfare as an essential social institution. It also studies the relationship between social problems and social policy formulated by government services and programs that agencies deliver. Special attention is

given to the role of the social worker in the development and implementation of social policy in contemporary Puerto Rico.

Prerequisite: SOSC 101-102, SOWO 260

SOWO 320 Communication Skills and Interview

Three Credits

The course Communications Skills and Interview consists of the study of techniques and basic interpersonal abilities in the helping process of Social Work. The principal emphasis is in the process of communication and interview skills.

Prerequisites: SOSC 101-102, SOWO 260, SOWO 265

SOWO 350 Social Work with Individual and Family

Three Credits

This course analyzes the family system and its influence over the individual and society. Attention will be given to the social complexity that impact the life cycle of individuals: from childhood to old age. The course includes the diverse modes of intervention at preventive and remedial levels so as to develop the necessary skills to attend the individual and the family as a system. Legislation and the public and private agencies that pertain to the family and its members will be identified. Prerequisites: SOSC 101-102, SOWO 260, SOWO 265

SOWO 358 Research Methods in Social Work

Three Credits

The purpose of the course is to initiate students in scientific research techniques in social work. Emphasis is given to the development of mastery in compiling and writing the purpose of a study, hypothesis formulation, sampling, data analysis and conclusions.

Prerequisite: SOSC 101-102, SOWO 260, SOSC 303

SOWO 360 Administration and Supervision in Social Welfare Agencies

Three Credits

This course studies the basic principles, processes, practice and supervision in Social Services Agencies. It underlines the importance of this process in the provision of effective social services as well as the function of the Social Worker.

Prerequisites: SOSC 101-102, SOWO 260, SOWO 265, SOWO 320, SOWO 350

SOWO 373 Cultural Diversity, Special needs Population and Social Work

Three Credits

The course examines the origins, dynamics, impact and problems related to Puerto Rican populations with special needs. Emphasis is given to different forms of discrimination and oppression institutionalized in contemporary society such as sexism, racism and aggression, among others. It also examines how these systems of oppression perpetuate in society the ideology of domination and subordination and social work roles and challenges under those circumstances. Cultural diversity is specially addressed and the importance of individual differences as an alternative for personal and professional enrichment.

Prerequisites: SOSC 101-102, SOWO 260, SOWO 265

SOWO 380 The Child, the Adolescent and the Family

Three Credits

This course familiarizes the student with social problems that impact directly children and adolescents, and the present legislation that benefits the child and the family. Includes the identification of public and private agencies, the programs, services and legislation that have been developed to face the social problems of the child and the adolescent in Puerto Rico.

Prerequisites: SOSC 101-102, SOWO 260, SOWO 265, SOWO 350

SOWO 387 Health and Social Work

Three Credits

This course includes the study of the functions and roles of the social worker of individual and group cases in the medical-social setting. State and federal laws related to medical social services as well as intervention strategies with medical patients will be discussed.

Prerequisites: SOSC 101-102, SOWO 260, SOWO 265

SOWO 390 Family Violence and the Social Work Practice

Three Credits

This course studies the definitions and the magnitude of family violence in the contemporary world. It emphasizes the history, etiology, myths, and the dynamics in child abuse, incest, violence, fraternal violence, abuse of women and men, abuse and negligence of older people. Includes study of the political issues, programs and services and the guides to prevent violence in homes. It also investigates various theories and strategies used frequently in domestic violence studies.

Prerequisites: SOSC 101-102, SOWO 260, SOWO 265, SOWO 350

SOWO 397 Social Work in Industries

Three Credits

This course will study some aspects of labor law legislation as it relates to both public and private corporations. Attention will be given to the process of labor legislation and collective bargaining. Emphasis will be paid to organizational and personnel issues that affect the corporation and the individual. The course will also study consumer behavior and the role of the Social Worker in dealing with the needs of the corporation and those of the individual and its family.

Prerequisites: SOSC 101-102, SOWO 260, SOWO 265

SOWO 400 Social Work with Elder Population

Three Credits

This course offers a biopsychosocial view of the aging process. It covers the aging process as part of the life cycle, which demands a series of adjustments on individuals, family and community levels. It studies the position occupied by the elder person in the contemporary world.

Prerequisites: SOSC 101-102, SOWO 260, SOWO 265

SOWO 425 Social Work and Gender

Three Credits

The course approaches the theme of roles based on gender and the socio-psychological nature of stereotypes surrounding the behavior of men and women. The study and analysis of the effects of stereotypes in the lives of people in the family as well as in the community.

Prerequisites: SOSC 101-102, SOWO 260, SOWO 265

SOWO 450 Social Work with Groups and Communities

Three Credits

The course intends to develop the capacity of the student to understand different social roles that exist in groups and the impact they have on the community. It will give special attention to the group leader and the different leadership styles. It will address possible strategies to work and prevent different situations present in small groups and communities as social systems.

Prerequisites: SOSC 101-102, SOWO 260, SOWO 320, SOWO 350

SOWO 460 Recording and Analysis of Social Records

Three Credits

The course emphasizes in the writing of social records for individuals, groups and communities. Records used by social services agencies will be analyzed. Ethnic aspects in the management of information obtained from interview and case analysis will be discussed.

Prerequisites: SOSC 101-102, SOWO 260, SOWO 320, SOWO 350, SOWO 450

SOWO 480-481 Practicum Seminar I and Supervised Practicum in Social Work I

Six Credits

These two courses are required of all Social Work majors. They promote knowledge to develop the necessary ability for the practice of Social Work in organisms of social welfare of several kinds. They emphasize the adaptive abilities as well as the resources and the demands imposed by the surroundings of the persons. The students will have the opportunity to practice with families, groups and individuals. Student must enroll in both courses concurrently after having fulfilled all prerequisites. Non-majors may not enroll. The practice seminar (SOWO 480) consists of 45 hours at the University and the supervised Practice (SOWO 481) requires the student to complete 200 hours at the practice site. Prerequisites: SOSC 101-102, SOWO 260, SOWO 265, SOWO 320, SOWO 350, SOWO 358, SOWO 360, SOWO 370, SOWO 390, SOWO 450, SOWO 460

SOWO 482-483 Practicum Seminar II and Supervised Practicum in Social Work II

Six Credits

Both these courses (SOWO 482 and 483) constitute the more advanced level of the social work major. Their main purpose is to facilitate the integration of knowledge, tasks and practical skills acquired during the process of education. The course will review the concepts of intervention with systems such as families, groups, communities and organizations, giving special attention to strategies and models of social work intervention and professional ethics. Student must enroll in both courses concurrently after having fulfilled all prerequisites. Non-majors may not enroll. The practice seminar (SOWO 482) consists of 45 hours at the University and the

supervised Practice (SOWO 483) requires the student to complete 200 hours at the practice site.

Prerequisites: SOSC 101-102, SOWO 260, SOWO 265, SOWO 320, SOWO 350, SOWO 358, SOWO 360, SOWO 370, SOWO 373, SOWO 390, SOWO 450, SOWO 460, SOWO 480-481.

DEPARTMENT OF HUMANITIES

The Humanities Department offers courses in ethics, history, languages (Spanish, English, and French), literature, theatre, music, fine arts, and interdisciplinary studies. It provides students with the opportunity to broaden their knowledge in these subjects and develop the attitudes and skills which will allow them to become informed citizens of the world.

B.A. Major in Cultural Entrepreneurial

The B.A. Major in Cultural Entrepreneurial academic program provides the opportunity to explore a variety of approaches which will help them to identify areas of economic potential in a socio-cultural setting. Focus on the critical study of the relationship between the cultural process and community social development. Participants can evaluate the environment in which cultural economic initiatives operate and how they are affected by factors like education, public policy, and economy, social and human capital. This program prepare the student with the tools for business cultural initiatives identifying possibilities of development, defining socio-cultural objectives, designing the organizational structure, identifying financial sources, and planning effective coordination and marketing practices.

Objectives

- Help students integrate humanistic knowledge into their selected fields of study and connect both abstract and applied knowledge to the practical demands of contemporary life.
- Broaden the students' cultural horizons through exposure to the works of great artists and philosophers and to stimulate the students' sensitivity through the appreciation and study of classical and contemporary music, theatre, film, and art.
- Promote the understanding and appreciation of the values of the Puerto Rican culture through the study of its history and its cultural and artistic expressions, as well as an understanding and appreciation of other world cultures.
- Develop the students' communication skills in Spanish and English and stimulate the development of the necessary skills for creative, analytical, and critical thinking.

Admission Requirements

To be admitted to the Department of Humanities, the student must fulfill all of UMET's general admission requirements, including a general grade point average of 2.00. As part of the Admission Requirements of the Humanities Department, all students must participate of an interview with the Department's Admission Board. The student can request additional information regarding specific requirements from the Associate Dean of the Department.

Students with needs have a number of available resources for the development of their academic skills that includes computer aids, academic counselors, study areas, tutoring, and a learning center with state-of-the art computer software and equipment.

Language Laboratory

The Humanities Department has a modern language laboratory located on the Dr. Arturo Morales Carrión Annex Building. All Spanish and English 101 and 102 students (basic level) are required to take one laboratory session per week. The language laboratory provides students with the opportunity to listen, understand, speak, read and write in the target language. The laboratory is also set up for multiple/multi-media activities.

Center for Integrated Ethical Studies (CEÉI)

The Centro de Estudios Éticos Integrales (Center for Integrated Ethical Studies, CEÉI in Spanish) is a pilot project of the Humanities Department that promotes research and a public dialogue on the ethical issues affecting Puerto Rico. The Center encourages ethical thinking from an interdisciplinary perspective by studying the patterns of moral conduct (moral values, social moral angles of social, political and economic rights, etc,) of Puerto Rico and other Latino-Caribbean neighbors. The Center also mentors academic research, by both professors and students, and supports the use of new pedagogical practices that are shared with the community at large through workshops, forums, lectures, television and radio programs, and other community projects.

FACULTY

ALMODÓVAR RONDA, RAMÓN

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B.A., University of Puerto Rico
M.A., Universidad Central de Barcelona

APONTE CORREA, MARIA D.

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M.A., University of Puerto Rico
Ph.D ©, University of Granada

BALDONI ROSARIO, ILEANA

Instructor
B.A. University of Puerto Rico
M.A. University of Puerto Rico

BONILLA MANGUAL, GLADYS

Professor
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M.Ed., University of Puerto Rico
Ed.D., Inter-American University

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M.A., University of Wisconsin-Madison

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M.Ed., University of Puerto Rico
Ph.D., New York University

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M.A., Centro de Estudios de los Dominicos del Caribe
Ph.D., Interamerican University of Puerto Rico

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Ph.D©, University of Granada

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M.A. University of Massachusetts at Amherst
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M.A., University of Puerto Rico

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M.A., University of Puerto Rico

OLIVER, EVANGELINE

Professor
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M.A., Florida State University
Ed.D., Teachers College, Columbia University

ORLANDI SANCHEZ, GILDA

Professor

B.A., University of Puerto Rico

M.F.A., New York University

PRIETO MARTINEZ, ADANID

Professor

SERRA SOSTRE, ANTONIO

Assistant Professor

B.A., Bayamón Central University

M.Ed., Pennsylvania State University

Ph.D., Pennsylvania State University

RUIZ RIVERA, MARIA I.

Assistant Professor

B.A., Catholic University

M.A., University of Puerto Rico

B.A., University of Sacred Heart

M.A., University of Puerto Rico

RIVERA COLON, NILSA

Assistant Professor

B.A., University of Puerto Rico

M.A., University of Puerto Rico

VIERA VARGAS, HUGO R.

Assistant Professor

B.A., University of Puerto Rico

M.A., Indiana University, Bloomington,
Indiana

Ph.D., Indiana University, Bloomington,
Indiana

VILLEGAS COBIÁN, GREGORIO

Instructor

B.A., University of Puerto Rico

M.A., University of Puerto Rico

Ph.D ©, University of Granada

BACHELOR OF ARTS MAJOR IN CULTURAL ENTREPRENEURIAL

123 credits	Credits
General Education courses	42
Core courses	39
Specialization courses	36
Suggested Electives	6

General Education		
SOSC 101-102	Introduction to Social Sciences	6
ENGL 101-102 or	Introductory English Language Course - Basic Level	6
ENGL 103-104 or	Introductory English Language Course - Intermediate Level	
ENGL 105-106	Introductory English Language Course - Advanced Level	
SPAN 101,102 or	Basic Spanish Language Course – Basic Level	6
SPAN 104 or	Basic Spanish Language Course – Intermediate Level	
SPAN 106	Basic Spanish Language Course – Advanced Level	
HUMA 101-102	Introduction to the Study of Western Civilization	6
MATH 111-112	Intermediate Algebra	6
SCIE 111-112	Introduction to the Study of Integrated Sciences	6
COIS 101	Introduction to Computer Based Systems	3
FYIS 101	First Year Induction Seminar	3

CORE COURSES		
ETIC 201 ó PHIL 204	Ethics or Philosophy and Religion	3
ENGL 201-202	Second-Year English - Basic Level	6
SPAN 211	Appreciation of Puerto Rican Literature	3
HIST 251-252	History of Puerto Rico	6

ART 101	Plastic Arts Appreciation	3
MUSI 201	Music and Puerto Rican Society	3
SPAN 215	Written Composition	3
SOSC 225	Contemporary Economic and Political Issues	3
THEA 101	Theater Appreciation I	3
HUMA 204	Cultural Elements of Puerto Rico	3
COMU 305	Effective Presentation Techniques	3

SPECIALIZATION COURSES

GECU 200	Introduction to Cultural Entrepreneurial	3
ENMA 101	Introduction to Entrepreneurship	3
GECU 301	Administration of Cultural Organizations	3
MARK 133	Principles of Marketing	3
GECU 302	Public Relations for Cultural Entrepreneurial Activities	3
GECU 400	Culture and Social Development	3
GECU 401	Culture and Community Development	3
COMU 304	Public Relation XZ s Campaigns	3
GECU 403	Proposal Writing Techniques	3
MARK 251	Advertising and Promotion	3
GECU 402	Design, Strategic Planning, and Evaluation of Cultural Projects	3
GECU 404	Cultural Entrepreneurial Final Project	3

SUGGESTED ELECTIVES

HUMA 205	Puerto Ricans in the United States – A split Culture?	3
HUMA 206	Puerto Rico and the Caribbean: the African Heritage	3
HIST 261-262	Latin American History I y II	6
HIST 273	History of the United States (Compendium)	3
HIST 305	History of the Caribbean	3

SPAN 461-462	Spanish American Literature I y II	6
ENMA 200	Entrepreneurial Creativity	3
ENMA 301	Financial Planning Entrepreneurial	3

COURSE DESCRIPTION

GECU 200 Introduction to Cultural Entrepreneurial

Three credits

This course will provide participants the opportunity to explore a variety of approaches which will help them to identify areas of economic potential in a socio-cultural setting. It examines education, public policy, social and community development as important elements to different models of economic cultural initiatives. Prerequisites: SOSC 101-102, HUMA 101-102

GECU 301 Administration of Cultural Organizations

Three credits

Course participants will study different organizational and administrative models of cultural and community projects. These include museums, coffee and theater parlors, foundations, art galleries, and public artistic presentations. It also explores basic principles of business management as applied to the field of cultural institutions.

Prerequisites: GECU 200

GECU 302 Public Relations for Cultural Entrepreneurial Activities

Three credits

This course will focus on the study of mass communications general practices, origin and development of the public relations field, and its integration to the different means of social communications. Participants will also analyze advertising campaigns of community based cultural projects. Prerequisites: GECU 200; MARK 133; GECU 301

GECU- 400 Culture and Social Development

Three credits

This course will focus on the critical study of the relationship between the cultural process and community social development. Participants will evaluate the environment in which cultural economic initiatives operate and how they are affected by factors like education, public policy, economy, social and human capital. The course will examine the capacity for social cohesiveness of a given society, community-based cultural economic models, public awareness, and predominant ethical values. Prerequisites: GECU 200, SOSC 22

GECU 401 Culture and Community Development

Three credits

This course emphasizes the discussion and critical analysis of the dialectic relationship between cultural and community development. Participants will discuss different definitions and available research regarding the concept of community, its structural and functional elements, and the relationship between culture and community development. Prerequisites: GECU 400

GECU 402 Design, Strategic Planning, and Evaluation of Cultural Projects

Three credits

This course will focus on helping participants acquire working knowledge of the theory and practical skills required for planning, designing, and evaluating successful cultural community

projects. This includes developing tools for business cultural initiatives identifying possibilities of development, defining socio-cultural objectives, designing the organizational structure, identifying financial sources, and planning effective coordination and marketing practices.

Prerequisites: GECU 401

GECU 403 Proposal Writing Techniques

Three credits

The course participants will study the application of theories and concepts relevant to the cultural business context. They will also participate in selecting activities, analyzing proposal presentation models, and identifying qualifications and ethical standards for the cultural/business project professional. Prerequisites: SPAN 215, GECU 302

GECU 404 Cultural Entrepreneurial Final Project

The final project intends to integrate the knowledge and tools acquired in the courses during the participants' four year college preparation. Students will work under the supervision of a professional with experience in cultural economic projects. They will use this platform to conceptualize, organize, and carry out a community cultural project. Prerequisites: GECU 403

GENERAL EDUCATION COURSES DESCRIPTION

ART 101 Plastic Arts Appreciation

Three Credits

Introduces general principles of art and its meaning. Familiarizes the student with different techniques used in the plastic arts. Aims at stimulating artistic awareness. Prerequisites: HUMA 201-202

ENGL 101-102 Introductory English Language Course - Basic Level

Six Credits

Emphasizes the development of basic written communication and reading skills. Grammar instruction is provided for students who need to improve their proficiency in English.

ENGL 103-104 Introductory English Language Course - Intermediate Level

Six Credits

A thorough study of intermediate English grammar leading to the development of basic speaking, listening, reading and writing skills. Two semesters, three hours per week.

ENGL 105-106 Introductory English Language Course - Advanced Level

Six Credits

This course includes a review of grammar emphasizing written communication through the study of the content and form of the essay.

ENGL 201-202 Second-Year English - Basic Level

Six Credits

Basic introduction to the study of literary genres. Aims to develop an appreciation of the short story and the novel, the essay, poetry and drama. Prerequisites: ENGL 101-102

ENGL 205-206 Second-Year English – Advanced Level - Intro. to Literature

Six Credits

An introduction to the study of English literary genres. Aims to develop an appreciation of the literary genres through the analysis of the basic elements of each genre. Required course for English majors. Prerequisites: ENGL 103-104 or ENGL 105-106

ENGL 207 Basic Level: Reading and Writing

Three Credits

English 207 is designed for those students who have completed the first-year basic English courses. This course will continue to emphasize and review the fundamental reading and writing skills needed to communicate effectively in English. Required course of all students in the Bachelor of Arts Degree in Education. Prerequisites: ENGL 101-102 or ENGL 104-104 or ENGL 105-106

ENGL 211-212 Second Year Business English – Basic Level

Six Credits

Emphasizes vocabulary development and grammar structures for effective oral and written business communication. Required course for Business Administration students. Prerequisites: ENGL 101-102

ENGL 213-214 Written and Oral Communication

Six Credits

A required course for English majors. It consists of an intensive study of the fundamentals of expository writing and aims at the development of clear thinking and planning skills required in the writing process. The first semester emphasizes the logic and planning skills needed to write an essay. The second semester stresses the writing of essays using the traditional types of development. Basic oral skills will be emphasized throughout the courses. Prerequisites: ENGL 245, ENGL 305

ENGL 215-216 Second-Year Business English – Advanced Level

Six Credits

Advanced Business Course which aims to develop vocabulary and grammar structures. Effective oral and written business communication is emphasized.
Prerequisites: ENGL 103-104, or ENGL 105-106

ENGL 231 Research and Report Writing

Three Credits

This is an advanced course in expository writing. It provides students with tools and techniques to conduct scientific educational research. It also acquaints students with the available library resources in education. Prerequisites: ENGL 103-104, or ENGL 105-106, ENGL 213-214

ENGL 245 English Grammar I

Three Credits

A required course for English majors. It is the first part of a two-semester course and consists of a grammatical description of the basic parts of speech and their usage. Its purpose is to develop a conscious knowledge of the rules of the grammar of English thus enabling students to use the language effectively. Prerequisites: ENGL 103-104, or ENGL 105-106

ENGL 303 Introduction to English Phonetics

Three Credits

An introductory study of the phonological system of American English. Includes intensive practice in the phonetic transcriptions of English sounds. Required course for English majors. Prerequisites: ENGL 103-104, or ENGL 105-106

ENGL 305 English Grammar II- Advanced Level

Three Credits

Emphasizes the usage of simple and complex syntactical structures of American English. Required course for English majors. Prerequisite: ENGL 245

ENGL 311-312 Third Year Business English Course - Basic Level

Six Credits

Designed for students in the Business Administration Programs. Emphasis on the improvement of vocabulary and grammar. Introduction to the forms of written business communication. Prerequisites: ENGL 101-102, ENGL 211-212

ENGL 315-316 Third Year Business English Course - Advanced Level

Six Credits

Designed for students who are majoring in Business Administration and who are fluent or fairly fluent in English. Presents topics pertaining to business communication. Familiarizes students with business vocabulary and word usage for writing personal and commercial letters, as well as other forms of business communication. Prerequisites: ENGL 103-104 or ENGL 105-106, ENGL 215-216

ENGL 321 Introduction to American Literature

Six Credits

Introduction to American literature showing its development from the early English literature written in America to the present. Prerequisites: ENGL 103-104, or ENGL 105-106

ENGL 350 Conversational English

Three Credits

This course provides practice for the development of oral communication skills to be used in personal and professional settings. Prerequisites: ENGL 211-212, or ENGL 215-216

ENGL 351 Literature for Adolescents

Three Credits

This course acquaints students with the appropriate techniques for teaching literature to adolescents. It includes suggestions for approaches in teaching poems, stories, novels and plays.

Prerequisite: ENGL 205-206

ENGL 352 Children's Literature

Three Credits

For prospective elementary school teachers. It provides for the study of different forms of children's literature including an overview of its development and the analysis of chosen readings which are representative of each genre. Literary evaluation skills are practiced while students are introduced to classic and contemporary books. Prerequisite: ENGL 104 OR ENGL 106, ENGL 205-206

ENGL 361 Technical Writing

Three Credits

This course is a guide for the development of writing skills for students who need to function and succeed in their everyday lives. Provides the simplest and yet the most essential skills in technical written communication.

Prerequisite: ENGL 350

ENGL 371 Introduction to Linguistics

Three Credits

An introduction to the scientific study of language providing an overview of the historical development of English as well as the processes followed by linguists in their specialized field. Required of English majors. Prerequisites: ENGL 303, ENGL305

ENGL 401 Contrastive Analysis of English and Spanish

Three Credits

Advanced course intended for English majors with basic knowledge and skills of the grammar, syntax, and phonology of English and Spanish. It consists of an overview of the historical events which have affected the development and expansion of English and Spanish, the causes and effects of language interaction between the two, and a comparative analysis of the linguistic structures of both languages. Prerequisites: ENGL 245, ENGL 305 and ENGL 371

FREN 101-102 Introductory French

Six Credits

Conversational basic French with emphasis on pronunciation and grammar. Oral and written exercises based on readings.

HIST 101 Introduction to the Study of History

Three Credits

The course is an introduction to the study of historical and cultural affairs. Promotes understanding of the importance, meaning and pleasure of the study of history, as well as the knowledge on the process of writing. Empower the university student to learn of the many lessons we can learn from history. It answers the question: What's the story?

HIST 203-204 Ancient and Medieval History

Six Credits

Study of ancient history: important events, ideas and contributions to the modern world. Brief examination of pre-history, extensive study of ancient civilizations of Far and Middle East, Africa and Southern Europe. Also, study of the Medieval world and its institutions, feudalism, and the church. Two semesters, three hours per week. Prerequisites: HUMA 102

HIST 221 Renaissance, the Reformation and Rise of the State

Three Credits

Study of the Renaissance and the religious crisis of the 16th century. Provides a broad overview of Spanish, French, English, German and Russian history in the 16th, 17th and 18th centuries. Prerequisites: HUMA 201-202

HIST 231 European History - 19th Century

Three Credits

Examines the development of liberalism, nationalism and industrialization in conflict with the authoritarian forces still prevalent in Europe. National development and international rivalry which led to World War I are explored. Prerequisites: HUMA 201-202

HIST 232 Contemporary World Problems

Three Credits

Study of the primary conflicts and tensions of the contemporary world. Examines World War I and World War II, the Korean War, the Vietnam War, the conflict between Israel and the Arab countries, NATO and the Warsaw Pact, the Cuban Revolution, and Latin American revolutionary movements. Examines the Russian Revolution of 1917 and the Communist Revolution in China of 1911 and 1949. Prerequisites: HUMA 201-202

HIST 251-252 History of Puerto Rico

Six Credits

Study of Puerto Rican history from its pre-Columbian origins to the present. The first semester emphasizes the development of the national identity up to the end of the XIX century. The second semester focuses on the 20th century events following the North American invasion.

Prerequisites: HUMA 101-102 and 203 or HUMA 105-106, Sosc 101-102.

HIST 253 History of Puerto Rico – Compendium

Three Credits

Study and analysis of Puerto Rico's historical development from its beginnings to the present. Emphasis is given to the social, political, economic, and cultural development of the island.

HIST 261-262 Latin American History I & II

Six Credits

Study of the historic evolution of Latin American countries from pre-Columbian cultures to the present.

Prerequisites: HUMA 101-102, HUMA 201-202

HIST 271-272 History of the United States of America

Six Credits

Study of the political, social, economic, and cultural development of the United States from the colonial period to the present.

HIST 273 History of the United States – Compendium

Three Credits

Study of the most important social, cultural, political, and economic events in the history of the United States, from the colonial period to the present.

HIST 305 Caribbean History

Three Credits

Study of the Caribbean from the pre-Columbian era to the 20th century. Explores the political, economic, social and cultural development of this area.

HIST 320 African History

Three Credits

A broad view of the history of African countries. A study of the political, economic, social and cultural development of the African continent from the Ancient World to the present.

HUMA 101-102 World Culture

Six Credits

Study of western civilization from its origins through the Middle Ages. Includes those concepts of Near Eastern culture which influenced western civilization as well as Judeo-Christian tradition. Analysis of literary and artistic works representative of the various periods.

HUMA 103 Compendium: Introduction to the Study of Western Civilization

Three Credits

Huma 101-102 compendium for nursing students. Emphasis is given to the major accomplishments of Western Civilization.

HUMA 105-106 Interdisciplinary Approach to the Study of the Humanities

Six Credits

Thematic mini-courses which study human values, artistic and literary expression, religion, society, culture, and the Puerto Rican reality.

HUMA 120-121* Humanities Seminar

No Credit

Designed to expose honor students in the Natural Sciences Program to a broad variety of cultural and artistic activities. Students should take this course in their freshman year.

*Topics vary each semester.

HUMA 201-202 Study of Western Civilization

Six Credits

Study of western civilization from the Renaissance to the present. A thorough analysis is made of historical events and artistic works transcendental to modern society. Prerequisites: HUMA 101-102 or HUMA 105-106

HUMA 203 Introduction to the Study of Western Civilization (Compendium)

Three Credits

Study of historic and cultural events from the Renaissance to the present. Prerequisites: HUMA 101-102, HUMA 105-106

HUMA 204 Cultural Elements of Puerto Rico

Three Credits

Studies the ethnic origins of Puerto Rican culture. It includes the analysis of historical and geographical factors which have influenced the development of Puerto Rican culture as seen in politics, religion, folklore, and the arts. Examines the current Puerto Rican reality.

Prerequisites: HUMA 101-102, or HUMA 105-106

HUMA 205 Puerto Ricans in the United States - A Split Culture?

Three Credits

Analysis of the causes of migration of Puerto Ricans, particularly to the United States, during the twentieth century. Relates the migratory process to political and economic changes on the Island and emphasizes the cultural contribution of Puerto Ricans in the United States.

Prerequisites: HUMA 101-102 or HUMA 105-106

HUMA 206 Puerto Rico and the Caribbean; The African Heritage

Three Credits

Study and analysis of the historical and cultural development of Puerto Rico and the Caribbean emphasizing the African heritage links.

Prerequisites: HUMA 101-102 or HUMA 105-106

HUMA 210 Myths and Heroes: The Eternal Quest for the Ideal

Three Credits

Examines the relationships between classic and modern myths and the need to reach for an ideal. Ancient myths are also studied to explore the mythical view of life in comparison with more modern viewpoints. Prerequisites: HUMA 101-102 or HUMA 105-106

HUMA 220-221* Seminar in Humanities

No Credit

Designed for honor students in the Natural Sciences Program. Exposes students to a broad variety of cultural and artistic activities. Students should take this course during their sophomore year. Prerequisite: HUMA 120-121

*Topics vary each semester.

HUMA 320-321* Seminar in Humanities / No Credit

Designed for honor students in the Natural Sciences Program. Exposes students to a broad variety of cultural and artistic activities. Students should take this course during their junior year.

Prerequisite: HUMA 220-221 *Topics vary each semester.

HUMA 420-421* Seminar in Humanities

No Credit

Designed for honor students in the Natural Sciences Program. Exposes the students to a broad variety of cultural and artistic activities. Students should take this course during their senior year.

Prerequisites: HUMA 320-321

*Passing/Non-passing Grade.

LITE 101 Comparative Literature

Three Credits

Studies examples of the Great Books. Examines the relationship between literature and society. Presents different styles, genres and themes from a comparative point of view.

Prerequisites: SPAN 213-214, ENGL 205-206

MUSI 101 Music Appreciation

Three Credits

Music as a source of aesthetic enjoyment. A broad view of the history of music through lectures, recordings and demonstrations.

MUSI 103 Chorus

One Credit

Group instruction in voice and singing. Interpretation of choral music, with emphasis on the folkloric music of Latin America and Puerto Rico. The choir participates in the activities of the Institution. Open to all students. Requires fifty hours of rehearsal each semester.

MUSI 201 Music and Puerto Rican Society

Three Credits

Study of music history and introduction to music appreciation. Chronological analysis of the role of music in Puerto Rican society.

PHIL 103 Principles of Reasoning

Three 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. Prerequisites: HUMA 101-102

PHIL 201 Ethics

Three Credits

The course promotes a philosophical reflection on the moral conduct and the principles on which it is based. Analyzes the morality and the cultural implications (economic, political, social, etc.). It includes, in addition, the study of situations and now seeks moral development of the ability to make ethical judgments critical in this regard. It promotes knowledge and experience of values and ethical citizens and professionals. Study the thought of philosopher's representative of the mainstream ethical from antiquity to the present.

PHIL 204 Philosophy and Religion

Three Credits

Presents religion as an aspect of philosophy. Examines several concepts commonly related to philosophy and religion such as divinity, soul, death and morality. Panoramic view of the most important religions of the world. Prerequisites: HUMA 101-102

PHIL 206 Philosophy of Sciences

Three Credits

Introduces basic concepts of philosophy and sciences. Presents points of contingency in both disciplines. Examines different branches of the natural sciences such as geometry, mathematics, biology and physics. Emphasizes the implications and consequences of scientific inquiry for modern man. Prerequisites: HUMA 101-102

SPAN 101-102 Introductory Spanish Language Course-Basic Level

Six Credits

The history and evolution of the Spanish language. Development of reading and writing skills. Vocabulary enrichment. Analysis of basic Spanish grammatical structures, supplementary readings.

SPAN 103-104 Introductory Spanish Language Course –Intermediate Level

Six Credits

Introduction to linguistics. The historical evolution of the Spanish language in Puerto Rico. Grammar review, vocabulary enrichment and written communication. Latin American Literature.

SPAN 105-106 Introductory Spanish Language Course –Advanced Level

Six Credits

Written communication. Readings of masterpieces of Hispanic literature. Emphasis on techniques of literary criticism and research.

SPAN 107 Introductory Spanish Language Course –for Bilingual Students

Three Credits

A study of the phenomena of languages in interaction, specifically English and Spanish. Develops skills of reading, writing and grammatical analysis in Spanish from the bilingual point of view.

SPAN 201-202 Business Spanish

Six Credits

Introduction to written business communication. Logical and psychological principles involved in commercial correspondence. Prerequisites: SPAN 101-102

SPAN 211 Appreciation of Puerto Rican Literature

Three Credits

A survey of outstanding themes and techniques which describe Puerto Rican literature. Study of the evolution of literary movements. Emphasis on oral and written reports from readings. Prerequisites: SPAN 101-102

SPAN 213-214 Literary Genres

Six Credits

Analysis of literary genres through the study of representative works in the Spanish language. Prerequisites: SPAN 101-102

SPAN 215 Written Composition

Three Credits

Develops proficiency in the practical use of written language; current idiomatic Spanish. Provides practice in the more complex problems of sentence structure and usage and in theme writing and analysis. Prerequisites: SPAN 101-102

SPAN 216 Oral and Written Spanish

Three Credits

Span 215-218 compendium for nursing students. Develops skills through oral and written reports. Prerequisites: SPAN 101-102, or SPAN 103-104, or SPAN 105-108.

SPAN 218 **Oral Communication**

Three Credits

Develops skills needed for public speaking. Emphasizes correctness, clarity, organization and delivery behaviors in accordance with subject matter and audience. Rhetorical skills are developed through instruction and practice. Prerequisites: SPAN 101-102

SPAN 221-222 **Spanish Literature**

Six 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. Prerequisites: SPAN 101-102

SPAN 235 **Linguistics**

Three 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. Prerequisites: SPAN 101-102

SPAN 265 **Advanced Grammar**

Three 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. Prerequisite: SPAN 215

SPAN 451-452 **Puerto Rican Literature**

Six Credits

A study of Puerto Rican literature from its beginnings to the twentieth century. Representative works from each period are analyzed. Prerequisites: SPAN 101-102

SPAN 461-462 **Spanish American Literature**

Six Credits

A study of representative works of Spanish American literature from its beginnings to the 20th century. The work of representative writers from each period is examined. Prerequisites: SPAN 101-102

SPAN 490 **Research Seminar**

Three Credits

A study of current techniques pertaining to professional and scientific research. Emphasis on practice of each of the phases involved in preparing a research paper: bibliography, title, outline, note-taking, draft-correction, and final report. Prerequisite: SPAN 215

THEA 101 Theater Appreciation I

Three Credits

Introduces the student to the historical evolution of theatrical expression from its beginnings to modern times.

THEA 102 Theater Appreciation II

Three Credits

This course is the continuation of THEA 101, in which the object of didactic emphasis is acting technique. The second part of the course familiarizes the student with the technical elements of a theatrical production. It also provides the student with the opportunity to acquire the knowledge of other theatrical techniques in practice. The student will learn about stylized acting and character development, along with the study of literary texts that belong to diverse literary periods. Prerequisites: THEA 101

DEPARTMENT OF COMMUNICATIONS

The Department of Communications prepares students to become professionals with the appropriate skills to face the challenges of a dynamic and changeable discipline. Our programs focus learning on technological knowledge, as well as in 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. The academic program offers a Bachelor's degree in Arts in Communications with one of three concentrations: **Digital Production, Media Management and Public Relations.**

All the programs are complemented by the Integrated Laboratory of Communications. This space of creation and workshop has multiple technological resources to develop the capacities of the students and to offer a practical experience that strengthens and nourishes their academic performance.

The Laboratory counts with:

- Cinema and digital video production studio
- Radio and digital audio studio
- 4 digital video editing suites
- Oratory and presentations amphitheater used for:
 - Video conferences
 - Courses
 - General and audiovisual presentations
- Computers Lab
 - Internet
 - Graphic design
 - Writing

Objectives

- Educate Communications professionals versed in the most current theories and uses of technology, and with the conceptual criteria needed to become leaders in the field.
- Provide relevant academic and extra-curricular activities to enrich and complement the learning experience.
- Promote and support student research and practical experiences.
- Encourage local and international exchanges, alliances and collaborations.

Admission Requirements

To be admitted to the Communications Department, the candidates must fulfill all of UMET's general admission requirements and attain a cumulative high school grade-point average (GPA) of 2.50 or more. The applicant also has to obtain an average of 500 points or

more in the Spanish section and 450 points or more in the English section of the College Entrance Examination Board (CEEB). As part of the Admission Requirements of the Communications Department, all students must participate of an interview with the Department's Admission Board.

Students with special needs have a number of available resources for the development of their academic skills, which include computer aids, academic counselors, study areas, tutoring, and a learning center with state-of-the art computer software and equipment.

FACULTY

BARRIOS LOPEZ, ERIC JOSE

Associate Professor

B.A., University of Puerto Rico

M.A., New York University

MORALES MOLL, RAFAEL

Instructor

B.A., Sacred Heart University

M.A., Sacred Heart University

NIEVES MORENO, ALFREDO

Assistant Professor

B.A., University of Puerto Rico

M.A., Sacred Heart University

Post Graduate Degree, Universidad Autónoma Metropolitana

Bachelors in Arts in Communications with concentration in Digital Production

123 credits	Credits distribution
General studies courses	60
Core courses	42
Concentration courses	21

General studies courses	Name	Credits
SPAN 103-104	Introductory Spanish Language Course - Intermediate Level	6
ENGL 103-104	Introductory English Language Course - Intermediate Level	6
ENGL 451-452	Immersion English Language Course – Advanced Level	6
SCIE 111-112	Integrated Sciences I and II	6
HUMA 101-102	Introduction to the Study of Western Civilization	6
SOSC 101-102	Introduction to Social Sciences I and II	6
MATH 101-102	Mathematical Reasoning (Arithmetic and Algebra)	6
HIST 251-252	History of Puerto Rico	6
PHIL 103	Principles of Reasoning	3
SPAN 211	Appreciation of Puerto Rican Literature	3
Electives	Student can choose from any school or BA program of UMET	6

Core courses	Name	Credits
COMU 101-102	Fundamentals of Communications I and II	6
COMU 105 -106	Introduction to Computers in Communications I and 2 (graphic design)	6
COMU 210	Introduction to Management in Mass Media	3
COMU 200	Basic Principles of Writing for the Media	3
COMU 250	Cinema History and Appreciation	3
COMU 300	Research in Communications I	3
COMU 305	Effective Presentations Techniques	3
COMU 306	Script Writing	3
COMU 400	Research in Communications II	3
COMU 402	Communications: Legal and Ethical Aspects	3
COMU 403	Translation	3
SPAN 216	Written and Spoken English	3

Concentration courses	Name	Credits
COMU 199	Introduction to Mass Media Production	3
COMU 201	Video Production I	3
COMU 202	Audio Production I	3
COMU 301	Video Production II	3
COMU 302	Audio Production II	3
COMU 401	Professional Practice Workshop (internship)	3
COMU 404	Communications Final Project	3

Bachelors in Arts in Communications with concentration in Media Management

123 credits	Credits distribution
General studies courses	60
Core courses	42
Concentration courses	21

General studies courses	Name	Credits
SPAN 103-104	Introductory Spanish Language Course - Intermediate Level	6
ENGL 103-104	Introductory English Language Course - Intermediate Level	6
ENGL 451-452	Immersion English Language Course – Advanced Level	6
SCIE 111-112	Integrated Sciences I and II	6
HUMA 101-102	Introduction to the Study of Western Civilization	6
SOSC 101-102	Introduction to Social Sciences I and II	6
MATH 101-102	Mathematical Reasoning (Arithmetic and Algebra	6
HIST 251-252	History of Puerto Rico	6
PHIL 103	Principles of Reasoning	3
SPAN 211	Appreciation of Puerto Rican Literature	3
Electives	Student can choose from any school or BA program of UMET	6

Core courses	Name	Credits
COMU 101-102	Fundamentals of Communications I and II	6
COMU 105 -106	Introduction to Computers in Communications I and 2 (graphic design)	6
COMU 210	Introduction to Management in Mass Media	3
COMU 200	Basic Principles of Writing for the Media	3
COMU 250	Cinema History and Appreciation	3
COMU 300	Research in Communications I	3
COMU 305	Effective Presentations Techniques	3
COMU 306	Script Writing	3
COMU 400	Research in Communications II	3
COMU 402	Communications: Legal and Ethical Aspects	3
COMU 403	Translation	3
SPAN 216	Written and Spoken English	3

Concentration courses	Name	Credits
MARK 133	Principles of Marketing	3
MARK 206	Consumer Conducts	3
COMU 308	Mass Media Analysis and Management	3
COMU 309	Entrepreneurial development in the Mass Media	3
COMU 410	Strategies and Marketing of Mass Media Companies	3
COMU 401	Professional Practice Workshop (internship)	3
COMU 404	Communications Final Project	3

Bachelors in Arts in Communications with concentration in Public Relations

123 credits	Credits distribution
General studies courses	60
Core courses	42
Concentration courses	21

General studies courses	Name	Credits
SPAN 103-104	Introductory Spanish Language Course - Intermediate Level	6
ENGL 103-104	Introductory English Language Course - Intermediate Level	6
ENGL 451-452	Immersion English Language Course – Advanced Level	6
SCIE 111-112	Integrated Sciences I and II	6
HUMA 101-102	Introduction to the Study of Western Civilization	6
SOSC 101-102	Introduction to Social Sciences I and II	6
MATH 101-102	Mathematical Reasoning (Arithmetic and Algebra	6
HIST 251-252	History of Puerto Rico	6
PHIL 103	Principles of Reasoning	3
SPAN 211	Appreciation of Puerto Rican Literature	3
Electives	Student can choose from any school or BA program of UMET	6

Core courses	Name	Credits
COMU 101-102	Fundamentals of Communications I and II	6
COMU 105 -106	Introduction to Computers in Communications I and 2 (graphic design)	6
COMU 210	Introduction to Management in Mass Media	3
COMU 200	Basic Principles of Writing for the Media	3
COMU 250	Cinema History and Appreciation	3
COMU 300	Research in Communications I	3
COMU 305	Effective Presentations Techniques	3
COMU 306	Script Writing	3
COMU 400	Research in Communications II	3
COMU 402	Communications: Legal and Ethical Aspects	3
COMU 403	Translation	3
SPAN 216	Written and Spoken English	3

Concentration courses	Name	Credits
MARK 133	Principles of Marketing	3
COMU 205	Introduction to Public Relations	3
COMU 303	Public Relations in the different Mass Media: Case studies	3
COMU 304	Public Relations Campaigns	3
MARK 251	Advertising and Promotions	3
COMU 401	Professional Practice Workshop (internship)	3
COMU 404	Communications Final Project	3

COURSES

COMU 101 Fundamentals of Communications I

Three Credits

General introduction to the world of communications. Provides an overview of historical and cultural origins, development and social impact of the various mass media. The course recognizes the role and importance of media in contemporary societies and explains their value as reproducers and producers of culture. All this in order to promote critical reading and understanding of media content and initiate the student's contact with their concentrations of study.

COMU 102 Fundamentals of Communications II

Three Credits

General introduction to the theories of communication. This course presents a historical overview of the basic concepts and major theories of communications. It also examines the development and impact of the media to present. The components of the communication system, from the different approaches to the diverse theoretical perspectives that have emerged in the development of communication studies as a discipline, are emphasized as well. On the other hand, this course pays particular attention to the theoretical contribution in the field of media to promote greater creativity when working with different media narratives. Prerequisite: COMU 101

COMU 105 Introduction to Computers in Communications I

Three Credits

Historical development of computer systems. This course presents the importance of the communication principles applied to the use of computerized tools. Introduction to basic principles for the use and operation of computers for writing and production in the field of communications, 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 the field of telecommunications, graphic design and writing for the media are also studied. On the other hand, the course engages students with the critical analysis of digital communication and the ethical use of information through the Internet.

COMU 106 Introduction to Computers in Communications II: Graphic Design

Three 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. Prerequisites: COMU 101, 105

COMU 199 Introduction to Mass Media Production

Three 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. Prerequisites: COMU 101 - 102

COMU 200 Basic Principals of Writing for the Media

Three Credits

Studies the general aspects of writing for print media and elaborates on today's writing theories and techniques. Students will conduct special projects to put into practice the different kinds of writing styles used in journalism. This course will develop, specifically, the research, writing, reviewing and editing skills needed for print media. Prerequisites: SPAN 103- 104 o SPAN 105-106, SPAN 216, COMU 101, 102 and 105

COMU 201 Video Production - Level I

Three 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. Prerequisite: COMU 101-102, 199

COMU 202 Audio Production- Level I

Three 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.

Prerequisite: COMU 101-102 and 199

COMU 205 Introduction to Public Relations

Three Credits

This course presents the basic and most recent theories and practices in the public relations field. It also introduces the definition of the profession, gives an overview of its history and evolution and presents and discusses the existing codes of ethics and working tools inherent to this field of communication. Prerequisites: COMU 101-102

COMU 210 Introduction to Management in Mass Media

Three Credits

This course will provide to students of the Media Management program the basic skills in managing a company in the communications field. It will also discuss the framework of the historical and theoretical development of media industries. A snapshot of the elements and features which distinguish the communications companies will be presented as well. As a complement, the course includes an overview and introduction to the most important aspects of the legal aspects governing the management processes in business communications.

Prerequisites: COMU 101 -102

COMU 250 Cinema History and Appreciation

Three Credits

This course gives to the student an overview of the history of cinema, from its beginnings to the present. Through the appreciation of movies that represent the major stages in the development of cinema worldwide, the student will also study the elements of this art in different eras. Prerequisites: COMU 101 – 102

COMU 300 Research in Communications I

Three Credits

Introduction to the theoretical grounding of the research processes applied to the media. The student will design a research proposal, using the elements of scientific method, to study different areas that involve communication processes. Special attention is paid to the ethical considerations that the researcher must keep in mind in the development of research proposals.

Prerequisites: COMU 101 - 102, 210 and MATH 101 - 102

COMU 301 Video Production - Level II

Three Credits

In this course, students will learn about the theory and practice of indoor and outdoor video production and direction. They will also experience all the stages involved in television production such as pre-production, production, post-production, visualization, administration of production personnel, proposals writing and non-linear editing, among others.

Prerequisite: COMU 101-102, 105-106, 199 and 201

COMU 302 Audio Production - Level II

Three 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.

Prerequisite: COMU 101-102, 105-106, 199 y 201

COMU 303 Public Relations in the different Mass Media: Case studies

Three Credits

Introduction to the peculiarities of the practice of a professional relations representative. This course teaches the student the process of writing and production of specific documents for public relations projects. It gives special attention to the particular tactics used in this field to solve communication problems or crises, to coordinate events and to develop sales and promotions strategies, among other things. The course includes simulations, case studies discussions and analysis of real examples to promote a better management and understanding of the various situations that may occur in the work setting.

Prerequisites: COMU 101- 102, 105, 106, 205 and 210

COMU 304 Public Relations Campaigns

Three Credits

Development of Public Relations campaigns. Students will have the experience of working in the research, planning, strategy development and evaluation processes to complete a public relations campaign. The course includes analysis of the types of campaigns that can be developed for conflict resolution or presentation of products, and examines, from a critical perspective, current trends in the practice of this profession. Prerequisites: COMU 101, 102, 105, 106, 205, 210 y 303

COMU 305 Effective Presentations Techniques

Three Credits

In this course, students will learn the basic aspects of the communication process, how to communicate properly in public and understand the audiences, and to incorporate technological devices into spoken presentations. This course also focuses on the conceptual production of messages, information management and planning. Prerequisites: COMU 101-102, COMU 105

COMU 306 Script Writing

Three 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.

Prerequisite: COMU 101-102, 105, 199 and SPAN 216

COMU 308 Mass Media Analysis and Management

Three Credits

The course will apply advanced management concepts to the administration of media organizations. It evaluates different organizational models under the light of the particular characteristics of media, and studies the development of its related industries in our cultural context. The characteristics and skills needed by a media manager, such as leadership, decision-making processes, systems of authority, conflict and the importance of teamwork, will be also discussed. In addition, the course includes the study of the basic aspects to consider when

preparing business plans and media companies' proposals, as well as the most effective ways to present these kinds of documents. Prerequisites: COMU 101-102, 105-106 and 210

COMU 309 Entrepreneurial development in the Mass Media

Three Credits

The course focuses on the implementation of the acquired business skills to create and effectively develop a communication company. It emphasizes the application of the theory for the analysis of various companies, the structure of media markets, the legal and business considerations of implementing a business plan and the critical analysis of the economic and social performance of a company. The analysis of media audiences and the critical examination of corporate profiles from media companies are also part of the course.

Prerequisites: COMU 101-102, 105-106 y 210

COMU 400 Communications Seminar

Three Credits

This course prepares the student to complete the process of conducting research fieldwork and analysis, as well as weighting the main findings of the study. The writing skills necessary to communicate effectively the final report are also discussed. Particular attention is devoted to criticism and analysis of the various techniques and data collection tools that can be applied to the study of communication phenomena. Prerequisites: COMU 101 - 102, 105 - 106, 210 and 300.

COMU 401 Professional Practice Workshop (internship)

Three Credits

This course discusses and presents, in general terms, the types and areas of work offered in the field of communications. The student develops strategies for professional job search, to identify opportunities and to achieve effective job interviews. It also provides students with a practical experience in an area of particular interest.

Prerequisites: All second and third year concentration courses.

COMU 402 Communications: Legal and Ethical Aspects

Three Credits

This course studies the ethical codes that apply to the contents and tasks of the workers in the mass media. It presents an overview of what ethics has meant over time and across cultures. It also promotes the analysis of current issues and highlights the importance of implementing the codes of ethics of the different communications professional practices. The basic legal aspects, policies and regulations that govern both the operation of the mass media as well as the New Technologies of Information and Communication (NTIC's) are also studied. Prerequisites: COMU 101-102, 210, HUMA 101 – 102 and PHIL 103

COMU 403 Translation

Three Credits

This course provides basic practice in the translation of messages from English to Spanish. It also comprises the analysis and revision of texts of relative idiomatic difficulty.

Prerequisite: COMU 101-102, 105 -106, 200 and 306, SPAN 103 - 104 or 105 - 106 and 216, ENGL 103 - 104 or 105 - 106

COMU 404 Communications Final Project

Three 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. The course promotes the practical experience of producing a project for distribution or publication in written, electronic or digital media.

COMU 410 Strategies and Marketing of Mass Media Companies

Three Credits

This course provides the rationale for the study of basic and essential skills to effectively manage communication companies. Definitions and examples of various types of corporate strategies to address media companies complement the content of the course. Financing models, internal and external entrepreneurial environments, planning and evaluation of marketing strategies and economic dimensions of media companies are also emphasized. The course should be taken during the final year of study.

Prerequisite: COMU 101, 102, 210, 308 y 309

SECURITY AND PROTECTION INSTITUTE (ISEP)

MISSION

ISEP's mission is to offer more and better opportunities to municipal police officers, correction agents and other law and order personnel, as well as to civilians, so that they can broaden their knowledge, experiences and employment opportunities in the areas of security and protection. Through its instructors and professionals in the areas of security and social sciences, ISEP will generate a new focus on the professionalization of the police that will warrant the greatest quality standards expected from law and order personnel.

PROGRAM DESCRIPTION

This program allows the development of any person aspiring to become proficient in the areas of protection, correction and security in general. Graduates from these programs will have increased employment opportunities in agencies like: Municipal Police, State Police, Correction, and Private Security Firms, among others. From a training perspective, students develop new knowledge and skills attuned with the new requirements in the federal and state agencies in the areas of security and protection.

ADMISSIONS REQUIREMENTS TO THE PROGRAM

These are in addition to the general admissions requirement at UNE.

- High School grade point average of 2.0 for Associate programs in:
 - Penal Justice

GRADUATION REQUIREMENTS THE PROGRAM

The graduation requirement for the general grade point average is of 2.0 and for the major component is 2.5.

Associate in Penal Justice with Emphasis in Security and Protection

54 Credits		Credits
General Education Component		27
SPAN 111	Reading and Writing I	3
ENGL 110	Basic Oral, Reading and Writing in English I	3
SPAN 112	Reading and Writing II	3
ENGL 111	Basic Oral, Reading and Writing in English II	3
PJPS 108	Basic Ethical Values	3
PJPS 112	Civil Rights and Crisis Situations	3
PJPS 116	Intervention with Special Populations	3
PJPS 120	Mediation and Intervention	3
PJPS 124	Human Relations and Community	3

Professional Educational Component		11
PJPS 132	Information And Communication Technologies For Officials	2
PJPS 204	First Aid For Penal Justice Officials	2
PJPS 216	Traffic Accident Investigation	2
PJPS 210	Integrated Seminar In Criminal Law, Criminal Procedure And Evidence	3
PJPS 214	Scene Investigation	2

Major Courses		16
PJPS 208	Physical Training And Nutrition For Penal Justice Officials	2
PJPS 220	Transit Interventions	2
PJPS 224	Vehicle Operation	2
PJPS 228	Police Patrol I	2
PJPS 229	Police Patrol II	2
PJPS 236	Use And Management Of Less Lethal Weapons	2
PJPS 238	Principles of Tactic operations	2
PJPS 240	Use and Handling of Firearms	2

Associate in Penal Justice with Emphasis in Correctional Security

54 Credits		Credits
General Education Component		27
SPAN 111	Reading and Writing in Spanish I	3
ENGL 110	Basic Oral, Reading and Writing in English I	3
SPAN 112	Reading and Writing in Spanish II	3
ENGL 111	Basic Oral, Reading and Writing in English II	3
PJPS 108	Basic Ethical Values	3
PJPS 112	Civil Rights and Crisis Situations	3
PJPS 116	Intervention with Special Populations	3
PJPS 120	Mediation and Intervention	3
PJPS 124	Human Relations and Community	3

Professional Educational Component		11
PJPS 132	Information And Communication Technologies For Officials	2
PJPS 204	First Aid For Penal Justice Officials	2
PJPS 210	Integrated Seminar In Criminal Law, Criminal Procedure And Evidence	3
PJPS 214	Scene Investigation	2

Major Courses		18
PJPS 208	Physical Training And Nutrition For Penal Justice Officials	2
PJPS 218	Corrections Management System	2
PJPS 222	Constitutional Law and Corrections	2
PJPS 226	Management And Supervision Of Confined	2
PJPS 232	Growth And Development Of The Confined In Corrections	2
PJPS 234	Probation, Parole And Community Treatment	2
PJPS 236	Use And Management Of Less Lethal Weapons	2
PJPS 238	Principles of Tactic operations	2
PJPS 240	Use and Handling of Firearms	2

COURSE DESCRIPTIONS

PJPS 108 Basic Ethical Values

3 Credits

Study of the basic ethical values and the importance of its application in labor scenario by security, protection and correctional officers. Discussion of applicable legislation and jurisprudence.

PJPS 112 Civil Rights and Crisis Situations

3 Credits

Study of Civil Rights in Puerto Rico and the United States. It presents the Constitutions of both countries and highlights the Bill of Rights, Privileges and Immunities within those Constitutions. This course prepares students for the effective implementation of strategies for safety and security while ensuring respect for civil rights. Teaching strategies include lecture, discussion and case analysis.

PJPS 116 Intervention with Special Populations

3 Credits

Study of theoretical and practical aspects related to the intervention of security officers, correctional officers protection and intervention with special populations such as children, 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 in conflict dialog offering alternatives to the parties involved. This course includes concepts of conflict resolution, the relevant legislation, communication skills and aspects of the intervention in situations related to the work environment and tasks performed by legal professionals.

PJPS 124 Human Relations and Community

3 Credits

Study of human relationships and the community for public safety personnel. It focuses on describing the characteristics of the police system for the community, its relevance and applicability in today's society. It also seeks to develop a sense of commitment to working with communities and the development of preventive and proactive rather than reactive or palliative to the crime. Teaching strategies include lecture, discussion and case analysis.

PJPS 132 Information And Communication Technologies for Officials

3 Credits

Course aimed at studying the evolution of human communication and application of technology to exchange information. It is based on the principles governing communications technology for achieving effective management of information. It lays the foundation in the methods of safety and security of communications between individuals. It describes the processes of verbal

interaction and written in a laboratory for the application of technology to the processes that occur in class.

PJPS 204 First Aid For Penal Justice Officials

3 Credits

Instruct students 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 services in settings which require special knowledge and skills: anatomy, basic physiology of the human body, vital signs, shock or fainting, burns, diabetes, childbirth, epilepsy and stroke. Through practical exercises are taught to handle emergencies: choking, bleeding, and basic measures of cardiopulmonary resuscitation (CPR).

PJPS 208 Physical Training And Nutrition for Penal Justice Officials

3 Credits

The students will learn different workout routines that will allow them to perform each of their tasks or functions as an agent of law and order. Emphasis in the holistic physical development, including aspects of nutrition, rest and exercise.

PJPS 210 Integrated Seminar In Criminal Law, Criminal Procedure And Evidence

3 Credits

Study of the general principles of the Puerto Rico Penal Code, the Special Penal Laws, Rules of Criminal Procedure and the Rules of Evidence, which govern the area of criminal law in Puerto Rico. It lays the foundation as to the legal rules applicable to minor offenses, special procedures and exceptions to exceptions previously established standards. It is used as the main methodology of the analysis of case study on the techniques of legal hermeneutics.

PJPS 214 Scene Investigation

3 Credits

The study of the history and purpose of criminal investigations and the terminology of this specialty. Provide adequate instruction in the elements, concepts and fundamental techniques in criminal investigations, such as: profile of the delinquent or criminal, emphasizing criminology, crime scene management, development of confidants and informants, and characteristics of an investigator. Practical exercises that apply the acquired knowledge will be presented.

PJPS 216 Traffic Accident Investigation

3 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.

PJPS 218 Corrections Management System

3 Credits

The study of the correction system, including the purposes, structures of the victim and the inmate. In addition, we will study the various theories and types of situations faced daily in the correctional field. These include contemporary theories of punishment, correction and rehabilitation, in addition, to address problems and issues affecting the correctional officer in the broad field of the correction system.

PJPS 220 Transit Interventions

3 Credits

Discussion of the duties and responsibilities of law enforcement officer, the driver according to the Vehicle and Traffic Law and Puerto Rico and the regulations have been promulgated for implementation and applicability. The student will know the internal guidelines and protocols to follow in a safe and effective intervention.

PJPS 222 Constitutional Law and Corrections

3 Credits

It is based on the study of the constitutional rights of prisoners, by some kind of crime in Puerto Rico. Deepens in the analysis of practices and interventions, with inmates in penal institutions. Integrates the foundations and changes of the rules in the country's prisons, after the Morales Feliciano case and its effect on our jurisdiction. Integrates on the daily discussion in class, the current constitutional jurisprudence in state and federal level. Students use as a working tool the Constitution of the Commonwealth of Puerto Rico and the Constitution of the United States of America.

PJPS 224 Vehicle Operation

3 Credits

Will discuss the form and manner as the operation and execution of motor vehicles to travel on public roads are an unknown factor if the provisions of the Vehicle Traffic Law of Puerto Rico and the regulations have been promulgated for implementation and applicability. In addition, the student will know and identify the different categories of licenses for driving on roads in Puerto Rico.

PJPS 226 Management And Supervision Of Confined

3 Credits

Introductory course on techniques for monitoring inmates, as well as prison guards and employees of Corrections. Emphasis is on developing specific communication methods necessary to work effectively in a correctional institution. The primary goals of the course are: developing the ability to work in a potentially dangerous environment, implementation and monitoring of direct orders, recognition of the handling of offenders, methods of observation to be put into practice, knowledge and body language implementation and problem solving daily work within a culturally distinct population.

PJPS 228 Police Patrol I

3 Credits

Study skills and techniques of patrol officers to safety and security need to respond appropriately to the different calls. Will emphasize methods of approach to high-risk situations: techniques of patrol vehicles, safety interventions and structures, foot patrol, responding to crimes in progress, communication and report writing. Includes practice exercises.

PJPS 229 Police Patrol II

3 Credits

This course Provides skills to respond to Hazardous Material incidents, bomb Threats, building evacuation, and weapons of mass destruction. The students are introduced to the Existence and Activities of criminal groups, tumults and extremist groups. Practical exercises included.

PJPS 232 Growth And Development Of The Confined In Corrections

3 Credits

The course will review and analyze the history of correctional treatment, rehabilitation strategies, philosophies, ideologies and developments related to correctional policies and practices, organizational and managerial. Students focus critically on theoretical issues, practices and policies related to rehabilitation treatment programs and adult and juvenile offending.

PJPS 234 Probation, Parole And Community Treatment

3 Credits

Comprehensive study of the general principles of Probation, Parole and community treatment of convicts in Puerto Rico. Job requirements and the effects of probation. Similarly analyzes the structure of the Board of Parole and its regulations. Explore alternative community treatment for offenders and the importance of effective social reintegration to achieve rehabilitation.

PJPS 236 Use And Management Of Less Lethal Weapons

3 Credits

This course is the study and management of less-lethal weapons, from its structure, components and definition to its effects. The student will learn the types of less lethal weapons and how they differ from firearms. Likewise, know the importance of responsible use of these weapons and the proper equipment to protect yourself and others.

PJPS 238 Principles of Tactic operations

3 Credits

Study and practice in self-defense techniques, use and management of rattan (expandable baton). The student is trained in the techniques and mechanics of arrest. It trains the student in tactical formations to handle situations of civil unrest and crowd control. Students will learn and apply the water rescue. We study the procedures applicable in situations and hostage negotiation.

PJPS 240**Use and Handling of Firearms****3 Credits**

This course enables students to handle the gun carriage and regulations of the Police of Puerto Rico in a proper and legal. Emphasis is given to the laws, both state and federal regulations and the General Orders of the Police of Puerto Rico, in the use of the weapon. Also become familiar with the use and management of the Remington shotgun cartridge 12, the Rifle Colt M-16 A-1 and A-2, including tear gas and pepper spray.

SCHOOL OF HEALTH SCIENCES

Mission

The School of Health Sciences offers various programs related to the health professions, in Cupey, Bayamón and Aguadilla. The mission of the School of Health Sciences is to contribute to the health and quality of life of a multicultural society, through academic excellence and offerings that meet the needs of society in general, thus expanding students' personal, professional, ethical and social growth. The School of Health Sciences has a policy of non-discrimination.

The School is characterized by its commitment to excellence in education, integration of technology, the provision of research experiences, community service, development of specific skills, and the use of information systems, bilingualism, and teamwork, through an interdisciplinary health team work approach.

The School's academic offerings promote the development of the teaching- learning process through critical thinking, clinical judgment, decision making, problem solving, and collaborative team work. These skills are within the context of the ethical-legal aspects of professional relations, and the value of life, health, and dignity of the whole person.

Vision

The School of Health Sciences aspires to be recognized as an academic leader in the areas of health promotion, health restoration, and illness prevention, both in and out of Puerto Rico, through the development of excellent undergraduate and graduate programs. The goal is to satisfy the needs of our health system and to enhance the quality of life of our society in general. It is the goal of faculty, students and administration to share knowledge, competencies and experiences. The School will offer multidisciplinary services to groups with specific needs, as well as to the community in general, through collaborative groups and consortia, transcending cultural and geographical boundaries.

School Objectives

- To offer pertinent, high quality academic programs in order to enable our graduates to perform successfully in varied health scenarios.
- To contribute toward the training of health-care leaders engaged in their profession within the global context.
- To use technology effectively, in harmony with the advancement of science and informatics in all health disciplines.
- To develop social responsibility through the implementation and development of community service projects according to emerging needs involving faculty and students of the different academia programs.
- To sponsor proactive participation in the public policy formulation pertaining to health issues.

- To promote health related research and community service through a multidisciplinary approach immersed in local, regional and global needs.

DEPARTMENT OF NURSING

The Department of Nursing offers a Master's Degree in Nursing (MSN), an Associate Degree in Nursing (ADN) and a Bachelor's Degree in Nursing (BSN). The ADN & BSN programs prepare nurses to compete for first-level positions in direct care of clients. Upon completion of the program's requirements, students will be able to successfully take the test of the Nursing Licensing Board Examination in Puerto Rico. The faculty chose an eclectic framework for the organization of its Associate Degree in Nursing (ADN) and the Baccalaureate Degree in Nursing (BSN) curriculum.

The MSN prepares Clinical Nurse Specialists in Critical Care of the Adult, Critical Care of the Child, and Case Management, with a second role as nurse educators or nurse administrators. The MSN, BSN, and ADN Programs are accredited by ACEN (Accrediting Commission for Education in Nursing) previously known as the National League for Nursing Accrediting Commission (NLNAC) 3343 Peachtree Road NE, Suite 850 Atlanta Georgia, 30326.

Mission

The Department of Nursing is part of the Metropolitan University (UMET), a private institution of higher education. UMET offers educational opportunities to a multicultural society, in accordance with current and innovative technologies, and the challenges and opportunities offered by globalization.

The Department of Nursing promotes an environment of academic freedom, to facilitate faculty and student acquisition of knowledge. It strives to cultivate the attitudes and skills necessary for their professional development, for the enhancement of the teaching-learning process, and for the satisfaction and successful employment of its graduates.

UMET's flexible admission policy provides accessibility to the Nursing department programs leading to associate and baccalaureate degrees, as well as Nursing certifications. These offerings are supported by special academic student services for a high quality educational experience.

The department encourages reflexive and intellectual curiosity and an attitude of commitment in its faculty and students, to promote the life-long professional development of knowledge and skills. The department also fosters an educational experience supported by creative and innovative teaching-learning methods and activities, and by the systematic evaluation of administrative and academic processes, and the outcomes of its graduates.

The following commitment statements complement the mission of the Nursing department:

1. To develop and maintain the curriculum design for the nursing programs and certification offerings, which reflect the integration of relevant principles and concepts, from nursing theories, from the natural and nursing sciences, and from the general education offerings.

2. To encourage and protect the freedom of administration, faculty, and students, to do research, experiment and publish in accordance with the university rules, policies and standards, and within the professional scope of practice.
3. To maintain the curricula of the Nursing Programs in response to current health care needs of society and economic, demographic and nursing education changes and patterns.

Nursing Laboratory Facilities

The Nursing Department administers skills laboratory facilities at three sites; the main campus in Cupey, the Bayamón campus, and the Aguadilla campus. The skills Simulation labs are equipped with state-of-the-art models and equipment. Recently acquired simulation models are: Sim-Man Essential, Sim-Man G, Sim-Baby, ALS/trauma model, and Noelle, the birthing simulator. Master's, Baccalaureate and Associate Degree Nursing students use these facilities throughout the academic year with the guide of the faculty and a simulation technician. Individual and small group tutoring is also provided during day and night sessions by laboratory technicians and faculty.

Student Learning Outcomes

Learning Outcomes of the Associate Degree Nursing Program

Outcome #1: Provide nursing care to the client system in structured health-care settings, consistent with the scope of practice as stated in the Puerto Rico Nursing practice Law.

Outcome #2: Function as a manager of care to individual clients and their families by setting priorities, planning and implementing holistic nursing care under the guidance and support of the nurse generalist.

Outcome #3: Practice within the ethical, legal and professional values and standards of nursing practice; is committed to lifelong learning, and participate in professional nursing organizations.

Outcome #4: Use the nursing process within the context of the Betty Neuman Systems Model as a framework for assessing, planning, implementing and evaluating standard individualized treatment plans for clients and their families, consistent with institutional policies.

Learning Outcomes of the Baccalaureate Nursing Program

Outcome #1: Provide nursing care to individuals, families and communities in structured and unstructured healthcare settings.

Outcome # 2: Coordinate and manage the nursing care of individuals, families and communities using principles of coordination, management, delegation, and collaborative leadership in the workplace.

Outcome # 3: Practice within the framework of the ethical, legal, and professional values and standards of practice; is committed to life-long learning, and participates in the profession.

Outcome # 4: Utilize the Nursing Process within the context of the Betty Neuman Systems Model as a framework, to develop, implement and evaluate the nursing care plans for individuals, families and communities with common and complex health problems.

ADMISSION REQUIREMENTS

- High School Diploma or equivalent with a GPA of 2.5 or higher on a 4.0 scale
- Applicants must have taken the College Entrance Examination Board or SAT (if age under 25)

REQUIRED DOCUMENTS

- Application for Admission
- Admission fee of \$15.00
- Certificate of immunizations (if under 21)
- Foreign students need student VISA
- Two (2) official transcripts from all universities attended
- Certificate of Good Conduct from the Puerto Rico Police Department (less than six months)

ADMINISTRATIVE STAFF

DR. LOURDES MALDONADO

Dean
Ed.D. Interamerican University
M.S.N. University of Puerto Rico Medical
Sciences Campus
B.S.N. Pontifical Catholic University of
Ponce

MAYRA FIGUEROA, EDD, CCC/SLP

Associate Dean
Ed. D., Interamerican University

DR. REBECCA S. FRUGÉ

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Bayamon
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M.S.N., Louisiana State University of New
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B.S.N., Loyola University of New Orleans

DR. ZULMA SOTO

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Sciences Campus
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Sciences Campus

NURSING FACULTY (Cupey, Bayamón, and Aguadilla)

ACEVEDO RODRIGUEZ, MARITZA

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B.S.N., Catholic University of Puerto Rico

BONILLA, MILAGROS

Assistant Professor
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B.S.N., University of Puerto Rico

BERNAL, CLAUDIA

Instructor
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B.S.N., Universidad Cooperativa de
Colombia

CARDONA, ELVIA

Instructor
M.S.N., University of Puerto Rico
B.S.N., University of Puerto Rico

CORDERO, WANDA

Instructor
M.S.N., University of Puerto Rico
B.S.N., University of Puerto Rico

CORDERO, DIMARYS

Instructor
MSN, Inter American University
BSN, University of Puerto Rico

CORREA, IRMA

Assistant Professor
M.S.N., University of Puerto Rico
B.S.N., Catholic University of Puerto Rico

CRUZ, ELIZABETH

Instructor
M.S.N., Metropolitan University
B.S.N., Metropolitan University

CRUZ, NOELIA

Instructor
M.S.N., Caribbean University
B.S. N., Caribbean University

CUADRO, WANDA

Instructor
M.S.N., Caribbean University

B.S.N., Universidad del Este

DRULLAT, JUAN

Instructor

M.S.N., Universidad del Turabo

B.S.N., Interamerican University

ELÍAS, OLGA

Instructor

M.S.N., University of Puerto Rico

B.S.N., University of Puerto Rico

FONSECA, MADELINE

Assistant Professor

M.S.N., University of Puerto Rico

B.S.N., University of Puerto Rico

FORT, KARLA

Instructor

M.S.N., John Dewey University

B.S. N., Colegio Universitario de San Juan

GALARZA, LUIS

Instructor

M.S.N., University of Puerto Rico

B.S. N., Colegio Universitario de San Juan

GARCÍA, ANA C.

Instructor

MSN, University of Puerto Rico

BSN, Inter American University

GOICOCHEA, ELSIE

Assistant Professor

M.S.N., University of Puerto Rico

B.S.N., University of Puerto Rico

HERNÁNDEZ, EVELYN

Instructor

MSN, Catholic University

BSN, University of Puerto Rico

LÓPEZ, CARMEN

Instructor

DNP, University of Massachusetts, Amheret

M.S.N., University of Puerto Rico

B.S. N., University of Puerto Rico

MALDONADO, JANETTE

Instructor

M.S.N., Caribbean University

B.S. N., Metropolitan University

MARRERO, ROSA

Instructor

M.S.N., Caribbean University

B.S. N., John Dewey University

MARRREO, ÁNGEL

Instructor

M.S.N., Caribbean University

B.S. N., UCB

MARRERO, ROSA L.

Instructor

M.S.N., Caribbean University

B.S. N., Dewey University

MATÍAS, DORIS

Instructor

M.S.N., Catholic University of Puerto Rico

B.S.N., University of Puerto Rico

MEDERO, ELIA

Instructor

M.S.N., University of Puerto Rico

B.S.N., University of Puerto Rico

MENDEZ, LUZ E.

Instructor

M.S.N., Catholic University of Puerto Rico

B.S.N., University of Puerto Rico

MÉNDEZ, RAMONA

Instructor

M.S.N., Catholic University of Puerto Rico

B.S.N., Catholic University of Puerto Rico

MERCADO MARÍA

Instructor
M.S.N., University of Puerto Rico
B.S.N., University of Puerto Rico

MESTRE, LUISA

Instructor
M.S.N., University of Puerto Rico
B.S.N., University of Puerto Rico

MONTALVO, ROLANDO

Instructor
M.S.N., Catholic University of Puerto Rico
B.S.N., University of Puerto Rico

MORALES, BELIA

Instructor
M.S.N., University of Puerto Rico
B.S.N., Catholic University of Puerto Rico

NEGRÓN, ERICKA

Instructor
M.S.N., Turabo University
B.S.N., Antilles Adventist University

PEDREIRA, EVELINE

Instructor
M.S.N., Metropolitan University
B.S. N., Herbert H. Lehman, NY
PhD student Chatham Univ.

PEDROZA, MAYRA

Associate Professor
Ph.D, Walden University
M.S.N., University of Puerto Rico
M.A., Webster University
B.S.N., University of Puerto Rico

PEÑA, LUIS

Instructor
M.S.N., University of Puerto Rico
B.S.N., University of Puerto Rico

PLATA, GRISEL

Assistant Professor
Ph.D. Interamerican University of P.R.
M.S.N., Catholic University of Puerto Rico
B.S.N., Catholic University of Puerto Rico

PELLOT, LISETTE

Instructor
M.S.N., Interamerican University
B.S.N., Interamerican University

PÉREZ, MARIBEL

Instructor
M.S.N., University of Puerto Rico
B.S.N., University of Puerto Rico

PIZARRO, NYVIA

Instructor
M.S.N., University of Puerto Rico
B.S.N., University of Puerto Rico

QUILES, MIGUEL

Instructor
M.S.N., University of Puerto Rico
B.S. N., University of Puerto Rico

QUINTANA, MAGDALENA

Instructor
M.S.N. Catholic University of Puerto Rico
B.S.N. Antilles University
PhD student

RECIO, JOSÉ

Instructor
M.S.N., Catholic University of Puerto Rico
B.S.N., Antilles Adventist University

RIVERA, CARMEN

Instructor
M.S.N., Catholic University of Puerto Rico
B.S.N., Catholic University of Puerto Rico

RODRÍGUEZ, IVONNE

Instructor
M.S.N., University of Puerto Rico
B.S. N., University of Puerto Rico

RODRÍGUEZ, JOHANNA

Instructor
M.S.N., University of Puerto Rico
B.S. N., University of Puerto Rico

RODRÍGUEZ, LILLIAM

Instructor
M.S.N., Metropolitan University
B.S.N., Metropolitan University

RODRÍGUEZ, MIGDALIA

Instructor
M.S.N., University of Puerto Rico
B.S. N., University of Puerto Rico

ROMÁN, BRUNILDA

Instructor
M.S.N., University of Puerto Rico
B.S. N., University of Puerto Rico

ROSA, JUAN

Instructor
M.S.N., Catholic University of Puerto Rico
B.S.N., Interamerican University

RHODES, KEMLEY

Instructor
M.S.N., University of Phoenix
B.S.N., Caribbean University

RIVERA, ÁNGEL

Instructor
M.S.N., University of Puerto Rico
B.S.N., University of Puerto Rico, Arecibo

RIVERA, REINA

Instructor
M.S.N., University of Puerto Rico
B.S.N., University of Puerto Rico

RODRIGUEZ, MARIBEL

Instructor
M.S.N., University of Puerto Rico
B.S.N., University of Puerto Rico

RODRIGUEZ, YANILDA

Instructor
M.S.N., University of Puerto Rico
B.S.N., University of Puerto Rico

RODRIGUEZ, ISABEL

Instructor
MD, Universidad Medicina de la Habana,
Cuba
M.S.N., FNP, Turabo University
B.S. N., Universidad del Sagrado Corazón

RODRIGUEZ, ENID

Instructor
M.S.N., Catholic University of Puerto Rico
B.S. N., Catholic University of Puerto Rico

ROSADO, ROSA

Associate Professor
M.S.N., University of Puerto Rico
B.S.N., University of Puerto Rico

SANCHEZ, VIONETTE

Instructor
M.S.N., University of Puerto Rico
B.S.N., University of Puerto Rico

SANTANA, BRUNILDA

Instructor
M.S.N., University of Puerto Rico
B.S.N., University of Puerto Rico

SANTANA, CONCHITA

Instructor
M.S.N., University of Puerto Rico
B.S.N., University of Puerto Rico

SANTIAGO, AMARILYS

Instructor
M.S.N., University of Puerto Rico
B.S. N., University of Puerto Rico

SOTO, MARYNELLY

Instructor
M.S.N., University of Puerto Rico
B.S.N., Interamerican University

TORRES, JOHAN

Instructor
M.S.N., University of Puerto Rico
B.S. N., University of Puerto Rico

TORRES, ENID

Instructor
M.S.N., Caribbean University, Recinto de
Bayamón
B.S. N., Colegio Universitario de San Juan

VÁZQUEZ, EDNA

Instructor
M.S.N., University of Puerto Rico
B.S.N., University of Puerto Rico

VENTURA, MARÍA

Instructor
M.S.N., Metropolitan University
B.S.N., University of Puerto Rico

VILLANUEVA, BEATRIZ

Instructor
M.S.N., Metropolitan University
B.S.N., Central University of Puerto Rico

VILLANUEVA, MARÍA

Instructor
M.S.N., Catholic University of Puerto Rico
B.S.N., Interamerican University

Associate Degree In Nursing

70 credits		Credits
Nursing Courses		38
General Education Courses		32
Nursing Courses		
NURS 101	Nursing Process and Basic Skills	5
NURS104	Fundamentals of Nursing in Health Promotion	3
NURS 107	Nursing Process Applied to the client-system with Psychosocial Alterations	5
NURS 203	The Nursing Process Applied to Adult Care I	6
NURS 204	The Nursing Process Applied to Adult Care II	6
NURS 208	The Nursing Process applied to Children and Adolescents	5
NURS 240	Pharmacology and Dosage Calculation Applied to Health Science	3
NURS 251	Nursing Care of the Mother, Neonate and Family	5
TOTAL Nursing		38
General Education Courses		
FYIS 101	First Year Induction Seminar	3
BIOL 106	Anatomy	4
BIOL 105	Microbiology	4
MATH 101	Mathematics	3
PSYC 123	General Psychology Survey Course	3
SPAN 101-102	Introductory Spanish Language Course - Basic Level	6
or SPAN 103-104	Introductory Spanish Language Course - Intermediate Level	
or SPAN 105-106	Introductory Spanish Language Course - Advanced Level	
ENGL 101-102	Introductory English Language Course - Basic Level	6
or ENGL 103-104	Introductory English Language Course - Intermediate Level	

or ENGL 105-106	Introductory English Language Course - Advanced Level	
COSC 111	Computer Literacy	3
TOTAL GE CREDITS		32

Bachelor of Sciences In Nursing

125 credits	credits
Nursing Courses	71
General Education	51
Electives	3

Nursing Courses		
NURS 105	Introduction to the Nursing Professional Role	3
NURS 230	Nursing Process	5
NURS 231	Adult Health Assessment	3
NURS 232	Pathophysiology	3
NURS 240	Pharmacology and Dosage calculation applied to Health Science	3
NURS 301	Nursing Care of the Childbearing Family during the Reproductive Cycle	5
NURS 305	Mental Health and Psychiatric Nursing	5
NURS 310	Nursing Care of the Adult-Part I	5
NURS 311	Nursing Care of the Adult-Part II	5
NURS 315	Ethical-Legal Aspects in Nursing	3
NURS 320	Application of Basic Principles of Research in the Nursing Practice	3
NURS 404	Nursing Care of Children	5
NURS 405	Nursing in Community Health	5
NURS 410	Nursing Leadership and Management	3
NURS 412	Nursing Care of the Adult III	5
NURS 420	Practicum (Integrated Clinical Nursing)	6
NURS 421	Nursing Board Review	4

General Education Courses		
BIOL 106	Anatomy	4
CHEM 105	Health Chemistry	4
BIOL 105	Microbiology	4
PSYC 123	General Psychology	3
MATH 101-102	Arithmetic	6
COSC 111	Computer Literacy	3
SPAN 101-102	Introductory Spanish Language Course - Basic Level	6
or SPAN 103-104	Introductory Spanish Language Course - Intermediate Level	
or SPAN 105-106	Introductory Spanish Language Course - Advanced Level	
ENGL 101-102	Introductory English Language Course - Basic Level	6
or ENGL 103-104	Introductory English Language Course - Intermediate Level	
or ENGL 105-106	Introductory English Language Course - Advanced Level	
HUMA 101-102	Introduction to the Study of Western Civilization	6
HIST 253	History of Puerto Rico	3
FYIS 101	First Year Induction Seminar	3
Elective		3

Certification in Oncology Nursing (Post-BSN)

15 credits	credits
Nursing Courses	15

Nursing Courses		
NURS 513	Oncology Nursing I	4
NURS 514	Oncology Nursing II	4
NURS 515	Pharmacology in Oncology Nursing	4
NURS 516	Practicum in Oncology Nursing	3

SPEECH AND LANGUAGE THERAPY PROGRAM

ADMINISTRATIVE STAFF

LEONG NUÑEZ, ISELDA

Program Director

BS, University of P.R., RCM

MS, University of P.R., RCM

FACULTY

ROSADO, DAMARIS

Instructor

M.S./SLP, Carlos Albizu University

B. A., Carlos Albizu University

Program Description

The Speech Therapy Program offers the Baccalaureate degree in both with speech problems daytime and evening hours. The program prepares students to offer treatment to individuals, up to age 21. It is based on the Standards of Excellence of the American Speech - Language-Hearing Association (ASHA) and Law 77 of June 3, 1983, which regulates the practice of Speech Therapy in Puerto Rico.

The program groups the courses into four components: General Education (43) Concentration courses (65). Support courses (12) and Electives (3), for a total of 123 credits. These components offer the students the knowledge and the skills to be a committed and excellent professional Speech Therapist.

Mission

The UMET Speech Therapy program's mission is to prepare professionals of excellence in the area of speech therapy with the knowledge, skills, attitudes and values so that they can respond to the communication needs of the population aged 0-21 to make "effective communication a right for all".

Admission Requirements

- High School or equivalent with GPA of 2.5 or higher on a 4.0 scale
- Results of admission exam CEEB or SAT (if younger than 23 years old)
- Application for Admission
- Admission fee of \$15.00
- Interview with Coordinator
- Evidence of Immunizations (if under 21)

The program aims to prepare professionals in the area of speech therapy who:

1. Can offer habilitation and rehabilitation services to the population aged 0-21 with speech-language impediments, under the supervision of a speech pathologist.
2. Are trained to establish alliances with other professionals and agencies to maximize the results of the intervention, ensuring the confidentiality of clients.
3. Participate as active members of national and state professional, organizations.
4. Can access research findings as a mean to base their interventions on scientific evidence.
5. Will obtain the license that enables them to practice as a Speech Therapist in Puerto Rico.

Laboratories of Speech Therapy

In addition to the clinical experiences established in the different courses, the program has three laboratories available. The labs are equipped for students to practice and develop the psychomotor skills necessary for the implementation of the treatment to people with speech–language problems. All laboratories have therapeutic materials and a capacity for ten students each.

Bachelor of Speech and Language Therapy

127 credits		Credits
Speech Therapy Courses		65
General Education		56
Electives		6
Speech Therapy Courses		
SPLA 101	Introduction to the Role of the Speech-Language Therapist	3
SPLA 202	Anatomy and Physiology for the Study of Speech, Language and Hearing	3
SPLA 203	Language Development	3
SPLA 204	Law, Ethics and Intervention System in Speech Language Therapist	3
SPLA 205	Introduction to Audiology	3
SPLA 206	Basic Principles of Research in Speech Therapy	3
SPLA 207	Language Development	3
SPLA 222	Pervasive Developmental Disorders	3
SPLA 300	Professional Writing for the Speech Language Therapist	3
SPLA 301	Principles of Intervention in Speech-Language Therapy	3
SPLA302	Rehabilitation and Aural Abilitation in Children	3
SPLA 303	Intervention with Language Disorders	4
SPLA 304	Oral motor and Articulator Dysfunctions	3
SPLA 308	Development of Reading and Writing K-#	3
SPLA 307	Clinical Practicum I	3
SPLA 309	Augmentative y Alternative Communication	3
SPLA 314	Intervention in Voice Disorders	3
SPLA 405	Clinical Practicum II	4
SPLA 406	Disorders of Speech Fluency	3

SPLA 408	Genetic, Syndromes and Craniofacial Disorders	2
SPLA 415	Clinical Practicum III	4

General Education Courses		
SPAN 101-102	Introduction to Spanish I & II	6
HUMA 101-102	Introduction to the study of Occident civilizations I&II	6
ENGL 101-102	Introduction to English I & II	6
SOSC 103	Introduction to the study of Social Sciences	3
COIS 101	Introduction to Computers	3
HIST 253	History of Puerto Rico	3
PSYC 123	General Psychology	3
MATH 101 – 102	Mathematics I & II	6
BIOL 103 – 104	Anatomy and Physiology I & II	8
TOTAL		44

Support Courses		
EDUC 135	Fundamentals of Education	3
EDUC 173	Human growth and development and learning	3
EDUC 204	Nature and Needs of the exceptional child	3
SPAN 235	Linguistics	3
TOTAL		12
ELECTIVES	Free electives	6

DIAGNOSTIC IMAGING PROGRAM SONOGRAPHY PROGRAM

ADMINISTRATIVE STAFF

VARGAS MONSERRATE, CARMEN L.

Program Director

M.B.A/H.C.M., University of Phoenix

B.S.S., Universidad de P.R., RCM

A.R.T., Universidad de P.R., RCM

NEGRÓN, YARITZA

Program Coordinator

B.S.S., Universidad del Este, UNE

FACULTY

NEGRÓN, YARITZA

Instructor

B.S., Universidad del Este

DIAGNOSTIC IMAGING PROGRAM DESCRIPTION

The Diagnostic Imaging Program provides students with three academic offerings in the field of Sonography: two associate degrees in the areas of Medical Sonography and a Vascular Sonography Program that are available during daytime hours. The Baccalaureate in Medical Sonography with a major in Peripheral Vascular conditions is offered at night, as an alternative for students who work during the daytime.

MISSION

The mission of the Diagnostic Imaging Program is to provide innovative educational services in the field of diagnostic imaging and treatment, by integrating modern educational methodologies, so that students can acquire the knowledge and technological skills of this health field to prepare them to compete successfully in the workplace.

VISION

The vision of the Diagnostic Imaging Program is to position ourselves as leaders in the education of diagnostic imaging and treatment whereby our graduates will be recognized as professionals of the highest quality, allowing them to remain at the forefront of the latest trends and developments in the profession.

GOAL OF THE DIAGNOSTIC IMAGING PROGRAM

To prepare competent professionals in the field of diagnostic imaging, to practice effectively in the provision of health services.

OBJECTIVES OF THE IMAGING PROGRAM

1. Expose students to a broad and comprehensive curriculum that integrates the theoretical and practical aspects that comprise the academic area of health sciences related to diagnostic imaging.
2. Develop and strengthen the abilities, skills, knowledge and professional tools of Diagnostic Imaging.
3. Promote real experiences in the practice centers and laboratories (some virtual) to strengthen and expand the theoretical components of the program.
4. Meet the needs of instructional resources, bibliographic, computer, and professional development in technology.
5. Assist and guide students in their desire to excel professionally and personally.
6. Develop an ethical attitude and respect for the human being in compliance with established regulations regarding patient rights.
7. Promote self-knowledge and the ability to solve problems through critical thinking and scientific inquiry.
8. Promote communication and interaction with professional organizations and institutions that represent the field of health in Diagnostic Imaging.
9. Develop and enhance the image and quality of the program as an educational and community service with which students can identify.
10. Participate in continuing education programs.

GOAL OF THE ASSOCIATE DEGREE IN MEDICAL SONOGRAPHY

1. To develop the necessary skills in students for effective practice of medical Sonography.

OBJECTIVES OF THE ASSOCIATE DEGREE IN MEDICAL SONOGRAPHY

1. Develop students' skills in recognizing and tracking anatomy for Sonography
2. Encourage students to engage in self-directed study as a tool to develop professional skills.
3. Encourage the analysis of clinical cases, as an essential tool in the field of medical Sonography.
4. Promote reading of professional journals and professional development material.
5. Promote community service as an essential basis of patient care.
6. Support and encourage students to take the national certification exams after completion of their program.

GOAL OF THE ASSOCIATE DEGREE IN VASCULAR SONOGRAPHY

1. To develop the required knowledge, attitudes and skills of a Sonography Vascular technician.

OBJECTIVES OF THE ASSOCIATE DEGREE IN VASCULAR SONOGRAPHY

1. Ensure the development of vascular Sonography scanning skills in students
2. Promote student participation in continuing education in order to remain current with the knowledge required of their profession
3. Motivate students to become life-long learners
4. Encourage the analysis of clinical cases, as an essential tool in the field of vascular Sonography.
5. Develop the skills of identifying conditions with and without anatomical pathology.
6. Promote quality patient care through the use of protocols in vascular studies.

GOAL OF THE BACCALAUREATE IN MEDICAL SONOGRAPHY WITH A MAJOR PERIPHERAL VASCULAR CONDITIONS

Promote the effective achievement of knowledge, attitudes and clinical skills in the academic and occupational medical Sonography student with a concentration in Peripheral Vascular conditions.

OBJECTIVES OF THE BACHELOR'S IN MEDICAL SONOGRAPHY WITH A MAJOR IN PERIPHERAL VASCULAR CONDITIONS

1. Develop skills of critical analysis and clinical expertise in students of Sonography.
2. Promote the development of multitasking in graduates of Sonography.
3. Stimulate students in professional self-realization by taking the national certifying exam that their profession requires.
4. Develop collaboration among students in clinical practice centers to achieve academic goals.
5. Prepare students with the necessary skills that enable them to perform all peripheral vascular studies.
6. Promote reading of research articles or case studies on peripheral vascular conditions in order to increase their knowledge in this area.
7. Properly execute the necessary protocols to perform all peripheral vascular studies according to the patient's condition.

ADMISSION REQUIREMENTS:

1. Complete the application form and pay the University admission fee.
2. High School degree or equivalent, with a GPA of 2.5 or higher.
3. Interview with the Director of Programs.
4. Interested candidates who have associate degrees and apply for admission to the baccalaureate program will go through a process of convalidation of their academic record.
5. College Board with 400 in Mathematics
- 6.

Associate Degree in Health Sciences with a concentration in Medical Sonography

81 Credits		Credits
Sonography Courses		35
General Education		36
Professional		10
Sonography Courses		
DMSO 101	Introduction to Sonography	3
DMSO 234	Ultrasound Physics and Instrumentation I	3
DMSO 236	Ultrasound Physics and Instrumentation II	3
DMSO 238	Abdominal Sonography	3
DMSO 240	Genitourinary System Sonography	3
DMSO 242	Superficial Structures Sonography	3
DMSO 244	Gynecologic Sonography	3
DMSO 246	Obstetric Sonography	3
DMSO 248	Pediatric Sonography	3
DMSO 250	Integration Seminar	3
DMSO 220	Clinical Practicum I	1
DMSO 222	Clinical Practicum II	1
DMSO 224	Clinical Practicum III	3
General Education Courses		
SPAN 101-102	Introductory Spanish Language Course - Basic Level	3
or SPAN 103-104	Introductory Spanish Language Course - Intermediate Level	3
ENGL 101	Introductory English Language Course - Basic Level	3
or ENGL 103	Introductory English Language Course - Intermediate Level	
HIST 101 ó 253	Introduction to the study of History or Puerto Rico History(Compendium)	3

PSYC 123	General Psychology	3
MATH 111	Intermediate Algebra I	3
COSC 111	Computer Literacy	3
BIOL 103 Y 104	Physiology and Anatomy I y II	8
PHSC 201	General Physics for Health Sciences	4
FYIS	First Year Immersion Seminar	3
Professional		
HESC 220	Patient Care	3
HESC 222	Medical Terminology	3
HESC 230	Sectional Anatomy	4

Associate Degree in Health Sciences with a concentration in Vascular Sonography

81 credits		credits
Sonography Courses		32
General Education		36
Professional		13
Sonography Courses		
DMSO 101	Introduction to Sonography	3
DMSO 234	Ultrasound Physics and Instrumentation I	3
DMSO 236	Ultrasound Physics and Instrumentation II	3
DVSO 334	Cardiovascular Physics and Instrumentation	3
DVSO 338	Vascular Sonography of the Cerebral Circulation	3
DVSO 340	Vascular Sonography of the Upper Extremity	3
DVSO 342	Vascular Sonography of the Lower Extremity	3
DVSO 344	Vascular of the Abdomen Sonography	3
DMSO 250	Integration Seminar	3
DVSO 220	Clinical Practicum I	1
DVSO 222	Clinical Practicum II	1
DVSO 224	Clinical Practicum III	3
General Education Courses		
SPAN 101-102	Introductory Spanish Language Course - Basic Level	3
SPAN 103-104	Introductory Spanish Language Course - Intermediate Level	3
ENGL 101	Introductory English Language Course - Basic Level	3
or ENGL 103	Introductory English Language Course - Intermediate Level	
HIST 101 ó 253	Introduction to the study of History or Puerto Rico History(Compendium)	3
PSYC 123	General Psychology	3

MATH 111	Intermediate Algebra I	3
COSC 111	Computer Literacy	3
BIOL 103 Y 104	Physiology and Anatomy I y II	8
PHSC 201	General Physics for Health Sciences	4
FYIS 101	First Year Immersion Seminar	3
Professional		
HESC 220	Patient Care	3
HESC 222	Medical Terminology	3
HESC 230	Sectional Anatomy	4
HESC 330	Cardiovascular Anatomy and Physiology	3

Bachelor in Health Sciences with a concentration in Medical Sonography Periferovascular		
126 Credits		Credits
Sonography Courses		62
General Education		51
Professional		13
Sonography Courses		
DMSO 101	Introduction to Sonography	3
DMSO 234	Ultrasound Physics and Instrumentation I	3
DMSO 236	Ultrasound Physics and Instrumentation II	3
DMSO 238	Abdominal Sonography	3
DMSO 240	Genitourinary System Sonography	3
DMSO 242	Superficial Structures Sonography	3
DMSO 244	Gynecologic Sonography	3
DMSO 246	Obstetric Sonography	3
DMSO 248	Pediatric Sonography	3
DMSO 250	Integration Seminar	3
DVSO 334	Cardiovascular Physics and Instrumentation	3
DMSO 336	Advanced Obstetric Sonography	3
DVSO 338	Vascular Sonography of the Cerebral Circulation	3
DVSO 340	Vascular Sonography of the Upper Extremity	3
DVSO 342	Vascular Sonography of the Lower Extremity	3
DVSO 344	Vascular of the Abdomen Sonography	3
DMSO 404	Principles of Research in sonography	3
DMSO 220	Clinical Practicum I	1
DMSO 222	Clinical Practicum II	1
DMSO 224	Clinical Practicum III	3
DVSO 320	Clinical Practicum IV	3

DVSO 321	Clinical Practicum V	3
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General Education Courses		
SPAN 101-102	Introductory Spanish Language Course - Basic Level	3
or SPAN 103-104	Introductory Spanish Language Course - Intermediate Level	3
ENGL 101-102	Introductory English Language Course - Basic Level	3
or ENGL 103-104	Introductory English Language Course - Intermediate Level	3
SOCS 103	Introduction to the Social Sciences	3
PSYC 123	General Psychology	3
HUMA 101 Y 102	Introduction to the Study of Western Civilization	6
HIST 253	Puerto Rico History(Compendium)	3
MATH 111 Y 112	Intermediate Algebra I y II	6
COCS 111	Computer Literacy	3
BIOL 103 Y 104	Physiology and Anatomy I y II	8
PHSC 201	General Physics for Health Sciences	4
FYIS 101	Inmersion Seminar First Year	3
Professional		
HESC 220	Patient Care	3
HESC 222	Medical Terminology	3
HESC 230	Sectional Anatomy	4
HESC 330	Cardiovascular Anatomy and Physiology	3

COURSES DESCRIPTIONS

NURSING COURSES

NURS 101 Nursing Process and Basic Skills

Five Credits

Initiates the student into the roles and competencies of an associate degree nurse, as a member of the health team. The program mission, outcomes and conceptual framework is presented and discussed. The general aspects of the historical evolution of nursing are covered as well as values and ethical-legal aspects. Emphasis is on the B. Neuman concepts of system as client. Environment, wellness-illness continuum, stress, communication skills, health promotion, and the levels of prevention are covered. Students are initiated into the nursing process and basic nursing skills, body mechanics, and aseptic technique, in a variety of structured scenarios. Three theory hours and six laboratory hours per week.

NURS 104 Fundamentals of Nursing in Health Promotion

Three Credits

This course provides the nursing student with the opportunity to acquire knowledge of health promotion of the client system, through the developmental stages as presented by Nola Pender. Basic concepts and theories of teaching-learning, preventive care, and decision making are discussed to organize nursing care. Various nursing theories are analyzed, with emphasis on promotion and education. Mastery of student's skills in communication and critical thinking is facilitated through the use of the nursing process as a tool for client education. Prerequisites: BIOL 106, NURS 101

NURS 105 Introduction to the Nursing Professional Role

Three Credits

This course introduces the student to the professional nursing roles. The mission, program outcomes and conceptual framework of the Nursing Program are presented and discussed. The historical development of ancient and modern cultures in relation to health practices are emphasized as the basis for the development of nursing as a profession. Nursing theories are presented as the scientific foundation for the practice of nursing. One semester, three theory hours, per week.

NURS 107 Nursing Process applied to the client-system with Psychosocial Alterations

Five Credits

This course will teach students modern concepts of Psychiatric Nursing and its historical perspectives. Emphasizes alterations in the basic needs of the individual and their responses to stressful situations. Discusses the communication process as a therapeutic modality and its relevance to interventions with patients who have mental alterations. The student will be able to apply the principles and elements of the nursing process, as an essential to identify emotional problems which affect the wellbeing of the individual. This course is based on the study of the factors that may affect the mental health of the individual, such as: Biological,

psychological, sociological, cultural, and spiritual components of the theory of human behavior. BIOL 106, NURS 101, 104 (concurrent).

NURS 201 Medical Terminology

Three Credits

Introduces the student to the specialized language of medicine. Includes word roots, prefixes, suffixes, and parts of speech. It also introduces the student to the medical language, words, components of words and diseases in general (pathology). Laboratory tests and diagnosis in general are also components of this course. Word elements related to anatomy and physiology integrate the component of medical terminology related to body systems.

NURS 203 The Nursing Process Applied to Adult Care I

Six Credits

Classroom instruction and clinical experiences focus on the care of young, middle age, and elderly adults with altered flexible lines of defense, and resistance to complex stressors. The client population includes adults experiencing surgery, and those with altered defense protection, cancer, altered fluid and electrolyte balance, health problems concerning rest and activity. The course focus is on primary, secondary, and tertiary prevention intervention, to strengthen the client's lines of defense and resistance. The roles and competencies of the Associate nurse are integrated throughout the course.

NURS 204 The Nursing Process Applied to Adult Care II

Six Credits

Classroom instruction and clinical experiences focus on the care of young, middle age, and elderly adults with altered flexible lines of defense and resistance to complex stressors. The client population includes adults experiencing problems of sensory and chemical regulation, nutrition, intestinal and urinary elimination, and oxygenation. The focus of the course is on primary, secondary, and tertiary prevention intervention to strengthen client's lines of defense and resistance. The roles and competencies of the Associate nurse are integrated throughout the course.

NURS 208 The Nursing Process applied to Children and Adolescents

Five Credits

Provides students with the concepts of client as system, environmental stress, wellness, fitness, and health promotion of the child, from infancy through adolescence. Develops professional roles and competencies, and technical and communication skills, utilizing evidence based concepts to work with children and adolescents. The Nursing Process is used to promote the wellness of children and adolescents, with alterations in the physiological, psychological, sociocultural, developmental, and spiritual variables.

NURS 230 Nursing Process
Five Credits

Introduces students to the basic principles, concepts, and skills of planning and organizing, as a provider and coordinator of care, educator, and leader/manager. The theoretical content and nursing skills are interrelated to provide for the application of acquired knowledge and skills in situations in primary health care. Utilizes the nursing processes to organize and plan therapeutic nursing interventions with healthy client-systems and those with minimal basic structure variable alterations. The process of decision-making is emphasized as well as critical thinking, therapeutic communication skills, and interpersonal relationships. One semester, three theory hours per week, six laboratory hours per week.

Prerequisites: NURS 105, BIOL 106, NURS 231 (concurrently)

NURS 231 Adult Health Assessment
Three Credits

Students are initiated into the holistic assessment of the adult client system's stability, variances from wellness, and reaction to the environmental stressors, using assessment formats that encompass B. Neuman System basic structure variables. Course content includes: vital signs, history taking, physical examination skills, and the integration of critical thinking through the analysis of health assessment data and selection of nursing diagnosis. One semester, two hours of theory per week, three clinical laboratory hours per week. Prerequisites: BIOL 106, 105, NURS 230

NURS 232 Pathophysiology
Three Credits

The Pathophysiology course provides the basic concepts and the specific processes of the most common diseases. Discusses the clinical etiologies, manifestations, diagnosis, and treatment of diseases. Considers the diseases in simple form; using technology that facilitates the learning of a complicated subject. One term, three hours theory per week. Prerequisites: BIOL 106, NURS 105, NURS 230.

NURS 240 Pharmacology and Dosage Calculation Applied to Health Science
Three Credits

Students are provided with knowledge and skills related to the Pharmacology of common medications and their administration. Course content includes: general principles of medication administration, ethical-legal aspects, terminology, calculation, and common medication classifications, action, contraindications, adverse effects. Emphasis is on dosage calculation and medication administration.

One term, three hours theory per week. Prerequisites: Math 101-102, NURS 105, 230.

NURS 251 Nursing Care of the Mother, Neonate and Family
Five Credits

Introduces students to the care of the mother, neonate, and family through the prenatal, intrapartum, postpartum, and neonatal stages. Conceptualizes stress, growth and

development, and basic structure variables in the dynamic equilibrium of the mother and neonate. Applies basic nursing skills and principles and concepts of communication for interventions with the client system. Emphasizes health promotion and prevention of illness in the nursing care of the childbearing family, including the high risk mother and neonate. Emphasis is on the development of critical thinking, communication, and therapeutic interventions when caring for these clients in different health care settings.

**NURS 301 Nursing Care of the Childbearing Family during the Reproductive
Five Credits Cycle**

Introduces students to the fundamental concepts related to the reproductive cycle such as: sexuality, family planning, fertility vs infertility, holistic family centered approach, pregnancy, intrapartum, the newborn, and post-partum. This course visualizes the nursing process, therapeutic communication skills, nursing research, and therapeutic nursing interventions as essential tools for critical thinking in maternal newborn nursing practice. Selected community and hospital experiences focus on the nursing process in caring for clients and families of all age groups experiencing pregnancy, labor and delivery, and care of the neonate. One semester, three theory hours per week, six laboratory hours per week. Prerequisite: NURS 105, 230, 231, 240, 305, & NURS 310.

**NURS 305 Mental Health and Psychiatric Nursing
Five Credits**

Classroom instruction and clinical experiences initiate students in the care of the client system with mental health and psychiatric stressors/problems. A variety of prevention interventions are implemented, including the use of self, therapeutic relationships, individual and group therapy, and crisis intervention. The roles and competencies of the Psychiatric nurse are integrated into the course for further development. Clinical sites include inpatient and outpatient psychiatric units, community mental health centers, and clients' homes. One semester, three theory hours per week, six laboratory hours per week. Prerequisites: NURS 230, 213, 232, 240 & PSYC 123

**NURS 310 Nursing Care of the Adult- Part I
Five Credits**

The Nursing Process is used as a guide to the solution of health problems in the care of young, middle age, and elderly adult client-system. Basic concepts are introduced for the nursing practice with the adult client , such as: Growth and development of the adult, nutrition, ethical-legal aspects, as well as values that influence the nursing practice of adult care, evidence based nursing practice, homeokinesis, stress, cellular adaptation, transcultural nursing, genetics perspectives, chronicity, disability, and rehabilitation. Emphasis is given to the following physiologic variables of the client system: fluid, electrolytes and acid-base balances; integumentary system, metabolic/endocrine, immunologic/inflammatory responses, peri-operative experience is considered, as well as oncology, pain management and the infection process. Health promotion and primary, secondary, and tertiary prevention interventions are

emphasized to attain, restore, and maintain wellness. One semester, three theory hours per week, six laboratory hours per week. Prerequisites: BIOL 106, 105; NURS 230, 231,232

NURS 311 Nursing Care of the Adult-Part II

Five Credits

The Nursing Process is used as a guide to the solution of health problems in the care of young, middle age, and elderly adult client-system. Emphasis is given to the instability of the following functional health patterns: activity/exercise (respiratory/cardiovascular); nutritional/metabolic (gastrointestinal); elimination (urinary/elimination); sexuality/reproduction (reproductive). Health promotion, primary, secondary, and tertiary prevention interventions are included to attain, restore, and maintain wellness. Generalist nurse roles and competencies are strengthened throughout the course. One semester, three theory hours per week, six laboratory hours per week. Prerequisites: NURS 310

NURS 315 Ethical-legal Aspects in Nursing (elective)

Three Credits

This course is designed to offer the nursing student the opportunity to acquire knowledge and comprehension of relevant legal-ethical aspects in health care and the impact on the practice of nursing. Analyzes theories and ethical principles of nursing, social justice, ethical dilemmas, Nursing Code of Ethics, and the Standards of Nursing Practice. Emphasizes the regulations and contractual agreements related to nursing practice. Implications of Negligence, and malpractice in nursing are discussed. The student has the opportunity to discuss ethical and legal aspects of nursing practice in a variety of scenarios: Ethical issues with clients in terminal stages, living wills, euthanasia, and assisted suicide, among others. One semester, three hours per week.

NURS 320 Application of Basic Principles of Research in Nursing Practice

Three Credits

This course offers the nursing student the opportunity to explore the research process and to apply the basic principles of research and statistics in the various roles of the nursing profession. Includes the importance of using a scientific method while doing research. The use of computers in research is emphasized, and the importance of the review of the literature. Ethical aspects of research are emphasized. Skills that students must develop to become consumers of research are analyzed. Also included is: research designs, data collection strategies, and analysis of data. The different steps of the research process are emphasized. One semester, three theory hours per week. Prerequisites: NURS 230,231,232,240

NURS 404 Nursing Care of Children

Five Credits

This course provides students with principles and concepts relevant to the health care of children from infancy to adolescence. Emphasizes the prevention of disease, promotion and maintenance of health, as well as restoration of the basic structure variables for children, and parents. Uses the nursing process, therapeutic communication skills, Pathophysiology

therapeutic management, and growth and development principles of the Pediatric patient. Promotes the development of professional roles such as: leadership, management, consumer of research, and coordinator of care. One semester, three theory hours per week, six laboratory hours per week. Prerequisites: NURS 105,230,231,232,240,310, 311, 305.

NURS 405 Nursing in Community Health

Five Credits

A community based course with emphasis on providing holistic care to the client in primary, secondary and tertiary levels of prevention throughout the life cycle. The course applies the foundation and principles of the delivery of health care, expanded roles, and case management in the independent practice of nursing. Emphasis is given to the prevention of illness, the promotion and maintenance of health in the client systems, and to the development of the teaching-learning process, critical thinking skills, communication, leadership, and coordinator of care. The principles of epidemiology and research are analyzed and applied in the therapeutic interventions with the client system. One semester, three theory hours per week, six laboratory hours per week. Prerequisites: NURS 230,231,232,240, 310,311, 320

NURS 410 Nursing Leadership and Management

Three Credits

This course provides students with the knowledge and an appreciation of aspects related to leadership and management in nursing. Critical thinking is utilized to enhance discussions, group dynamics, and written and oral activities related to the course content. Accountability and leadership functions of the nurse are discussed. The importance of continuing education and advanced studies for the nurse as a professional are discussed. Communication skills and critical thinking skills are promoted as essential for the professional roles of nursing. One semester, three theory hours per week. Prerequisites: NURS 404, 405, 412

NURS 412 Nursing Care of the Adult III

Five Credits

The Nursing Process is used as a guide in the care of young, middle, and elderly adult client-system, with many different nursing diagnoses to define nursing situations. Emphasis is given to the following nursing situations: Neurological, musculoskeletal, sensorial, health alterations in critical care scenarios, and emergency management. Health promotion and primary, secondary and tertiary prevention interventions are emphasized to attain, restore, or maintain wellness. The roles and competencies of the professional nurse are strengthened throughout the course. Nursing care of clients in emergency and critical care scenarios is introduced at this level. One semester, three theory hours per week, six laboratory hours per week. Prerequisites: NURS 305, 310, 311, 404,405.412.

NURS 420 Practicum (Integrated Clinical Nursing Practice)

Six Credits

In this fourth-level nursing course, the students are offered the opportunity to perform and refine the previously acquired competencies, using critical thinking, the nursing process, and

clinical judgment according to the expected outcomes at this level. The student will demonstrate domain in the pertinent roles of the profession: Provider of care, manager of care, leadership, educator, researcher, and client advocate. Students will have the opportunity to work in collaboration with an interdisciplinary team. The experiences will be diverse and will be designed to be executed in structured and non structured scenarios, demonstrating health promotion and illness prevention activities with the client-system. One semester, 18 laboratory hours per week. Prerequisites: All nursing courses except NURS 410 and NURS 421 which will be taken concurrently.

NURS 421 Nursing Board Review

Four Credits

This course provides a review and integration of scientific nursing knowledge, with emphasis on common health alterations in: Medical, surgical, mental health, pediatric, community health, maternal-neonatal, and leadership nursing. Also provides strategies and content for students to be prepared to take, and pass, the state board examination. One semester, four theory hours per week. Prerequisites: All nursing courses, except NURS 410 & 420 which can be taken concurrently.

HLTH101 General Aspects of the Stage of the Older Adult

Three Credits (Elective)

This course provides the student with opportunity to acquire knowledge of the physical, social, and psychological changes in the older adult, and studies different aging theories. Legal –Ethical aspects are discussed in relation to the older population. The course is geared towards the acquisition of communication, research skills, as well as the consigne and possible problems of some medications in the perspective of conditions that affect people over the age of sixty-five (65)

CERTIFICATION IN CASE MANAGEMENT

NURS 501 Introduction to Case Management

Four Credits

This course introduces the student to the perspective and development of a case manager. Students learn about the role of a case manager in a specialized healthcare environment and the cultural and political dynamics in healthcare organizations. The student in this course can analyze internal and external forces that impact distribution systems. Also emphasizes community support resources, healthcare organizations as corporations, utilization management, ethical and legal issues, public policies and legislation, and discharge planning.

Prerequisites: BSN

NURS 502 Case Management I

Four Credits

In this course we discuss the management of nursing services and the complex issues related to different departments. Also analyzes marketing strategies, financial management practices, healthcare costs, budgeting considerations - particularly copy reimbursement and Total Quality Management. Emphasizes the development of case manager skills, such as: leadership, problem solving, and decision making, communication, and teamwork negotiation skills. Prerequisites: NURS 501

NURS 503 Case Management II

Four Credits

This course allows student to learn about the process and models of case management through continuing care, its logistics, similarities and differences. It includes the screening of patients and services; an estimate of the family's needs; management of cases in progress; and development of clinical pathways. Planning the patient's discharge including education of the patient and family, evaluation of the patient's response to treatment and management based on analysis of variables. The case manager's participation related to illness is analyzed. Prerequisites: NURS 501,502

NURS 504 Practicum in Case Management

Three Credits

This practice provides the student the opportunity to explore, examine and expand the theories on case management in an organizational environment. The participants will rotate thru different clinical settings and shadow preceptors with experience, which will offer them the opportunity to analyze, synthesize and integrate their knowledge and to evaluate the effectiveness of the practice as future case managers. Thru different strategies the student will prove their clinical experience, designing their objectives, planning, controlling and evaluating their learning experiences. Prerequisites: NURS 501, 502, 503

CERTIFICATE IN ONCOLOGY NURSING

NURS 513 Oncology Nursing I

Four Credits

Present essential concept in the specific roll of oncology nursing I. Considers the growth and development aspect of the client system with cancer and emphasizes early prevention and detection. Discusses conditions, risk factors, and diagnostic methods. Emphasizes the general principles of therapy and the existing advanced technology in research, and analysis and results of oncology research. Studies the specific neoplasms for anatomic areas using epidemiology aspects and the professional interventions of nurses as leaders, educators, care providers, and researchers.

NURS 514 Oncology Nursing II
Four Credits

A theory course that emphasizes the conduction of oncology nursing in all rolls: provider of care, coordinator of care, and member of the profession, in agreement with professional values, and ethical and legal standard of the nursing profession. The nursing practice standards are an essential tool bringing health care to the client with cancer. Emphasis is on concepts like self-care, interdisciplinary team works and holistic assessment of the client with cancer. Included is history and physical exam of present symptoms with mayor conditions relevant to the treatment of cancer; pain management, nutritional aspects, and others. It also discusses oncology emergency management.

NURS 515 Pharmacology in Oncology Nursing
Four Credits

Provides basic knowledge of oncology pharmacology, and the measures to follow using required critical thinking skills to interact with the client receiving pharmacology therapy. The use of the nursing process is discussed, in order to apply pharmacology to clients with cancer. Study of the modification agent, immunologic and biologic chemotherapeutics. Expands the role of innovator as a nursing care provider in cancer care and the protective measures to use in the preparation and administration of chemotherapy, biotherapy or in the administration of alternative methods and complementary treatments.

NURS 516 Practicum in Oncology Nursing
Three Credits

This is a practice course whereby the student integrates the basic principles and complex knowledge from other courses like: caring for the individual and family with risk factors of cancer or with cancer, from the beginning until the terminal stage. Students will be exposed to oncology primary, secondary and tertiary stages. Application of different roles in the nursing profession and application of critical thinking in making decisions when interacting with the system, client and family. Emphasis is on direct care roles, education, communication skills and defender of the client system and the use of Research findings to improve nursing care. Students will participate in conducting and treating the population and will focus on humanistic care in all nursing interventions.

SPEECH LANGUAGE THERAPY COURSE DESCRIPTIONS

SPLA 101 Introduction to the Role of the Speech-Language Therapist
Three credits

In this course, the student is initiated in the discussion of the role and responsibilities of a Speech-Language-Therapist. Basic terminologies on speech-language disorders are presented. Law 77of June 3, 1983 of the Commonwealth of Puerto Rico, which regulates the profession and other laws that affects the people with impediments are discussed. As part of this course,

the students will learn how this profession has developed in the United States and Latin America. Idiomatic equivalencies of scientific terms in Spanish and English will be studied.

SPLA 202 Anatomy and Physiology for the Study of Speech, Language and Hearing
Three credits

In this course the anatomy and the physiology of the mechanisms of the human body related to the process of hearing reception, voice emission, language and articulation are discussed. Emphasis is placed on the respiratory, neurological and muscular systems and the organs responsible for hearing, speech, language, phonation and articulation. The effects of communication and hearing and related pathologies will be analyzed.

SPLA 203 Language Development
Three credits

This course has been designed to study the normal development of language. It focuses the development of normal language of a child from infancy to adolescence, including the cognitive requirement needed for language. The importance of the senses and environment exploration for language development as well as the aspects of form, content, the use of language and normal development on each step will be studied. The class will also study the different forms, use of language and the normal development on each area. As part of this course, the students will perform observations of children in their natural environments and will do screenings on language development.

SPLA 204 Law, Ethics and Intervention Systems in SLT
Three credits

Federal and local legislation on services for people with disabilities are discussed and analyzed. The Constitution of Puerto Rico and its relation with the development of the different laws: IDEA, Law 51 (June, 7, 1996) Law 311 (December, 19, 2003) Law ADA and Law NCLB are studied. The Code of Ethic from professional organizations, laws of confidentiality (HIPPA) and the protection of children's rights and its implications for the role of the speech therapist are discussed. The administrative processes of the local government agencies for the provision of these special services are studied.

SPLA 205 Introduction to Audiology
Three credits

In this course the students will relate with the roles and responsibilities of the audiologist. The following concepts will be discussed: acoustic waves and decibel scale and the basic terminology related to this area in Spanish and English. The students will discuss hearing impairment, types and severity of hearing loss. The students will have practice in conducting hearing screenings under the supervision of a speech- pathologist.

SPLA 206 Basic Principles of Research

Three credits

This course provides students the opportunity to explore the research process and apply the evidenced based practice concepts, according to the speech-therapist role. The importance of the scientific method and the use of computers are discussed. Ethical issues, critical analysis and application of findings to provide rationales for professional practice are emphasized.

SPLA 207 Speech Development

Three credits

In this course the development and function of the phonologic process is studied. The oral motor and sensorial skills in infant, needed for the articulatory development is discussed. The students will be able to identify the normal patterns on the sounds within the Puerto Rican language. Differences and deficiencies in phonetic development considering linguistic variations in Puerto Rico and other Hispanic countries will be discussed. The students will perform clinical observation in natural environments and speech screenings.

SPLA 222 Pervasive Developmental Disorders

Three credits

Causes and general characteristics of pervasive developmental disorders, and the related communication disorder are studied. Intervention strategies with infants, children and adolescents with pervasive development disorders will be discussed, like autism, ADHD, Rett and Asperger will be discussed as well as the similarities on treatment. Theories on the possible causes of these disorders, intervention models, untraditional methods and the speech therapist role in each are discussed. The sensory integration disorder, characteristic of ADHD and the importance of early intervention from speech-language therapist are analyzed.

SPLA 300 Professional Writing for the Speech Language Therapist

Three credits

This course trains students on the writing of intervention reports, professional articles and educational materials. The students will write daily intervention plans. Technology will be used as a tool for effective documentation.

SPLA 301 Principles of Intervention in Speech-Language Therapy

Three credits

The students will learn about speech-language intervention models; discuss the specific strategies for direct intervention and natural environment intervention, including consultative-collaborative models. During this course, students will learn about the role of parents, caretakers and teachers in the speech language intervention and the strategies to have a successful integration in the intervention process. Methods on how to work with infants, children and adolescents during the therapeutic process will also be discussed. The possible use of technology during the different intervention models will be highlighted.

SPLA 302 Rehabilitation and Aural Abilitation in Children

Three credits

The purpose of this course is to expose students on speech-language intervention with the hearing impaired between the ages of 0-21. Strategies for a speech-language development for the hearing impaired population including the use of hearing aids, cochlear implants, lip reading and sign language are discussed.

SPLA 303 Intervention with Language Disorders

Four credits

This course is designed to train the speech-language therapy students one how to stimulate the language development of infants, children and adolescents. Different language pathologies: methods, procedures and activities in the treatment of children with receptive and expressive disorders, are discussed. The Student will be able to perform prevention tasks and to give orientation to the family members, teachers and caretakers.

SPLA 304 Oral Motor and Articulator Dysfunctions

Three credits

The purpose of this course is to train students for the intervention with infants and children with motor speech and articulation problems, including those secondary to syndromes and neurological disorders. Specific strategies to stimulate oral motor and sensory development are studied. The students will learn clinical procedures to stimulate the production of specific phonemes.

SPLA 307 Clinical Practicum I

Three credits

This clinical course provides the students the opportunity to practice grading and interventional skills during their speech-language therapy courses. The student will have the opportunity to acknowledge the speech-language therapist functions with supervised activities from a speech pathologist. The student will provide orientations to parents, families and communities. The practice consists of 45 hrs (30 hrs of supervised clinical practicum and 10 of prevention) A seminar consisting of 15 hrs. will be provided for the discussion of the clinical experiences.

SPLA 308 Development of Reading and Writing K – 3

Three 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 specialists perspectives on the area are studied. It discussed the basic process used in the preparation of the child for reading and writing.

SPLA 309 Augmentative and Alternative Communication

Three credits

In this course the speech-language therapist student is will acquire basic knowledge related to assistive technology, with emphasis on augmentative and alternative communication (AAC).

Students will study different techniques for intervention, used in the development of AAC methods and existing communication equipment available. The students will learn how to adapt and create equipment and materials for the population from 0-21 yrs. The impact of assistive technology on the lives of people with communication disabilities will be analyzed.

SPLA 314 Intervention in Voice Disorders

Three credits

In this course the students will study the normal parameters of tone, volume and voice quality. Disorders of voice production and the effect on the communication process are discussed. The students will develop the skill to identify deviations of voice; qualitative and quantitative parameters for screening. Strategies for the intervention on voice disorders, including prevention and direct intervention, will be discussed.

SPLA 408 Genetics, Syndromes and Craniofacial Disorders

Two credits

In this course basic concepts of the embryonic development and teratogen agents and physical characteristics that may suggest the presence of some syndromes and craniofacial disorders are discussed. The students will analyze the difference between congenital and genetic diseases and the implications of syndromes diagnosis. The discussion will be centered on the most common syndromes and genetic problems related to communication disorders.

SPLA 405 Clinical Practicum II

Four credits

The purpose of this course is to offer the speech-language therapist students the opportunity to practice intervention skills speech-language therapy. It will provide the student the opportunity to practice the role that he will perform at the professional level with the pre and adolescent's population. It consists of 65 hours. 50 hours of supervised clinical practicum at elementary and intermediate schools and early intervention centers and 15 hours of seminars were they will discuss their clinical experiences.

SPLA 406 Disfluency Disorders

Three credits

In this course different types of stuttering that need to be referred and the fluency disorders are discussed. As part of the course, the students will have experiences in observation, screening and intervention on stuttering. Strategies for stuttering interventions from infancy to adolescence are discussed.

SPLA 415 Clinical Practicum III

Four credits

This is a clinical course that prepares students to integrate the basic and complex principles of the speech therapist role. The students are provided with a variety of clinical experiences so that they can develop the intervention skills of a speech-language therapist in different clinical setting. Students will use critical thinking in the decision making, as a counselor, collaborator,

communicator and clinician. Students will demonstrate the application of research results in speech therapist interventions. Humanism and respect for the human being will permeate in all clinical interventions. It consists of 50 hours of supervised clinical practice and 15 hour for meetings, during which they will discuss their experiences and the achievement of the course objectives.

SONOGRAPHY PROGRAM

DMSO 101 Introduction to Sonography

Three Credits

This course is an introduction to the Medical Sonography profession. The student will study the fundamentals and the history of Medical Sonography. Topics may include, but are not limited to: the duty and role of the sonographer, the different specialties, such as, peripheral vascular and cardiovascular Sonography, the basic instrumentation, management of the ultrasound unit, and the control, operation and use of the equipment to acquire images in these studies. Also included are the ethical-legal issues in Medical Sonography.

DMSO 220 Clinical Practicum I

One Credit

This course provides the students the experience of practicing in real work scenarios. The emphasis of the clinical practicum of the Medical Sonography program is the application of the knowledge acquired in the classroom, into real settings. The students will have the opportunity to practice the basic sonographic procedures under the supervision of a certified sonographer. The moral, ethical and legal issues that the sonographer confronts in the works settings are emphasized. This course includes 120 clinical practicum hours.

DMSO 222 Clinical Practicum II

One Credit

This course is a continuation of the previous clinical course, in which students worked at the intermediate skills level. The students have supervised clinical experience emphasizing the basic sonographic procedures of the abdomen, reproductive system and genitourinary system in adults and pediatric patients. In addition, basic scanning techniques, protocols, basic equipment management and instrumentation will be included. It includes 120 clinical practicum hours.

DMSO 224 Clinical Practicum III

Three Credits

In this course, students will have supervised clinical experiences of advanced levels of skills, which will emphasize sonographic advanced procedures, such as: studies of the thyroid gland, scrotum, prostate, popliteal area, neuro-sonography, musculoskeletal sonography and obstetric studies. Scanning techniques, protocols, advanced equipment and instrumentation management and quality control procedure will be included. It includes 360 clinical practicum hours.

DMSO 234 Ultrasound Physics and Instrumentation I
Three Credits

This course studies the fundamentals of ultrasound physics and instrumentation. Topics may include basic ultrasound physics, attenuation of the tissue, element transducer properties, and image artifacts. An introduction to the hemodynamic, Doppler physics and instrumentation is also studied

DMSO 236 Ultrasound Physics and Instrumentation II
Three Credits

In this course advanced topics of ultrasound physics and instrumentation will be discussed. These topics include areas of ultrasound transducer, image formation, image principles and instrumentation, image quality, biologic effects, clinical safety and quality control procedure.

DMSO 238 Abdominal Sonography
Three Credits

This course will provide a study of the clinical applications of abdominal sonography. Topics include a review of gross abdominal anatomy, physiology, and pathology of every organ evaluated in the abdomen. Pertinent laboratory test as well as signs and symptoms related to disease processes of each organ will be discussed. It also includes 45 hours of skill laboratory to practice the basic scanning techniques and protocols.

DMSO 240 Genitourinary System Sonography
Three Credits

This course will provide a study of clinical applications of the genitourinary system. Topics include a review of anatomy, physiology and pathology of the kidneys, bladder, prostate and testis evaluated in the genitourinary system. Pertinent laboratory test as well as signs and symptoms related to disease processes of each organ in the genitourinary system will be discussed. It also includes 45 hours of skill laboratory to practice the basic scanning techniques and protocols.

DMSO 242 Superficial Structures Sonography
Three Credits

This course will provide a study of clinical applications in the superficial structures. Topics include a review of anatomy, physiology and pathology of the thyroid gland, parathyroid glands, parotid gland, breast, popliteal, neuro-sonography and musculoskeletal system. Signs and symptoms related to disease processes of these organs will be discussed. It also includes 45 hours of skill laboratory to practice the basic scanning techniques and protocols.

DMSO 244 Gynecologic Sonography
Three Credits

The focus of this course is the study of gynecological anatomy and physiology. Topics include a review of anatomy, physiology and pathology of the female pelvis. In addition, the signs and

symptoms related to disease processes, pertinent laboratory test, scanning techniques (trans abdominal and endovaginal) and protocols will be discussed. It also includes 45 hours of skill laboratory to practice of the basic scanning techniques and protocols.

DMSO 246 Obstetric Sonography

Three Credits

This course studies the maternal changes and fetal development throughout gestation. Topics include a review of embryonic and fetal measurement, anatomy, and anomalies of the first, second and third trimester. In addition, scanning techniques including trans abdominal, transvaginal and transperineal studies related to sonography of the pregnant female. Pertinent laboratory test as well as signs and symptoms related to maternal changes will be discussed. It also includes 45 hours of skill laboratory to practice the basic scanning techniques and protocols.

DMSO 248 Pediatric Sonography

Three Credits

This course studies the technical factor and clinical applications of sonography in children. The topics include the following anatomic areas: head, neck, chest, abdomen, gastrointestinal track, retro peritoneum, female and male pelvis and musculoskeletal system. This course introduces the specific techniques for pediatric patients, normal sonography anatomy and sonographic findings in a variety of disease entities occurring in children.

DMSO 250 Integration Seminar

Three Credits

This course integrates acquired clinical applications knowledge with the basic concepts of the research process. It emphasizes the study of the basic research process as applied to imaging diagnostic problems. The student will evaluate articles in a published journal and research findings of the case studies in medical sonography practice. This course requires a critical analysis of a published research article and an oral presentation of a published research study of peer review.

DMSO 320 Clinical Practicum IV

Three Credits

Advanced practice clinical experience emphasizing the vascular sonographic procedures of the carotid arteries, and evaluation of the arteries and veins of the lower and upper extremities. In addition, scanning techniques and protocols used to diagnose vascular pathology are discussed. It includes 360 clinical practicum hours.

DMSO 321 Clinical Practicum V

Three Credits

This course focuses on the assessment and continuing development of student skills. Students have various opportunities to evaluate their ability to integrate theory into practice. This practice will emphasize the vascular sonographic procedures of the cerebral circulation,

abdominal and pelvic vasculature, phletismography, grafts, stents and arteriovenous fistulas. In addition, scanning techniques and protocols used to diagnose vascular pathology are discussed. It includes 360 clinical practicum hours.

DMSO 336 Advanced Obstetric Sonography

Three Credits

This course focuses on advanced topics in obstetrical sonography and fetal disease, including an introduction to fetal echocardiography, genetic sonography and the range of pathologies related to genetic and teratogenesis. A discussion of the emergent modalities in the obstetric sonography as well as tridimensional echocardiography and the Doppler application in the cardiovascular fetal anomalies diagnosis is included. It also includes 45 hours of skill laboratory to practice of the basic scanning techniques and protocols.

DMSO 404 Principles of Research in Sonography

Three Credits

This course integrates the knowledge and skills to develop and evaluate research findings, as applied to problems in the field of sonography. Students will develop knowledge in the following areas: introduction to the methodology, nature of research, study designs, qualitative versus quantitative research, descriptive method, critical appraisal of articles in professional journals and research protocols.

DVSO 334 Cardiovascular Physics and Instrumentation

Three Credits

This course covers a discussion of the cardiovascular physics and instrumentation. Doppler sonography topics included are a review of ultrasound physics and instrumentation, continuous wave doppler, pulsed wave doppler, and duplex-triplex imaging. In addition, this course emphasizes the analysis of doppler spectral waveform and interpreting color and power Doppler imaging. An in-depth analysis of normal vascular hemodynamics and the effects of pathology on the blood flow within the heart and throughout the circulation are presented.

DVSO 338 Vascular Sonography of the Cerebral Circulation

Three Credits

This course will provide a study of clinical applications in the cerebral circulation. Topics include a review of gross vascular anatomy, physiology and pathology of vascular system imaged in the cerebral circulation. Pertinent laboratory test as well as signs and symptoms related to disease processes of cerebral circulation will be discussed. In addition, basic scanning techniques and protocols of the trans-cranial and extra-cranial duplex will be discussed. B- Mode imaging, color flow image interpretation, and spectral Doppler waveform analysis will be discussed. Vascular disease of the trans-cranial and extra-cranial circulation and its effect on blood flow will be covered. It also includes 45 hours of skill laboratory to practice the basic scanning techniques and protocols.

DVSO 340 Vascular Sonography of the Upper Extremity

Three Credits

This course will provide a study of clinical applications in the arterial and venous circulation of the superior extremities. Topics include: vascular anatomy, physiology and pathology of the superior extremities. Pertinent laboratory test as well as signs and symptoms related to disease processes of the vascular system of the upper extremities will be discussed. In addition, basic scanning techniques and protocols of the arterial and venous duplex of the superior extremities will be discussed. B- Mode imaging, color flow image interpretation, and spectral doppler waveform analysis will be discussed. Vascular disease of the superior extremities and its effect on blood flow will be covered. It also includes 45 hours of skill laboratory to practice of the basic scanning techniques and protocols.

DVSO 342 Vascular Sonography of the Lower Extremity

Three Credits

Clinical applications in the arterial and venous circulation of the lower extremity are the foci of this course. Topics include a vascular anatomy, physiology and vascular pathology of the lower extremities. Laboratory test as well as signs and symptoms related to disease processes of the vascular system of the lower extremities will be discussed. In addition, basic scanning techniques, plethysmography and protocols of the arterial and venous duplex, B- Mode imaging, color flow image interpretation, and spectral doppler waveform analysis will be discussed. Vascular diseases of the lower extremity and its effect on blood flow will be covered. It also includes 45 hours of skill laboratory to practice of the basic scanning techniques and protocols.

DVSO 344 Sonography of the Abdominal Vasculature

Three Credits

This course will provide a study of sonographic scanning methods, techniques and protocols related to selected examinations of the abdominal vascular system. Anatomical structure and function and relevant pathophysiological disorders associated with the abdominal vascular systems will be discussed. In addition, basic scanning techniques, protocols of the arterial and venous duplex, B- Mode imaging, color flow image interpretation, spectral doppler waveform analysis and the role of ultrasound in the postoperative evaluation of transplants organs in the abdominal cavity will be covered. It also includes 45 hours of skill laboratory to practice of the basic scanning techniques and protocols.

DVSO 220 Clinical Practicum I

One Credit

This clinical course provides students the opportunity to practice in real clinical scenarios the protocols and scanning of vascular sonography. Emphasis is on mastering 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.

DVSO 222 Clinical Practicum II
One Credit

This course will provide the students with a supervised clinical experience that emphasizes the vascular sonography procedures of the extra-cranial circulation (carotid), trans-cranial duplex, venous and arterial duplex of the upper and lower extremities. Ethical and moral aspects of clinical practicum and writing of clinical reports are emphasized. It includes 120 clinical practicum hours.

DVSO 224 Clinical Practicum III
Three Credits

The focus of this practice is the advanced vascular sonographic procedures of the intracranial circulation, abdominal and pelvic vasculature, pletismography, grafts, stents and arteriovenous fistulas evaluation. In addition, scanning techniques and protocols used to diagnose vascular pathology are included. It includes 360 clinical practicum hours.

HESC 220 Patient Care
Three Credits

This course will provide a discussion of common patient care procedures and techniques emphasizing the physical and psychological wellness of the patient during the diagnostic imaging procedure. The initial component introduces key principles of medical-legal practice, medical ethics, infection control, and professional communication. In the second part of the unit the emphasis is on patient care in critical and emergency situations.

HESC 222 Medical Terminology
Three Credits

This course will provide a short discussion of the use of medical terminology in the diagnostic medical imaging scenarios. Topics include a review of anatomy, physiology and pathology of every human system. Pertinent laboratory test as well as signs and symptoms related to disease processes of each organ. Discussion of writing and communication techniques within a professional setting.

HESC 230 Sectional Anatomy
Four Credits

This course will provide for the study of clinical applications in sectional anatomy. Topics include the study of human anatomy, primarily emphasizing axial, sagittal, coronal and oblique plains. This course is designed to aid imaging modality students in recognizing, locating and identifying normal anatomy and pathological anatomy on various computer images. It includes a three hours lab weekly.

HESC 330 Cardiovascular Anatomy and Physiology
Three Credits

This course will provide a study of the anatomy and physiology of the cardiovascular system. The course will cover topics such as: Location of the heart, pericardium, heart wall, cavities of the heart, heart valves, blood supply, conduction system, blood flow through the heart and

physiology of the cardiac cycle. In addition, the anatomy and physiology of arterial and venous systems will be discussed. During the course the students will learn the anatomy and physiology of the cardiovascular system which is the basis for performing vascular studies.

NURSING COURSE DESCRIPTIONS

NURS 101 Nursing Process and Basic Skills Five Credits

Initiates the student into the roles and competencies of an associate degree nurse, as a member of the health team. The program mission, outcomes and conceptual framework is presented and discussed. The general aspects of the historical evolution of nursing are covered as well as values and ethical-legal aspects. Emphasis is on the B. Neuman concepts of system as client. Environment, wellness-illness continuum, stress, communication skills, health promotion, and the levels of prevention are covered. Students are initiated into the nursing process and basic nursing skills, body mechanics, and aseptic technique, in a variety of structured scenarios. Three theory hours and six laboratory hours per week.

NURS 104 Fundamentals of Nursing in Health Promotion Three Credits

This course provides the nursing student with the opportunity to acquire knowledge of health promotion of the client system, through the developmental stages as presented by Nola Pender. Basic concepts and theories of teaching-learning, preventive care, and decision making are discussed to organize nursing care. Various nursing theories are analyzed, with emphasis on promotion and education. Mastery of student's skills in communication and critical thinking is facilitated through the use of the nursing process as a tool for client education. Prerequisites: BIOL 106, NURS 101

NURS 105 Introduction to the Nursing Professional Role Three Credits

This course introduces the student to the professional nursing roles. The mission, program outcomes and conceptual framework of the Nursing Program are presented and discussed. The historical development of ancient and modern cultures in relation to health practices are emphasized as the basis for the development of nursing as a profession. Nursing theories are presented as the scientific foundation for the practice of nursing. One semester, three theory hours, per week.

NURS 107 Nursing Process applied to the client-system with Psychosocial Five Credits Alterations

This course will teach students modern concepts of Psychiatric Nursing and its historical perspectives. Emphasizes alterations in the basic needs of the individual and their responses to stressful situations. Discusses the communication process as a therapeutic modality and its relevance to interventions with patients who have mental alterations. The student will be able

to apply the principles and elements of the nursing process, as an essential to identify emotional problems which affect the wellbeing of the individual. This course is based on the study of the factors that may affect the mental health of the individual, such as: Biological, psychological, sociological, cultural, and spiritual components of the theory of human behavior. BIOL 106, NURS 101, 104 (concurrent).

NURS 201 Medical Terminology

Three Credits

Introduces the student to the specialized language of medicine. Includes word roots, prefixes, suffixes, and parts of speech. It also introduces the student to the medical language, words, components of words and diseases in general (pathology). Laboratory tests and diagnosis in general are also components of this course. Word elements related to anatomy and physiology integrate the component of medical terminology related to body systems.

NURS 203 The Nursing Process Applied to Adult Care I

Six Credits

Classroom instruction and clinical experiences focus on the care of young, middle age, and elderly adults with altered flexible lines of defense, and resistance to complex stressors. The client population includes adults experiencing surgery, and those with altered defense protection, cancer, altered fluid and electrolyte balance, health problems concerning rest and activity. The course focus is on primary, secondary, and tertiary prevention intervention, to strengthen the client's lines of defense and resistance. The roles and competencies of the Associate nurse are integrated throughout the course.

NURS 204 The Nursing Process Applied to Adult Care II

Six Credits

Classroom instruction and clinical experiences focus on the care of young, middle age, and elderly adults with altered flexible lines of defense and resistance to complex stressors. The client population includes adults experiencing problems of sensory and chemical regulation, nutrition, intestinal and urinary elimination, and oxygenation. The focus of the course is on primary, secondary, and tertiary prevention intervention to strengthen client's lines of defense and resistance. The roles and competencies of the Associate nurse are integrated throughout the course.

NURS 208 The Nursing Process applied to Children and Adolescents

Five Credits

Provides students with the concepts of client as system, environmental stress, wellness, fitness, and health promotion of the child, from infancy through adolescence. Develops professional roles and competencies, and technical and communication skills, utilizing evidence based concepts to work with children and adolescents. The Nursing Process is used to promote the wellness of children and adolescents, with alterations in the physiological, psychological, sociocultural, developmental, and spiritual variables.

NURS 230 Nursing Process

Five Credits

Introduces students to the basic principles, concepts, and skills of planning and organizing, as a provider and coordinator of care, educator, and leader/manager. The theoretical content and nursing skills are interrelated to provide for the application of acquired knowledge and skills in situations in primary health care. Utilizes the nursing processes to organize and plan therapeutic nursing interventions with healthy client-systems and those with minimal basic structure variable alterations. The process of decision-making is emphasized as well as critical thinking, therapeutic communication skills, and interpersonal relationships. One semester, three theory hours per week, six laboratory hours per week.

Prerequisites: NURS 105, BIOL 106, NURS 231 (concurrently)

NURS 231 Adult Health Assessment

Three Credits

Students are initiated into the holistic assessment of the adult client system's stability, variances from wellness, and reaction to the environmental stressors, using assessment formats that encompass B. Neuman System basic structure variables. Course content includes: vital signs, history taking, physical examination skills, and the integration of critical thinking through the analysis of health assessment data and selection of nursing diagnosis. One semester, two hours of theory per week, three clinical laboratory hours per week. Prerequisites: BIOL 106, 105, NURS 230

NURS 232 Pathophysiology

Three Credits

The Pathophysiology course provides the basic concepts and the specific processes of the most common diseases. Discusses the clinical etiologies, manifestations, diagnosis, and treatment of diseases. Considers the diseases in simple form; using technology that facilitates the learning of a complicated subject. One term, three hours theory per week. Prerequisites: BIOL 106, NURS 105, NURS 230.

NURS 240 Pharmacology and Dosage Calculation Applied to Health Science

Three Credits

Students are provided with knowledge and skills related to the Pharmacology of common medications and their administration. Course content includes: general principles of medication administration, ethical-legal aspects, terminology, calculation, and common medication classifications, action, contraindications, adverse effects. Emphasis is on dosage calculation and medication administration.

One term, three hours theory per week. Prerequisites: Math 101-102, NURS 105, 230.

NURS 251 Nursing Care of the Mother, Neonate and Family
Five Credits

Introduces students to the care of the mother, neonate, and family through the prenatal, intrapartum, postpartum, and neonatal stages. Conceptualizes stress, growth and development, and basic structure variables in the dynamic equilibrium of the mother and neonate. Applies basic nursing skills and principles and concepts of communication for interventions with the client system. Emphasizes health promotion and prevention of illness in the nursing care of the childbearing family, including the high risk mother and neonate. Emphasis is on the development of critical thinking, communication, and therapeutic interventions when caring for these clients in different health care settings.

NURS 301 Nursing Care of the Childbearing Family during the Reproductive
Five Credits Cycle

Introduces students to the fundamental concepts related to the reproductive cycle such as: sexuality, family planning, fertility vs infertility, holistic family centered approach, pregnancy, intrapartum, the newborn, and post-partum. This course visualizes the nursing process, therapeutic communication skills, nursing research, and therapeutic nursing interventions as essential tools for critical thinking in maternal newborn nursing practice. Selected community and hospital experiences focus on the nursing process in caring for clients and families of all age groups experiencing pregnancy, labor and delivery, and care of the neonate. One semester, three theory hours per week, six laboratory hours per week. Prerequisite: NURS 105, 230, 231, 240, 305, & NURS 310.

NURS 305 Mental Health and Psychiatric Nursing
Five Credits

Classroom instruction and clinical experiences initiate students in the care of the client system with mental health and psychiatric stressors/problems. A variety of prevention interventions are implemented, including the use of self, therapeutic relationships, individual and group therapy, and crisis intervention. The roles and competencies of the Psychiatric nurse are integrated into the course for further development. Clinical sites include inpatient and outpatient psychiatric units, community mental health centers, and clients' homes. One semester, three theory hours per week, six laboratory hours per week. Prerequisites: NURS 230, 213, 232, 240 & PSYC 123

NURS 310 Nursing Care of the Adult- Part I
Five Credits

The Nursing Process is used as a guide to the solution of health problems in the care of young, middle age, and elderly adult client-system. Basic concepts are introduced for the nursing practice with the adult client , such as: Growth and development of the adult, nutrition, ethical-legal aspects, as well as values that influence the nursing practice of adult care, evidence based nursing practice, homeokinesis, stress, cellular adaptation, transcultural nursing, genetics perspectives, chronicity, disability, and rehabilitation. Emphasis is given to the following physiologic variables of the client system: fluid, electrolytes and acid-base balances;

integumentary system, metabolic/endocrine, immunologic/inflammatory responses, peri-operative experience is considered, as well as oncology, pain management and the infection process. Health promotion and primary, secondary, and tertiary prevention interventions are emphasized to attain, restore, and maintain wellness. One semester, three theory hours per week, six laboratory hours per week. Prerequisites: BIOL 106, 105; NURS 230, 231,232

NURS 311 Nursing Care of the Adult-Part II

Five Credits

The Nursing Process is used as a guide to the solution of health problems in the care of young, middle age, and elderly adult client-system. Emphasis is given to the instability of the following functional health patterns: activity/exercise (respiratory/cardiovascular); nutritional/metabolic (gastrointestinal); elimination (urinary/elimination); sexuality/reproduction (reproductive). Health promotion, primary, secondary, and tertiary prevention interventions are included to attain, restore, and maintain wellness. Generalist nurse roles and competencies are strengthened throughout the course. One semester, three theory hours per week, six laboratory hours per week. Prerequisites: NURS 310

NURS 315 Ethical-legal Aspects in Nursing (elective)

Three Credits

This course is designed to offer the nursing student the opportunity to acquire knowledge and comprehension of relevant legal-ethical aspects in health care and the impact on the practice of nursing. Analyzes theories and ethical principles of nursing, social justice, ethical dilemmas, Nursing Code of Ethics, and the Standards of Nursing Practice. Emphasizes the regulations and contractual agreements related to nursing practice. Implications of Negligence, and malpractice in nursing are discussed. The student has the opportunity to discuss ethical and legal aspects of nursing practice in a variety of scenarios: Ethical issues with clients in terminal stages, living wills, euthanasia, and assisted suicide, among others. One semester, three hours per week.

NURS 320 Application of Basic Principles of Research in Nursing Practice

Three Credits

This course offers the nursing student the opportunity to explore the research process and to apply the basic principles of research and statistics in the various roles of the nursing profession. Includes the importance of using a scientific method while doing research. The use of computers in research is emphasized, and the importance of the review of the literature. Ethical aspects of research are emphasized. Skills that students must develop to become consumers of research are analyzed. Also included is: research designs, data collection strategies, and analysis of data. The different steps of the research process are emphasized. One semester, three theory hours per week. Prerequisites: NURS 230,231,232,240

NURS 404 Nursing Care of Children

Five Credits

This course provides students with principles and concepts relevant to the health care of children from infancy to adolescence. Emphasizes the prevention of disease, promotion and maintenance of health, as well as restoration of the basic structure variables for children, and parents. Uses the nursing process, therapeutic communication skills, Pathophysiology therapeutic management, and growth and development principles of the Pediatric patient. Promotes the development of professional roles such as: leadership, management, consumer of research, and coordinator of care. One semester, three theory hours per week, six laboratory hours per week. Prerequisites: NURS 105,230,231,232,240,310, 311, 305.

NURS 405 Nursing in Community Health

Five Credits

A community based course with emphasis on providing holistic care to the client in primary, secondary and tertiary levels of prevention throughout the life cycle. The course applies the foundation and principles of the delivery of health care, expanded roles, and case management in the independent practice of nursing. Emphasis is given to the prevention of illness, the promotion and maintenance of health in the client systems, and to the development of the teaching-learning process, critical thinking skills, communication, leadership, and coordinator of care. The principles of epidemiology and research are analyzed and applied in the therapeutic interventions with the client system. One semester, three theory hours per week, six laboratory hours per week. Prerequisites: NURS 230,231,232,240, 310,311, 320

NURS 410 Nursing Leadership and Management

Three Credits

This course provides students with the knowledge and an appreciation of aspects related to leadership and management in nursing. Critical thinking is utilized to enhance discussions, group dynamics, and written and oral activities related to the course content. Accountability and leadership functions of the nurse are discussed. The importance of continuing education and advanced studies for the nurse as a professional are discussed. Communication skills and critical thinking skills are promoted as essential for the professional roles of nursing. One semester, three theory hours per week. Prerequisites: NURS 404, 405, 412

NURS 412 Nursing Care of the Adult III

Five Credits

The Nursing Process is used as a guide in the care of young, middle, and elderly adult client-system, with many different nursing diagnoses to define nursing situations. Emphasis is given to the following nursing situations: Neurological, musculoskeletal, sensorial, health alterations in critical care scenarios, and emergency management. Health promotion and primary, secondary and tertiary prevention interventions are emphasized to attain, restore, or maintain wellness. The roles and competencies of the professional nurse are strengthened throughout the course. Nursing care of clients in emergency and critical care scenarios is introduced at this

level. One semester, three theory hours per week, six laboratory hours per week. Prerequisites: NURS 305, 310, 311, 404,405.412.

NURS 420 Practicum (Integrated Clinical Nursing Practice)

Six Credits

In this fourth-level nursing course, the students are offered the opportunity to perform and refine the previously acquired competencies, using critical thinking, the nursing process, and clinical judgment according to the expected outcomes at this level. The student will demonstrate domain in the pertinent roles of the profession: Provider of care, manager of care, leadership, educator, researcher, and client advocate. Students will have the opportunity to work in collaboration with an interdisciplinary team. The experiences will be diverse and will be designed to be executed in structured and non structured scenarios, demonstrating health promotion and illness prevention activities with the client-system. . One semester, 18 laboratory hours per week. Prerequisites: All nursing courses except NURS 410 and NURS 421 which will be taken concurrently.

NURS 421 Nursing Board Review

Four Credits

This course provides a review and integration of scientific nursing knowledge, with emphasis on common health alterations in: Medical, surgical, mental health, pediatric, community health, maternal-neonatal, and leadership nursing. Also provides strategies and content for students to be prepared to take, and pass, the state board examination. One semester, four theory hours per week. Prerequisites: All nursing courses, except NURS 410 & 420 which can be taken concurrently.

HLTH101 General Aspects of the Stage of the Older Adult

Three Credits

This course provides the student with opportunity to acquire knowledge of the physical, social, and psychological changes in the older adult, and studies different aging theories. Legal –Ethical aspects are discussed in relation to the older population. The course is geared towards the acquisition of communication, research skills, as well as the consinee and possible problems of some medications in the perspective of conditions that affect people over the age of sixty-five (65)

CERTIFICATION IN CASE MANAGEMENT

NURS 501 Introduction to Case Management

Four Credits

This course introduces the student to the perspective and development of a case manager. Students learn about the role of a case manager in a specialized healthcare environment and the cultural and political dynamics in healthcare organizations. The student in this course can analyze internal and external forces that impact distribution systems. Also emphasizes

community support resources, healthcare organizations as corporations, utilization management, ethical and legal issues, public policies and legislation, and discharge planning.
Prerequisites: BSN

NURS 502 Case Management I

Four Credits

In this course we discuss the management of nursing services and the complex issues related to different departments. Also analyzes marketing strategies, financial management practices, healthcare costs, budgeting considerations - particularly copy reimbursement and Total Quality Management. Emphasizes the development of case manager skills, such as: leadership, problem solving, decision making, communication, and teamwork negotiation skills.
Prerequisites: NURS 501

NURS 503 Case Management II

Four Credits

This course allows student to learn about the process and models of case management through continuing care, its logistics, similarities and differences. It includes the screening of patients and services; an estimate of the family's needs; management of cases in progress; and development of clinical pathways. Planning the patient's discharge including education of the patient and family, evaluation of the patient's response to treatment and management based on analysis of variables. The case manager's participation related to illness is analyzed.
Prerequisites: NURS 501,502

NURS 504 Practicum in Case Management

Three Credits

This practice provides the student the opportunity to explore, examine and expand the theories on case management in an organizational environment. The participants will rotate thru different clinical settings and shadow preceptors with experience, which will offer them the opportunity to analyze, synthesize and integrate their knowledge and to evaluate the effectiveness of the practice as future case managers. Thru different strategies the student will prove their clinical experience, designing their objectives, planning, controlling and evaluating their learning experiences. Prerequisites: NURS 501, 502, 503

CERTIFICATE IN ONCOLOGY NURSING

NURS 513 Oncology Nursing I

Four Credits

Present essential concept in the specific roll of oncology nursing I. Considers the growth and development aspect of the client system with cancer and emphasizes early prevention and detection. Discusses conditions, risk factors, and diagnostic methods. Emphasizes the general principles of therapy and the existing advanced technology in research, and analysis and results of oncology research. Studies the specific neoplasms for anatomic areas using epidemiology

aspects and the professional interventions of nurses as leaders, educators, care providers, and researchers.

NURS 514 Oncology Nursing II

Four Credits

A theory course that emphasizes the conduction of oncology nursing in all rolls: provider of care, coordinator of care, and member of the profession, in agreement with professional values, and ethical and legal standard of the nursing profession. The nursing practice standards are an essential tool bringing health care to the client with cancer. Emphasis is on concepts like self-care, interdisciplinary team works and holistic assessment of the client with cancer. Included is history and physical exam of present symptoms with mayor conditions relevant to the treatment of cancer; pain management, nutritional aspects, and others. It also discusses oncology emergency management.

NURS 515 Pharmacology in Oncology Nursing

Four Credits

Provides basic knowledge of oncology pharmacology, and the measures to follow using required critical thinking skills to interact with the client receiving pharmacology therapy. The use of the nursing process is discussed, in order to apply pharmacology to clients with cancer. Study of the modification agent, immunologic and biologic chemotherapeutics. Expands the role of innovator as a nursing care provider in cancer care and the protective measures to use in the preparation and administration of chemotherapy, biotherapy or in the administration of alternative methods and complementary treatments.

NURS 516 Practicum in Oncology Nursing

Three Credits

This is a practice course whereby the student integrates the basic principles and complex knowledge from other courses like: caring for the individual and family with risk factors of cancer or with cancer, from the beginning until the terminal stage. Students will be exposed to oncology primary, secondary and tertiary stages. Application of different roles in the nursing profession and application of critical thinking in making decisions when interacting with the system, client and family. Emphasis is on direct care roles, education, communication skills and defender of the client system and the use of Research findings to improve nursing care. Students will participate in conducting and treating the population and will focus on humanistic care in all nursing interventions.

SPEECH LANGUAGE THERAPY COURSE DESCRIPTIONS

SPLA 101 Introduction to the Role of the Speech-Language Therapist

Three credits

In this course, the student is initiated in the discussion of the role and responsibilities of a Speech-Language-Therapist. Basic terminologies on speech-language disorders are presented.

Law 77 of June 3, 1983 of the Commonwealth of Puerto Rico, which regulates the profession and other laws that affects the people with impediments are discussed. As part of this course, the students will learn how this profession has developed in the United States and Latin America. Idiomatic equivalencies of scientific terms in Spanish and English will be studied.

**SPLA 202 Anatomy and Physiology for the Study of Speech, Language and
Three credits Hearing**

In this course the anatomy and the physiology of the mechanisms of the human body related to the process of hearing reception, voice emission, language and articulation are discussed. Emphasis is placed on the respiratory, neurological and muscular systems and the organs responsible for hearing, speech, language, phonation and articulation. The effects of communication and hearing and related pathologies will be analyzed.

**SPLA 203 Language Development
Three credits**

This course has been designed to study the normal development of language. It focuses the development of normal language of a child from infancy to adolescence, including the cognitive requirement needed for language. The importance of the senses and environment exploration for language development as well as the aspects of form, content, the use of language and normal development on each step will be studied. The class will also study the different forms, use of language and the normal development on each area. As part of this course, the students will perform observations of children in their natural environments and will do screenings on language development.

**SPLA 204 Law, Ethics and Intervention Systems in SLT
Three credits**

Federal and local legislation on services for people with disabilities are discussed and analyzed. The Constitution of Puerto Rico and its relation with the development of the different laws: IDEA, Law 51 (June, 7, 1996) Law 311 (December, 19, 2003) Law ADA and Law NCLB are studied. The Code of Ethic from professional organizations, laws of confidentiality (HIPPA) and the protection of children's rights and its implications for the role of the speech therapist are discussed. The administrative processes of the local government agencies for the provision of these special services are studied.

**SPLA 205 Introduction to Audiology
Three credits**

In this course the students will relate with the roles and responsibilities of the audiologist. The following concepts will be discussed: acoustic waves and decibel scale and the basic terminology related to this area in Spanish and English. The students will discuss hearing impairment, types and severity of hearing loss. The students will have practice in conducting hearing screenings under the supervision of a speech- pathologist.

SPLA 206 Basic Principles of Research

Three credits

This course provides students the opportunity to explore the research process and apply the evidenced based practice concepts, according to the speech-therapist role. The importance of the scientific method and the use of computers are discussed. Ethical issues, critical analysis and application of findings to provide rationales for professional practice are emphasized.

SPLA 207 Speech Development

Three credits

In this course the development and function of the phonologic process is studied. The oral motor and sensorial skills in infant, needed for the articulatory development is discussed. The students will be able to identify the normal patterns on the sounds within the Puerto Rican language. Differences and deficiencies in phonetic development considering linguistic variations in Puerto Rico and other Hispanic countries will be discussed. The students will perform clinical observation in natural environments and speech screenings.

SPLA 222 Pervasive Developmental Disorders

Three credits

Causes and general characteristics of pervasive developmental disorders, and the related communication disorder are studied. Intervention strategies with infants, children and adolescents with pervasive development disorders will be discussed, like autism, ADHD, Rett and Asperger will be discussed as well as the similarities on treatment. Theories on the possible causes of these disorders, intervention models, untraditional methods and the speech therapist role in each are discussed. The sensory integration disorder, characteristic of ADHD and the importance of early intervention from speech-language therapist are analyzed.

SPLA 300 Professional Writing for the Speech Language Therapist

Three credits

This course trains students on the writing of intervention reports, professional articles and educational materials. The students will write daily intervention plans. Technology will be used as a tool for effective documentation.

SPLA 301 Principles of Intervention in Speech-Language Therapy

Three credits

The students will learn about speech-language intervention models; discuss the specific strategies for direct intervention and natural environment intervention, including consultative-collaborative models. During this course, students will learn about the role of parents, caretakers and teachers in the speech language intervention and the strategies to have a successful integration in the intervention process. Methods on how to work with infants, children and adolescents during the therapeutic process will also be discussed. The possible use of technology during the different intervention models will be highlighted.

SPLA 302 Rehabilitation and Aural Abilitation in Children

Three credits

The purpose of this course is to expose students on speech-language intervention with the hearing impaired between the ages of 0-21. Strategies for a speech-language development for the hearing impaired population including the use of hearing aids, cochlear implants, lip reading and sign language are discussed.

SPLA 303 Intervention with Language Disorders

Four credits

This course is designed to train the speech-language therapy students one how to stimulate the language development of infants, children and adolescents. Different language pathologies: methods, procedures and activities in the treatment of children with receptive and expressive disorders, are discussed. The Student will be able to perform prevention tasks and to give orientation to the family members, teachers and caretakers.

SPLA 304 Oral Motor and Articulator Dysfunctions

Three credits

The purpose of this course is to train students for the intervention with infants and children with motor speech and articulation problems, including those secondary to syndromes and neurological disorders. Specific strategies to stimulate oral motor and sensory development are studied. The students will learn clinical procedures to stimulate the production of specific phonemes.

SPLA 307 Clinical Practicum I

Three credits

This clinical course provides the students the opportunity to practice grading and interventional skills during their speech-language therapy courses. The student will have the opportunity to acknowledge the speech-language therapist functions with supervised activities from a speech pathologist. The student will provide orientations to parents, families and communities. The practice consists of 45 hrs (30 hrs of supervised clinical practicum and 10 of prevention) A seminar consisting of 15 hrs. will be provided for the discussion of the clinical experiences.

SPLA 308 Development of Reading and Writing K – 3

Three 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 specialists perspectives on the area are studied. It discussed the basic process used in the preparation of the child for reading and writing.

SPLA 309 Augmentative and Alternative Communication

Three credits

In this course the speech-language therapist student is will acquire basic knowledge related to assistive technology, with emphasis on augmentative and alternative communication (AAC).

Students will study different techniques for intervention, used in the development of AAC methods and existing communication equipment available. The students will learn how to adapt and create equipment and materials for the population from 0-21 yrs. The impact of assistive technology on the lives of people with communication disabilities will be analyzed.

SPLA 314 Intervention in Voice Disorders

Three credits

In this course the students will study the normal parameters of tone, volume and voice quality. Disorders of voice production and the effect on the communication process are discussed. The students will develop the skill to identify deviations of voice; qualitative and quantitative parameters for screening. Strategies for the intervention on voice disorders, including prevention and direct intervention, will be discussed.

SPLA 408 Genetics, Syndromes and Craniofacial Disorders

Two credits

In this course basic concepts of the embryonic development and teratogen agents and physical characteristics that may suggest the presence of some syndromes and craniofacial disorders are discussed. The students will analyze the difference between congenital and genetic diseases and the implications of syndromes diagnosis. The discussion will be centered on the most common syndromes and genetic problems related to communication disorders.

SPLA 405 Clinical Practicum II

Four credits

The purpose of this course is to offer the speech-language therapist students the opportunity to practice intervention skills speech-language therapy. It will provide the student the opportunity to practice the role that he will perform at the professional level with the pre and adolescent's population. It consists of 65 hours. 50 hours of supervised clinical practicum at elementary and intermediate schools and early intervention centers and 15 hours of seminars were they will discuss their clinical experiences.

SPLA 406 Disfluency Disorders

Three credits

In this course different types of stuttering that need to be referred and the fluency disorders are discussed. As part of the course, the students will have experiences in observation, screening and intervention on stuttering. Strategies for stuttering interventions from infancy to adolescence are discussed.

SPLA 415 Clinical Practicum III

Four credits

This is a clinical course that prepares students to integrate the basic and complex principles of the speech therapist role. The students are provided with a variety of clinical experiences so that they can develop the intervention skills of a speech-language therapist in different clinical setting. Students will use critical thinking in the decision making, as a counselor, collaborator,

communicator and clinician. Students will demonstrate the application of research results in speech therapist interventions. Humanism and respect for the human being will permeate in all clinical interventions. It consists of 50 hours of supervised clinical practice and 15 hour for meetings, during which they will discuss their experiences and the achievement of the course objectives.

DEPARTMENT OF RESPIRATORY THERAPY

The Respiratory Therapy Department has two programs: an Associate Degree in Respiratory Therapy and a Baccalaureate Degree in Science with a specialization in Respiratory Therapy. Both programs are committed to prepare respiratory care practitioners who will care for individuals with cardiopulmonary disorders. In the clinical setting, students apply respiratory care techniques under the supervision of qualified clinical instructors.

Objectives:

- To expose the student to a broad, comprehensive curriculum in order to familiarize him/her with the diverse areas of cardiorespiratory care.
- To develop an understanding of the fundamental concepts and principles pertaining to the Respiratory Care discipline.
- To develop the psychomotor skills needed to apply scientific advancements in the area of cardiorespiratory care.
- To achieve a highly professional level of competency in the various therapeutic activities and to develop an interest and a positive attitude toward the nature of pulmonary care, technical-scientific methods, and related areas of research.
- To broaden the knowledge of scientific concepts, principles, foundations, and their clinical application to cardiopulmonary care.
- To provide preventive and therapeutic cardiorespiratory care to patients with cardiopulmonary disorders.
- To offer quality therapeutic service through the knowledge, use, and management of equipment utilized in the care of patients with cardiorespiratory diseases.
- To allow positive interpersonal and inter-professional relationships in the workplace.
- To provide orientation to the general community about this profession, the diverse array of pulmonary diseases, pulmonary rehabilitation processes, and pulmonary home care.
- To promote research related to new methods and alternatives in pulmonary care of the patient and in the use of equipment and cardiopulmonary services in general.
- To provide the respiratory therapy student with experiences such as medical lectures and other educational input in order to encourage his/her interpersonal and professional growth.
- To foster among the graduates their participation in programs of continuing education in clinical medicine and patient management.

Admission Requirements

- High School graduate or GED equivalent.
- Fulfillment of all requirements for admission to the Institution.
- A minimum grade point average of 2.30 is necessary for admission to the Respiratory Therapy Program.
- Personal Interview.

- Candidates from post-secondary accredited institutions must comply with the University transfer policy and all the previously stated requirements.

In Addition

The program has a clinical laboratory available. In this laboratory the students are able to develop and practice the clinical skills before they go to the hospital rotations. These laboratories are designed to help students develop the psychomotor skills necessary to conduct various respiratory care procedures, such as oxygen therapy, medication and aerosol administration, airway management, arterial blood gas puncture, mechanical ventilation, pulmonary function testing. Students practice with machines and simulators previous to clinical experiences (machine sleep studies, BIPAP, SIM MAN 3G simulator and SIM MAN BABY simulator). All laboratories are offered by the faculty of the respiratory care program and have a capacity for 25 students.

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RRT

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Associate Degree In Respiratory Care

84 credits		Credits
Respiratory Care Courses		40
Sciences Courses		12
General Education Courses		32
Respiratory Care Courses		
REST 100	Ethical and Professional Issues in Respiratory Care	3
REST 104	Cardiopulmonary Pharmacology	3
REST 106	Fundamentals of Respiratory Care	5
REST 210	Airway Management	5
REST 211	Pulmonary Function Testing and Acid-Base Balance	5
REST 212	Pulmonary Rehabilitation and Home Care	3
REST 217	Cardiopulmonary Anatomy and Physiology	3
REST 218	Cardiopulmonary Pathophysiology	3
REST 222	Mechanical Ventilation in Respiratory Care	5
REST 225	Patient Assessments and Special Procedures in Respiratory Care	3
REST 226	Comprehensive Respiratory Care Review	2
Science Courses		
BIOL 105	Microbiology	4
PHSC 201	General Physics for Health Sciences I	4
CHEM 105	Health Chemistry	4
General Education Courses		
FYIS 101	First Year Induction Seminar	3
SPAN 101 or 103	Introductory Spanish Language Course I	3

SPAN 102 or 104	Introductory Spanish Language Course II	3
ENGL 101 or 103	Introductory English Language Course I	3
PSYC 123	General Psychology	3
HIST 101 or 253	World Culture	3
MATH 111	Intermediate Algebra I	3
COSC 111	Computer Literacy	3
BIOL 103 – 104	Physiology and Anatomy I and II	8

Bachelor In Sciences Major In Respiratory Care

114 credits		credits
Professional Studies		55
Sciences Courses		12
General Education Courses		47
General Education Courses		
FYIS 101	First Year Induction Seminar	3
SPAN 101 or 103	Introductory Spanish Language Course I	3
SPAN 102 or 104	Introductory Spanish Language Course II	3
ENGL 101 or 103	Introductory English Language Course I	3
ENGL 102 or 104	Introductory English Language Course II	3
HUMA 101-102	Introduction to the Study of Western Civilization I and II	6
SOSC 103	Introduction to the Study of Social Sciences (Compendium)	3
PSYC 123	General Psychology	3
HIST 101 or 253	World Culture	3
COSC 111	Computer Literacy	3
MATH 111-112	Intermediate Algebra I and II	6
BIOL 103-104	Physiology and Anatomy I and II	8
Science Courses		
BIOL 105	Microbiology	4
PHSC 201	General Physics for Health Sciences	4
CHEM 105	Health Chemistry	4

Respiratory Care Courses		
REST 100	Ethical and Professional Issues in Respiratory Care	3
REST 104	Cardiopulmonary Pharmacology	3
REST 106	Fundamentals of Respiratory Care	5
REST 210	Airway Management	5
REST 211	Pulmonary Function Testing and Acid-Base Balance	5
REST 212	Pulmonary Rehabilitation and Home Care	3
REST 217	Cardiopulmonary Anatomy and Physiology	3
REST 218	Cardiopulmonary Pathophysiology	3
REST 222	Mechanical Ventilation in Respiratory Care	5
REST 225	Patient Assessments and Special Procedures in Respiratory Care	3
REST 226	Comprehensive Respiratory Care Review	2
REST 300	Polysomnography	3
REST 413	Pediatrics in Respiratory Care	3
REST 417	Supervision and Management of Respiratory Care Department	3
REST 421	Practicum	6

Certificate in Polysomnography		
		15 credits
POLY 101	Fundamentals in Polysomnography	2
POLY 102	Sleep Neurophysiology	3
POLY 103	Polysomnographic	3
POLY 104	Therapeutic Interventions in Polysomnography	3
POLY 105	Practicum	4

COURSES DESCRIPTIONS

RESPIRATORY CARE

REST 100 Ethical and Professional Issues in Respiratory Care

Three 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. It also includes online research in basic concepts.

REST 104 Cardiopulmonary Pharmacology

Three 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 administered to adult, geriatric, pediatric and neonatology patient.

REST 106 Fundamentals of Respiratory Care

Five Credits

This course consists of three units which include the study of the administration of medical gases, therapeutic aerosols and use of oxygen analyzer with adult, pediatric and newborn. Also the use, function, operation and maintenance of the devices used to administer medical gases and inhalation medication.

REST 210 Respiratory Care Airway Management

Five Credits

This course is a thorough review of the respiratory tract and 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 are studied. This course includes theory and clinical practice.

REST 211 Pulmonary Function Testing and Acid-Base Balance

Five Credits

This course consists of an introduction to 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 discussed.

REST 212 Cardiopulmonary Rehabilitation and Home Care

Three 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 Anatomy and Physiology

Three 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

Three Credits

This course is designed to provide the respiratory care student with the basic knowledge and concepts of the variety of cardiopulmonary disorders. Topics such as the etiology, clinical manifestation, treatment and prognosis of these diseases will be studied.

REST 222 Mechanical Ventilation in Respiratory Care

Five 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 clinic practice.

REST 225 Patient Assessment and Special Procedures in Respiratory Care

Three Credits

This course will provide the student with an introduction to special procedures such as chest X-Ray, electrocardiography, hemodynamic, and clinical lab tests as part of the patient assessment.

REST 226 Comprehensive Respiratory Care Review

Two Credits

The student will participate in a comprehensive RC review. The intention of this review is to prepare the students for the board examination of respiratory care technicians.

REST 300 Polisomnography

Three 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 Respiratory Care

Three 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 Management of the Respiratory Care Department

Three 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 Respiratory Care Clinical Practicum

Five Credits

This course applies cardio respiratory 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.

POLYSOMNOGRAPHY

POLY 101 Fundamentals in Polysomnography

Two credits

Introduction to sleep physiology normal and abnormal sleep patterns. Review of the physiologic functions of the nervous, respiratory, cardiovascular systems and common sleep disorders. Emphasis placed on basic sleep sciences, neurophysiology, and diagnosis and treatment methods including Continuous Positive Airway Pressure (CPAP), Bi-level Positive Airway Pressure (BiPAP). Concepts of history, ethics, procedure manuals and protocols, as well as job responsibilities.

POLY 102 Sleep Neuro physiology

Three credits

Discussion of chemical and neural control of the sleeping period, normal awake and pathophysiology. Epidemiology of sleep disorders, narcolepsy, epilepsy, sleep apnea, central apnea, neuromuscular disorders, parasomnias, involuntary leg movement and arousal patterns are included.

POLY 103 Polysomnographic Instrumentation

Three credits

Introduction to instrumentation as well as to electrical and practical principles of polysomnography. Emphasis is placed in overseeing the periodic cessation of respiratory activity based on the monitoring of the following: electro-encephalography (EEG), electro-oculography (EOG), electrocardiography (ECG), electromyography (EMG), pulse oximetry (SpO₂).

POLY 104 Therapeutic Interventions in Polysomnography

Three Credits

This course is designed to develop, the skills to interpret sleep studies in adult and pediatric patients. It will also include troubleshooting and calibration of the respiratory equipment by titration base on the protocol.

POLY 105 Clinical Practicum

Four credits

Directed practice in the clinical setting in a sleep laboratory or a sleep center. The student will participate in preparing, assembling, monitoring and disconnecting the patient. It allow the students to follow the sleeping patterns of each case and emphasizes sleep scoring related to interruptions in breathing.

SCHOOL OF SCIENCE AND TECHNOLOGY

The School of Science and Technology is staffed by a Dean, one Associate Dean, Laboratory Technicians, Counselors and Office Personnel.

The academic programs' main goal is to prepare students in the scientific and technical content combined with a service component in General Education within a humanistic framework. Faculty is available to personally assist students in and out of the classroom. The School offers academic counseling, support for student organizations, conferences, and mentorships.

A strong undergraduate scientific research program encourages students to participate in the development of research projects and to publish their results through scientific conference presentations and peer-reviewed publications. These activities enrich and expand students' experiences during their undergraduate studies and provide opportunities to further their studies in graduate schools.

The School of Sciences and Technology is committed to educate the student in both the scientific and humanistic aspects of the Sciences. The School offers basic and specialized technical courses using modern, well-equipped laboratories supervised by qualified professors and technical personnel.

The School awards Bachelor of Sciences degrees with specializations in Computer Sciences, Biology, Cell and Molecular Biology, Chemistry, Environmental Sciences, Applied Mathematics, and Sales and Distribution of Pharmaceutical and Chemical Products. Associate degrees in Computer Sciences and in Natural Sciences are also offered. Basic course requirements for medical, dental and pharmacy schools are provided.

Students are offered support through a network of counselors and academic advisors. Peer tutors and faculty mentors help students into a successful career. The Science Student Support Center (CDEC for its Spanish acronym) houses a complete array of services and support assistance to our students to address their needs and enhance their academic achievement through academic counseling, advising and peer-tutoring. Our goal is to create a stimulating and supportive environment where teaching and learning become central to all student and faculty activity. We also provide an effective pathway from high school to undergraduate through our pre college programs and assistance in the undergraduate to graduate transition.

The School also offers qualified students with special interest in research, opportunities for semester and/or summer internships at various national as well as international universities. Opportunity for research experiences at National Laboratories and Agencies such as Sandia, Los Alamos and NASA are also available. Participating students could receive academic credit for their work. There are also opportunities on campus for undergraduate research in collaboration with faculty members.

Objectives

- To offer basic courses in sciences and mathematics to students enrolled in all academic programs.
- To offer specialized courses to students majoring in nursing and education.

- To provide students with the necessary knowledge and skills to compete for jobs or to pursue graduate work.
- To provide students with the necessary resources for scientific research through various institutional programs and collaborations with other institutions and participating laboratories.
- To upgrade undergraduate science teaching and research through a specially designed curriculum.
- To serve as a forum for the discussion of up-to-date scientific topics, by holding symposia, lectures and workshops open to the Puerto Rican community.

Admission Requirements

To be admitted to the School of Science and Technology students must fulfill all the requirements for admission to the Institution. A minimum general grade point average of 2.50 is required. Specific admission requirements for some majors are revised periodically. The student should seek additional information regarding specific requirements from the Associate Dean of the School.

School Laboratories

The School of Sciences and Technology has modern academic and research laboratory facilities. There are eleven academic laboratory facilities; five for Biology courses, three for Chemistry, one for Physics, one for Mathematics and one for Computer Sciences. New teaching laboratories with access to Internet are available for all science students. In addition, there are nine research laboratories where our students can participate in undergraduate research activities with a science faculty researcher/mentor. Two fully equipped multimedia-electronic classrooms are available for science courses. These laboratories are used by students as additional learning resources and by professors to incorporate new teaching strategies using the state of the art facilities.

Model Institution for Excellence

In 1995, UMET became a Model Institution for Excellence (MIE) through a cooperative agreement with the National Science Foundation. MIE is an initiative created by the National Science Foundation (NSF) in collaboration with the National Aeronautics and Space Administration (NASA) and the Departments of the Interior and Agriculture.

UMET was one of six institutions of higher learning awarded a collaborative agreement of up to \$2.5 million a year. All six MIE have a commitment awarding science, engineering and mathematics (SEM) degrees to underrepresented populations in these fields, a strong commitment to SEM education and undergraduate research, and the potential for launching a major enhancement of their current efforts.

As a result UMET created an environment with high standards and expectations for all science, engineering, and mathematics students to encourage them to pursue graduate studies. To address the program's unique goals, UMET rearranged the infrastructure of its SEM department and restructured the curriculum. It also focused on its faculty's professional and academic development. Through the professional development of its faculty and the academic

development of its students, UMET looks forward to creating a replicable model of SEM education to be used by similar institutions in Puerto Rico and the United States. In 2007 the MIE support ended but it provided the seed for the transformation of the School to better serve the needs of the science students through the institutionalization of many of the best practices implemented by it.

Science Support Center

In 1996, UMET created a Science Support Center as the backbone of the MIE program. Today, the Science Support Center brings together faculty and counselors to serve as role models, determine students' needs and talents, and coordinate academic support. In addition, the Center provides group study, tutoring and cooperative learning rooms.

The Summer Bridge Program

The Summer Bridge Program consists of a mathematics course (MATH 140) that provides the basic review of all mathematics concepts appropriate for the successful completion of pre-calculus (MATH 151 or MATH 153). This program is offered to all freshman science students as an opportunity to enroll in college courses, advance in the curricula, and strengthen mathematics skills. This Program is a requisite for Science Scholarship candidates as well as RISE students.

Scholarships

First-year SEM students with a high school graduation GPA of 3.0 or more and College Board scores of 500 or more in each of its parts have the opportunity to receive a full scholarship, including research opportunities in national laboratories, a stipend, and free tuition and books.

RISE @ UMET Program

First-year SEM students interested in biomedical sciences and with a high school GPA between 2.5 and 2.99 can participate in this program. Potential candidates must enroll in the Summer Bridge (MATH 140) to be eligible to participate. Once accepted students participate in a series of activities to enhance their academic and biomedical research skills. RISE students must participate in a summer research internship and must apply to graduate programs.

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Ph.D. University of Puerto Rico

Associate Degree In Computer Sciences

75 credits	Credits
General Education Courses	27
Mathematics and Sciences	18
Specialization	30 ó 32

Course	Description	Crs.
General Education Courses		
SPAN 101-102	Introductory Spanish Language Course-Basic Level	6
or SPAN 103-104	Introductory Spanish Language Course-Intermediate Level	
or SPAN 105-106	Introductory Spanish Language Course-Advanced Level	
ENGL 101-102	Introductory English Language Course-Basic Level	6
or ENGL 103-104	Introductory English Language Course-Intermediate Level	
or ENGL 105-106	Introductory English Language Course-Advanced Level	
SOCS 101-102	Introduction to the Study of Social Sciences	6
HUMA 101-102	Western Civilization	6
or HUMA 105-106	Interdisciplinary Study of Humanities	
FYIS 101	First Year Immersion Student Course	3
Mathematics and Sciences		
MATH 111-112	Intermediate Algebra	6
PHSC 101-102	Introduction to Physical Sciences	6
BIOL 101-102	Introduction to Biological Sciences	6
Specialization Courses		
COSC 111	Computer Literacy	3
COSC 113	Computer Applications	3

COSC 131	Programming Logic	3
COSC 230	Programming in Computer Sciences I	3
COSC 240	Programming in Computer Sciences II	3
COSC 330	Data Teleprocessing	3
COSC 340	Systems Analysis and Design	3
COSC 350	Programming Language	3
Two courses	Business Administration Department	6 to 8

Bachelor In Sciences Major In Computer Sciences

121 Credits		Credits
General Education Courses		42
Mathematics and Sciences		31
Specialization		36
Electives		12
General Education Courses		
42		
SPAN 101-102 or SPAN 103-104 or SPAN 105-106	Introductory Spanish Language Course-Basic Level Introductory Spanish Language Course-Intermediate Level Introductory Spanish Language Course-Advanced Level	6
SPAN 215	Written Composition	3
SPAN 218	Oral Communication	3
ENGL 101-102 or ENGL 103-104 or ENGL 105-106	Introductory English Language Course-Basic Level Introductory English Language Course-Intermediate Level Introductory English Language Course-Advanced Level	6
ENGL 207	Second Year English-Basic Level	3
ENGL 350	Conversational English	3
SOCS 101-102	Introduction to the Study of Social Sciences	6
HIST 101	Introduction to the Study of History	3
HUMA 101-102	World Culture	6
FYIS 101	First Year Immersion Student Course	3
Mathematics and Sciences		31
MATH 151-152	Pre-Calculus	8
BIOL 203-204 or CHEM 203-204	General Biology General Chemistry	8
PHSC 203-204	General Physics	8
MATH 221	Calculus I	4

MATH 384	Probability and Statistics	3
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Specialization Courses		36
COSC 111	Computer Literacy	3
COSC 131	Programming Logic	3
COSC 230	Programming in Computer Sciences I	3
COSC 235	Computer Organization and Architecture	3
COSC 240	Programming in Computer Sciences II	3
COSC 340	System Analysis and Design	3
COSC 330	Computer Communications	3
COSC 335	Data Structure	3
COSC 350	Programming Languages	3
COSC 440	Operating Systems	3
COSC 445	Data Base Systems	3
COSC 460	Topics in Computer Sciences	3
Recommended Electives		
MATH 222	Calculus II	4
MATH 350	Linear Algebra	3
PHSC 460	Digital Electronics	3
COSC 450	Design and Analysis of Algorithms	3
COSC 461	Topics in Computer Science III	3
Up to three courses	Business Administration courses	9 to11

Electives	12
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Bachelor In Sciences Major In Biology

124 Credits	Credits
General Education Courses	42
Mathematics and Sciences	43
Specialization	36
Electives	3

General Education Courses		
SPAN 101-102 or SPAN 103-104 or SPAN 105-106	Introductory Spanish Language Course-Basic Level Introductory Spanish Language Course-Intermediate Level Introductory Spanish Language Course-Advanced Level	6
SPAN 215	Writing	3
SPAN 218	Spanish Literature	3
ENGL 101-102 or ENGL 103-104 or ENGL 105-106	Introductory English Language Course-Basic Level Introductory English Language Course-Intermediate Level Introductory English Language Course-Advanced Level	6
SOCS 101-102 or SOSC 103	Introduction to the Study of Social Sciences Introduction to the Study of Social Sciences (compendium)	6
ENGL 207	Reading and Writing	3
ENGL 350	Conversational English	3
HUMA 101-102	World Culture	6
HIST 101	Introduction to the Study of History	3
FYIS 101	First Year Immersion Student Course	3
Mathematics and Sciences		
CHEM 203-204	General Chemistry	8
MATH 153	Pre-Calculus I	4
BIOL 203-204	General Biology	8
PHSC 203-204	General Physics	8

MATH 221	Calculus I	4
CHEM 351-352	Organic Chemistry	8
COSC 111	Computer Literacy	3

Specialization Courses		
BIOL 312	General Zoology	4
BIOL 315	Biostatistics	3
BIOL 320	Microbiology	4
BIOL 325	General Botany	4
BIOL 329	General Ecology	4
BIOL 331	Developmental Biology	4
BIOL 340	Genetics	4
BIOL 350 or BIOL 355	Biochemistry Cell and Molecular Biology	3 or 4
BIOL 360	Research Techniques	3
BIOL 345	Evolution	3

Electives	3
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Bachelor In Sciences Major In Cell And Molecular Biology

125 Credits	Credits
General Education Courses	42
Mathematics and Sciences	43
Specialization Courses	40

General Education Courses		
SPAN 101-102 or SPAN 103-104 or SPAN 105-106	Introductory Spanish Language Course-Basic Level Introductory Spanish Language Course-Intermediate Level Introductory Spanish Language Course-Advanced Level	6
SPAN 215	Writing	3
SPAN 218	Oral Communication	3
ENGL 101-102 or ENGL 103-104 or ENGL 105-106	Introductory English Language Course-Basic Level Introductory English Language Course-Intermediate Level Introductory English Language Course-Advanced Level	6
ENGL 207	Reading & Writing	3
ENGL 350	Conversational English	3
SOCS 101-102 or SOSC 103	Introduction to the Study of Social Sciences Introduction to the Study of Social Sciences (compendium)	6
HUMA 101-102	World Culture	6
FYIS 101	First Year Immersion Student Course	3
HIST 101	Introduction to the Study of History	3
Mathematics and Sciences		
MATH 153	Precalculus Compendium	4
CHEM 203-204	General Chemistry	8
BIOL 203-204	General Biology	8
PHYS 203-204	General Physics	8
MATH 221	Calculus I	4

CHEM 351-352	Organic Chemistry	8
COSC 111	Computer Literacy	3

Specialization Courses		
BIOL 315	Biostatistics	3
BIOL 331	Developmental Biology	4
BIOL 340	Genetics	4
BIOL 350	Biochemistry	3
BIOL 353	Biochemistry II	3
BIOL 355	Cell and Molecular Biology	4
BIOL 360	Research Techniques	3
BIOL 410	Methods in Molecular Biology	4
BIOL 425	Topics in Molecular Biology	3
Recommended Electives in Biology		
BIOL 320	Microbiology	4
BIOL 326	Immunology	4
BIOL 345	Evolution	3
BIOL 365, 366, or 367	Undergraduate Research	1 - 3
BIOL 431	Biotechnology	4

Bachelor In Sciences Major In Chemistry

124 Credits		Credits
General Education Courses		42
Mathematics and Sciences		35
Specialization Courses		38
Chemistry Electives		6
Electives in Science and Mathematics		3
General Education Courses		
SPAN 101-102 or SPAN 103-104 or SPAN 105-106	Introductory Spanish Language Course-Basic Level Introductory Spanish Language Course-Intermediate Level Introductory Spanish Language Course-Advanced Level	6
SPAN 215	Written Composition	3
SPAN 218	Oral Communication	3
ENGL 101-102 or ENGL 103-104 or ENGL 105-106	Introductory English Language Introductory English Language Course-Intermediate Level Introductory English Language Course-Advanced Level	6
ENGL 207	Reading and Writing: Basic Level	3
ENGL 350	Conversational English	3
HUMA 101-102	World Culture	6
SOSC 101-102	Introduction to the Study of Social Sciences	6
HIST 101	Introduction to the Study of History	3
FYIS 101	First Year Immersion Student Course	3
Mathematics and Sciences		
MATH 153	Pre-Calculus Compendium	4
MATH 221-222-223	Calculus I, II, and III	12
PHSC 203-204	General Physics	8
BIOL 203-204	General Biology	8

COSC 111	Computer Literacy	3
Electives in Mathematics and Science		3

Specialization	Courses	
CHEM 203-204	General Chemistry	8
CHEM 351-352	Organic Chemistry	8
CHEM 463-464	Physical Chemistry	8
CHEM 221	Analytical Chemistry	4
CHEM 430	Instrumental Analysis	4
CHEM 311	Inorganic Chemistry	3
CHEM 435	Chemistry Seminar	3
Chemistry Electives		
CHEM 365	Undergraduate Research in Chemistry	3
CHEM 383	Biochemistry	3
CHEM 390	Spectroscopy	3
CHEM 420	Environmental Chemistry	4
Electives		6

Bachelor In Sciences Major In Environmental Sciences

124 Credits		Credits
General Education Courses		42
Mathematics and Sciences		47
Specialization Courses		31
Electives in Science		4
General Education Courses		
SPAN 101-102 or SPAN 103-104 or SPAN 105-106	Introductory Spanish Language Course-Basic Level Introductory Spanish Language Course-Intermediate Level Introductory Spanish Language Course-Advanced Level	6
SPAN 215	Written Composition	3
SPAN 218	Oral Communication	3
ENGL 101-102 or ENGL 103-104 or ENGL 105-106	Introductory English Language Introductory English Language Course-Intermediate Level Introductory English Language Course-Advanced Level	6
ENGL 207	Reading and Writing: Basic Level	3
ENGL 350	Conversational English	3
HUMA 101-102	World Culture	6
HIST 101	Introduction to the Study of History	3
SOSC 101-102	Introduction to the Study of Social Sciences	6
FYIS 101	First Year Immersion Student Course	3
Mathematics and Sciences		
MATH 153	Pre-Calculus Compendium	4
MATH 221	Calculus I	4
CHEM 203-204	General Chemistry	8
CHEM 221	Química Analítica	4

CHEM 351	Compendium of Organic Chemistry	4
CHEM 420	Environmental Chemistry	4
PHSC 203-204	General Physics	8
BIOL 203-204	General Biology	8
COSC 111	Computer Literacy	3

Specialization Courses		
ENSC 101	Introduction to Environmental Sciences	3
BIOL 315	Biostatistics	3
BIOL 329	General Ecology	4
ENSC 201	Introduction to Geology	4
BIOL 360	Research Techniques	3
ENSC 390	Natural History of Puerto Rico and the Caribbean	3
ENSC 411	Environmental Laws and Policies	3
ENSC 415	Environmental Pollution Comp	3
ENSC 421	Case Studies Seminar I	1
ENSC 443	Integrated Environmental Practice	4
Electives in Science		4

Bachelor In Sciences Major In Bio-Mathematics

123 Credits	Credits
General Education Courses	39
Mathematics and Sciences	29
Specialization Courses	49
Electives	6

General Education Courses		
SPAN 101-102 or SPAN 103-104 or SPAN 105-106	Introductory Spanish Language Course-Basic Level Introductory Spanish Language Course-Intermediate Level Introductory Spanish Language Course-Advanced Level	6
SPAN 216	Written and Oral Spanish	3
ENGL 101-102 or ENGL 103-104 or ENGL 105-106	Introductory English Language Introductory English Language Course-Intermediate Level Introductory English Language Course-Advanced Level	6
ENGL 207	Reading and Writing	3
ENGL 350	Conversational English	3
HUMA 101-102	World Culture	6
SOSC 101-102	Introduction to the Study of Social Sciences	6
HIST 101	Introduction to the Study of History	3
FYIS 101	First Year Immersion Student Course	3
Mathematics and Sciences		
MATH 153	Pre-Calculus	4
PHSC 203 – 204	General Physics	8
CHEM 203 – 204	General Chemistry	8
COSC 111	Computer Literacy	3
COSC 131	Programming logic	3
COSC 240	Computer Programming II	3

Specialization Courses		
MATH 221	Calculus I	4
MATH 222	Calculus II	4
MATH 223	Calculus III	4
MATH 384	Probability and Statistics I	3
MATH 395	Differential Equations	3
MATH 350	Linear Algebra	3
MATH 411	Mathematical Probability	3
MATH 420	Advanced Applied Mathematics	3
MATH 430	Numerical Analysis	3
MATH 435	Mathematical Modeling	3
BIOL 203 – 204	General Biology	8
BIOL 340	Genetics	4
BIOL 329	Ecology	4
Electives		6

COURSES DESCRIPTION

BIOL 101-102 Introduction to Biological Sciences

Six Credits

Introduction to the fundamental concepts of cell structure and function. Study of basic hierarchical organization from cell to systems with emphasis on the human body and its anatomy and physiology. Introduction to genetics, taxonomy, evolution and ecology. Basic concepts of chemistry and physics related to biological systems are also discussed. Two semesters, three hours per week.

BIOL 103-104 Anatomy and Physiology

Eight Credits

Designed for students of the Allied Health Sciences Programs. It integrates the histo-macro and microanatomy of human systems with their corresponding physiology. Two semesters, three lecture hours and three laboratory hours per week.

BIOL 105 Microbiology

Four Credits

Designed for students of the Allied Health Sciences Programs. Discusses fundamental concepts of microbiology, including the latest advances in the area. It covers micro-organisms, their pathology, methods for controlling their growth and immunology. One semester, three lecture hours, and three laboratory hours per week.

BIOL 106 Human Anatomy

Four Credits

It is a course designed for students of the 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. One semester, three lecture hours, and three laboratory hours per week.

BIOL 203 General Biology I

Four Credits

Study of the characteristics (properties) of life and general aspects of the following fundamental areas of biology: scientific method, ecology, evolution and taxonomy. One semester, three lecture hours, and three laboratory hours per week.

Prerequisites: MATH 111

BIOL 204 General Biology

Four Credits

Study of ecology, evolution, taxonomy, and molecular basis of biology, cellular theory, cell functions, and genetics of living organisms. One semester, three lecture hours, and three laboratory hours per week.

Prerequisites: BIOL 203

BIOL 227 Environmental Health

Three Credits

Fundamental topics such as environment, health, pollution, environmental balance and environmental health carrying capacity, ozone depletion, sustainability, greenhouse effect, energy, consumption, conservation, recycling, and overpopulation are discussed. Basic concepts of ecology, the relationship between technological/scientific achievements, and the intervention of humans in the ecosystems. One semester, three hours per week.

Prerequisites: BIOL 102 or BIOL 204

BIOL 303 Human Biology I

Four Credits

General concepts of cellular biology, membrane transport systems, histology needed for the introduction of anatomy and physiology of human skeletal, muscular and nervous systems. One semester, three lecture hours, and three laboratory hours per week.

Prerequisite: BIOL 204

BIOL 304 Human Biology II

Four Credits

Introduction to anatomy and physiology of the human endocrine system and other homeostatic systems. The reproductive system is also included. One semester, three lecture hours, and three laboratory hours per week.

Prerequisite: BIOL 303

BIOL 312 General Zoology

Four Credits

A study of the general principles of systematic zoology from Protoctista to Chordata: biosystematics, morphology, physiology, anatomy, phylogenetics, ecology and evolution. One semester, three lecture hours, and three laboratory hours per week.

Prerequisite: BIOL 204

BIOL 315 Biostatistics

Three Credits

This course is an introduction to parametric statistics applied to biological problems and situations. This course presents descriptive statistical procedures that include data presentation, graphics and inferential statistical procedures that allow us to do evaluations. In general terms, it can be appreciated that the content includes statistical fundamentals applied to biology. The normal behavior and its distribution, and different kinds of samples, are analyzed by their global characteristics and projections can be realized. Computers are used in order to prepare the students in the handling of great volumes of information, in a precise form, reliable and easy. Also exercises are made in the field exposing them to real situations. One semester, three lecture hours per week.

Prerequisites: BIOL 204, MATH 151 and COSC 111

BIOL 318 **Parasitology**

Four Credits

A clinical approach to parasitic nematodes, platyhelminths, protozoans and arthropods. The course emphasizes the general characteristics of these organisms as well as their life cycles. It also studies the pathologies, symptoms, and treatment of parasitological infections. One semester, three lecture hours, and three laboratory hours per week.

Prerequisite: BIOL 204

BIOL 320 **Microbiology**

Four Credits

Fundamental concepts of morphology, taxonomy, physiology, biochemistry, immunology, ecology, and genetics of microorganisms. It emphasizes their practical application to medicine, industry, agriculture and environment. One semester, three lecture hours, and three laboratory hours per week.

Prerequisite: BIOL 204, CHEM 204

BIOL 325 **General Botany**

Four Credits

This is an introduction to the fundamentals of structure and function of plants: plant cell, photosynthesis, respiration, genetics, regulation of growth by hormones and external factors and water relationship. General systematic view of Protocista, Monera, Fungi and Planate. Focuses on angiosperms: their structure, development, reproduction, life cycles, adaptations, and systematics. Emphasis on Puerto Rican species. One semester, three lecture hours, and three laboratory hours per week. Prerequisite: BIOL 204

BIOL 326 **Modern Immunology**

Four Credits

Discussion of the fundamental bases of immunology. Includes the different defense mechanisms which protect the organism. The genetic bases, structure and function of antibodies, interactions between antigen and antibody, immunological tests, immune response mechanism, disorders and control. Includes three hours of lecture and one three-hour laboratory per week.

Prerequisites: BIOL 320 Recommended: BIOL 340.

BIOL 329 **General Ecology**

Four Credits

Introduction to the general principles of ecology. Study of populations, communities, ecosystems, energy, and biogeochemical cycles. Emphasis is given to the interrelationship of the a biotic resources with species and communities. Special attention is given to the ecology of Puerto Rico, field trips are required. One semester, three lecture hours and three laboratory hours per week. Prerequisites: BIOL 204, MATH 151

Highly recommended: BIOL 325, BIOL 312

BIOL 331 Developmental Biology

Four Credits

Study of the developmental aspects of living organisms. The course integrates the classical methods of embryology with the molecular and genetic analysis of development. Three lecture hours and one three hour laboratory/week.

Prerequisites: BIOL 340

BIOL 340 General Genetics

Four Credits

Study of the rules that govern the transmission of hereditary characteristics in cells, individuals and populations. The course will describe the most important aspects of classic genetics as well as the molecular aspects that direct gene organization and expression. One semester, three lecture hours and one three hour laboratory per week.

Prerequisites: BIOL 204, CHEM 204, MATH 152

BIOL 345 Evolution

Three Credits

Introduction to the general concepts in evolution. Includes the history of Theory of Evolution (emphasis on Darwin-Wallace). Studies the origin of life, geologic periods, continental drift, speciation, taxonomy and systematic, natural selection, populations, and the phylogeny of some plant and animal groups.

Prerequisites: BIOL 340

Highly recommended: BIOL 325, BIOL 312

BIOL 350 Biochemistry

Three 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 hours.

Prerequisites: BIOL 204, CHEM 352

BIOL 355 Cell and Molecular Biology

Four Credits

The structure and function of the cell. Study of the organization of living cells; structure and function of inorganic and organic compounds; structure and function of cell membrane, cytoplasmic cell systems (golgi complex, endoplasmic reticulum, etc.) mitochondria, chloroplast; protein sorting, membrane receptors, and cell signaling. Emphasis is given to recent papers and advances in cell and molecular biology. Laboratory experiences include the use of various techniques required in cell biology. One semester, three lecture hours, and three laboratory hours per week.

Prerequisites: BIOL 204, CHEM 352, MATH 152

BIOL 360 Research Techniques

Three Credits

An introduction to research techniques. Emphasizes the use of bibliographical resources (literature review, selection of materials and preparation of a bibliography), the domain of the scientific method and of writing skills. General information on the research techniques and equipment's used in the different fields of biology required for the preparation of a proposal. The written research proposal is the ultimate goal of this course. The student selects the topic of his/her research proposal. One semester, three hours per week.

Prerequisite: BIOL 204

BIOL 365-366-367 Undergraduate Research in Biology I, II, III

Three Credits

Introduction to scientific research. Designed to develop basic research skills in a field of biology previously selected by the student in accordance with the specialization of the supervising professor. One semester, hours to be determined by agreement with the supervising professor.

Prerequisites: BIOL 360. By agreement with the professor.

BIOL 370 Seminar

Two Credits

Each student, with the professor, will choose a topic to be presented in written and oral form and then open to discussion to the other students and the professor. Emphasis on literature review, especially related to recent scientific findings. Results of scientific research done by the student may be included in the presentation. One semester, two hours per week.

Prerequisite: BIOL 204 and eight additional credits in biology.

BIOL 380 Special Topics

Three Credits

This course has been designed to offer students the opportunity to study current issues in Biology. The course title and content are determined by the faculty in accordance with students' requests and the relevance of the subject. Special attention is given to recent scientific works, which may be enhanced with laboratory experiences. A student may register in Special Topics more than once if the subject differs from those previously taken. One semester, three lecture hours per week. Prerequisite: BIOL 204

BIOL 410 Methods in Molecular Biology

Three Credits

Laboratory course that explores some of the techniques used in the field of molecular biology. One semester, six laboratory hours per week

Prerequisites: BIOL 331, BIOL 355 and BIOL 350.

BIOL 425 Seminar on current topics in Molecular and Cell Biology

Three 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.

Prerequisite: BIOL 410 or by agreement with professor.

BIOL 427 Conservation Biology

Three Credits

The applied science of maintaining the earth's biological diversity. Conservation biology is a multi-disciplinary approach to the conservation of natural resources, emphasizing the importance of biodiversity. The course examines key genetic and ecological principles and the concepts of island biogeography as they relate to endangered species conservation, the management of declining or small populations, and the value of protected areas. Strong emphasis is placed on sociological, economic and political components of conservation issues.

BIOL 431 Biotechnology

Four Credits

The Biotechnology course at UMET consists of the study of the underlying scientific principles behind recombinant DNA technology as well as their industrial, agricultural, pharmaceutical, and biomedical applications. The course emphasizes the techniques and skills used in biotechnology as well as the regulatory, quality control, ethical and legal implications of the field. One semester, three lecture hours and one three-hour laboratory per week.

Prerequisite: BIOL 320 and BIOL 340

BIOL 450 Marine Mammalogy

Four Credits

Presentation and discussion at the undergraduate level, with laboratory of the different topics of biology, ecology, distribution, abundance, taxonomy, phylogeny, evolution, anatomy, physiology, natural history, development and behavior of marine mammals. Emphasis will be given to the status and conservation programs of whales, dolphins and manatees in the Caribbean. One semester, three lecture hours and one three-hour laboratory per week.

Prerequisite: ENSC 250

CHEMISTRY

CHEM 105 Health Chemistry

Four 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. Prerequisite: High school chemistry course approved with a C average or higher.

CHEM 203 General Chemistry I

Four 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.

Prerequisite: MATH 112

CHEM 204 General Chemistry II

Four Credits

Second part of the systematic study of the chemistry basic concepts related with liquids and solids, solutions, chemical kinetics, chemical equilibrium, acids and bases, acid-base equilibrium, solubility and complex ions equilibrium, thermodynamics, electrochemistry, and nuclear chemistry. A semester, three hours lecture, and three-hour laboratory per week.

Prerequisite: CHEM 203

CHEM 221 Analytical Chemistry

Four Credits

Introduction to qualitative and quantitative methods of classical chemistry analysis including the fundamental theoretical aspects of these methods. Topics covered include statistical analysis of experimental data, acid-base equilibrium, titrimetric and gravimetric analyses, extraction chemistry, potentiometry, and UV-visible absorption spectroscopy. The experimental section comprises laboratory techniques of classical quantitative analysis, including gravimetric and volumetric analysis, potentiometry, and basic spectrophotometric analysis. One semester, three hours lecture, and two three-hour laboratory sessions per week. Prerequisites: CHEM 204, MATH 151

CHEM 311 Inorganic Chemistry

Three 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. A semester, three hours lecture per week. Prerequisites: CHEM 204, MATH 151

CHEM 351 Organic Chemistry I**Four Credits**

Study of the chemistry of carbon compounds with emphasis on their nomenclature, bonding theories, structures, stereochemistry, electronic mechanisms, reactions, and synthesis. The correlation of reactivity with the structures and properties of the organic compounds, and the application of spectroscopic methods in the identification of their functional groups and the elucidation of their molecular structures is also emphasized. The course is complemented by a three-hour laboratory session, per week.

Prerequisite: CHEM 204, MATH 151

CHEM 352 Organic Chemistry II**Four Credits**

Study of the chemistry of carbon compounds with emphasis on their nomenclature, bonding theories, structures, stereochemistry, electronic mechanisms, reactions, and synthesis. Emphasis is also given to the correlation of reactivity with the structures and properties of the organic compounds studied in this part of the course. The application of spectroscopic methods to the identification of their functional groups and the elucidation of their molecular structures are also stressed. The course is complemented by a three-hour laboratory session, per week.

Prerequisite: CHEM 351

CHEM 365 Undergraduate Research in Chemistry**Three Credits**

Introduction to research in chemistry at the undergraduate level, under the supervision and evaluation of a chemistry professor. The course has been designed to provide the student to develop the skills of research at the undergraduate level, and to awaken his/her motivation for scientific research, in general. Emphasis is given to the application of the scientific method. The student selects the research topic in agreement with the research supervisor. A minimum of six-credit hours of research per semester is required, equivalent to nine contact hours of work in the laboratory.

Prerequisite: CHEM 221 and CHEM 352

CHEM 383 Biochemistry**Three Credits**

Basic biochemical principles and concepts, with an overview of the four major classes of macromolecules intrinsic to living systems: carbohydrates, lipids, proteins and nucleic acids. Topics include structure, conformation and properties of proteins; nucleic acids, carbohydrates and membranes; enzyme mechanisms, kinetics and regulation; intermediary metabolism of carbohydrates, lipids, amino acids and nucleic acids; photosynthesis; and biosynthesis and function of macromolecules, including DNA, RNA, and proteins. One semester, three hours lecture per week. Prerequisite: CHEM 352

CHEM 390 Chemical Spectroscopy**Three Credits**

Study and application of spectroscopic methods to Chemistry, including infrared (IR) spectroscopy, nuclear magnetic resonance (NMR), ultraviolet-visible (UV-VIS) spectroscopy, and mass spectrometry (MS). Emphasis is given to the application of these analytical techniques to the identification and elucidation of chemical structures, especially of organic compounds.

Prerequisite: CHEM 352 and MATH 152

CHEM 420 Environmental Chemistry**Four Credits**

Study of the chemical composition of the hydrosphere, biosphere, geosphere and the atmosphere. The importance of chemical methods and their application to the development of products and processes directed to the control of environmental pollution. Emphasis will be given to the possible effects of chemical processes and products on the environment, and the measures to be taken in order to minimize their damaging effects. A study of the transportation, adsorption, accumulation, degradation and biological toxicity of chemical substance of different origins, natural or anthropogenic. These include: pesticides, halogenated hydrocarbons, inorganic compounds and their effects on water systems, soil and biological systems. The course will also cover the officially accepted methods of analysis for the study of biological matrices, air, soil, water, recommended by regulatory agencies. One semester, three lecture hours and one three hour laboratory.

Prerequisites: CHEM 305 or CHEM 351

CHEM 430 Instrumental Analysis**Four Credits**

This course is designed to describe to the student the instruments most frequently used in modern chemical analysis. The topics covered are: basic electronics, chemical spectroscopy, chromatographic methods, mass spectrometry and electrochemical methods. Additionally, the student will be exposed to the accepted methods used to obtain and evaluate relevant analytical data such as quality control (QC), quality assurance (QA), system suitability test, project plan, sampling techniques, and statistical correlations. Experiments include atomic and molecular spectroscopy, gas and liquid chromatography, and electrochemistry. One semester, three hours lecture, and two three-hour laboratory sessions per week.

Prerequisite: CHEM 221, MATH 152

CHEM 435 Chemistry Seminar**Three Credits**

The course includes the study and use of the chemical literature in order to strengthen and broaden the student's knowledge in the subjects covered in his previous studies in the area of chemistry and its application in research. The course includes the use of traditional and automated methods for storage and retrieval of chemical information. Emphasis will be given to the use of the Chemical Abstracts, and to Internet-based data banks and to other sources to access chemical information. The knowledge acquired in the course will be used to prepare a seminar in a topic of general interest in the area of modern chemistry. The topic of the seminar

will be selected in consultation with the course instructor. Students will receive training in scientific writing and oral presentation to the faculty, students and general public. One semester, three hours lecture per week.

Prerequisites: CHEM 221, CHEM 352

CHEM 463 Physical Chemistry I

Three Credits

Application of the principles and methods of mathematics and physics to the quantitative study of chemical problems. The course includes the study of thermodynamics and electrochemistry with emphasis in their use to understand chemical phenomena. Physical methods for the study of the properties of the matter are covered in the laboratory. One semester, three hours lecture and three-hour laboratory session per week.

Prerequisites: MATH 222, PHYS 204, CHEM 221 and CHEM 352

CHEM 464 Physical Chemistry II

Four Credits

The continuation of the application of the principles and methods of mathematics and physics to the quantitative study of chemical problems. The course includes an introduction to quantum mechanics and chemical kinetics with emphasis in their use to understand chemical phenomena. The application of quantum mechanics to chemical spectroscopy and the study of absorption and emission of electromagnetic radiation will be emphasized. Physical methods for the study of the properties of the matter are covered in the laboratory. One semester, three hours lecture and three-hour laboratory session per week.

Prerequisite: CHEM 463 and MATH 223

CHEM 470 Introduction to Molecular Modeling

Three Credits

This course will present to the students the fundamental ideas and concepts of modeling and molecular simulation. Among the main topics introduced are the basics of quantum chemistry and molecular mechanics, and the techniques of molecular dynamics and Monte Carlo simulation together with analysis of their results. Through experiments and practical modeling exercises done in the laboratory, the students will master the concepts explained during the course.

Prerequisite: MATH 221, BIOL 204, CHEM 352, PHSC 204, COSC 111

COMPUTER

COSC 111 Computer Literacy

Three Credits

Introduction to the basic concepts of computer sciences. The general functions of the Central Processing Unit and the input and output devices are discussed. The students use some of the most popular application programs available in the market, such as electronic spreadsheets, word processors, and graphics. One semester, three lecture hours, and three laboratory hours per week.

COSC 113 Computer Applications**Three Credits**

In-depth study and application of word processing and spreadsheets packages to enhance the knowledge acquired in the previous basic computer course. Use of effective techniques in writing and executing macros. Application of e-mail, merge, and functions. Concepts, principles and practices involved in the creation of graphics and databases. Database structure and maintenance. One semester, three lecture hours, and three laboratory hours per week. Prerequisites: COSC 111, MATH 111

COSC 131 Programming Logic**Three Credits**

Emphasizes 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. Pseudo code, 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.

Prerequisites: MATH 111, COSC 111

COSC 230 Programming in Computer Sciences I**Three Credits**

Provides the necessary information for the utilization of the COBOL language as a tool in effective computer programming. Designed to understand the various divisions and parts of the COBOL language. It provides students with the concepts and practice of structured computer programming. Includes perform statements, control breaks and tables. One semester, three lecture hours, and three laboratory hours per week.

Prerequisites: COSC 131, MATH 112

COSC 235 Computers Organization and Architecture**Three Credits**

The organization and architecture of computers are studied in this course from the points 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 systems, and modern-day processors, and microprocessors. An introduction to an assembler is included as part of the laboratory experience in the study of a microcomputer.

Prerequisites: COSC 131, MATH 112

COSC 240 Programming in Computer Sciences II**Three Credits**

This course provides information on the analysis and development of computer program algorithms that solve problems in sciences, mathematics, statistics, business, etc. Programs are designed and coded in C language and are properly debugged and documented. Emphasis is

given on the disciplinary techniques of structured programming design and style. Prerequisites: COSC 230, MATH 112

COSC 245 Assembly Language

Three Credits

The study of computer architecture, data representation, machine language programming, the instruction set of an assembler and assembly programming using a mini or macro computer. Use of the symbolic debugger, examples and applications. One semester, three lecture hours, and three laboratory hours per week.

Prerequisites: COSC 235, MATH 112

COSC 330 Computer Communications

Three Credits

Study of related technology in information interchange of coded information systems utilizing communication facilities. Includes methods of transmitting digital data, video, voice, and graphics. Also includes available facilities, modems, terminals, detection and correction of errors, security, and communication networks. One semester, three lecture hours per week.

Prerequisites: COSC 230, MATH 112

COSC 335 Data Structures

Three Credits

Structured data types: queues, stacks, lists and trees; algorithm analysis and design for implementation sorting and searching. It covers memory dynamic utilization, graphics, relative efficiency analysis, program manipulation and hashing. One semester, three lecture hours, and three laboratory hours per week.

Prerequisites: COSC 240, MATH 152

COSC 340 System Analysis and Design

Three Credits

The development of a Computer-Based Information System, comprising system identification requirements, data requirements, collection, interaction of system details through various methods. One semester, three lecture hours per week.

Prerequisites: COSC 240, MATH 112

COSC 350 Programming Languages

Three Credits

Comparative study of programming languages and their implementations. Topics to be covered include language definition, syntax, grammars, data types, and control structures. Students will write programs in a variety of languages. One semester, three lecture hours, and three laboratory hours per week.

Prerequisites: COSC 230, COSC 240, and MATH 151

COSC 440 Operating Systems**Three Credits**

The study of the concepts underlying operating systems and their functions. Analysis of programming control and administration of memory, processors, peripherals, files, and systems. One semester, three lecture hours, and three laboratory hours per week.

Prerequisites: COSC 350, COSC 335

COSC 445 Data Base Systems**Three Credits**

The course describes the models used to design database systems; the relational model, the entity-relationship model, and the object oriented models. The course gives emphasis to the relational model from the point of view of internal aspects -physical storage; the external elements- the interfaces that the user need in order to use the system. The terms related to relationships and its attributes, data integrity and the operators used with the relational calculus to operate on the data, and move within the data. The creation of catalogs. Based and derived tables are discussed. Designs of query languages to create, select, and update data in the system. Prerequisites: COSC 335, MATH 152

COSC 450 Design and Analysis of Algorithms**Three Credits**

Techniques for the design and analysis of efficient algorithms, emphasizing methods useful in practice. Strategies such as: divide and conquer greedy methods, and dynamic programming. Sorting, searching, hashing, graph algorithms, integer arithmetic, and NP Complete problems. One semester, three lecture hours, and three laboratory hours per week. Prerequisites: COSC 335, COSC 350, MATH 340, and MATH 384

COSC 460, 461, 462 Topics in Computer Sciences**Three Credits**

Special topics such as DBMS, graphics, automata theory, simulations, Forth G.L.S., artificial intelligence, software engineering, robotics, and computer network. A research project or guided work experience can be accepted instead of the regular course. Current topic is contingent on sufficient resources being available. One semester. Some topics may require three laboratory hours per week.

Prerequisites: COSC 245, COSC 350, MATH 152 and/or permission of instructor.

ENVIRONMENTAL SCIENCES**ENSC 101 Introduction to Environmental Sciences****Three Credits**

Basic principles and concepts controlling the behavior of environmental systems, their structure and changes in time and space. One semester, three lecture hours per week.

ENSC 101L Laboratory

One Credit

Laboratory designed to expose students to basic sampling techniques, the scientific method, and specific local and regional environmental issues. Includes field and laboratory exercises. One semester, three hours laboratory per week.

ENSC 201 Introduction to Geology

Four 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

Prerequisites: ENSC 101, ENSC 101L

ENSC 301 Geomorphology

Four Credits

A study of the origin and evolution of landforms, as part of the environment, its economical importance and the relationship with human society. Emphasis is done on tropical relief, with examples from Puerto Rico. The course includes fieldwork in coasts plains, hills, and mountains with different structure, rocks, and processes. One semester, three lecture hours and three laboratory hours per week. Prerequisites: ENSC 201 and ENSC 321.

ENSC 321 Hydrology

Three Credits

Study of freshwater and ground water movement, storage, and use. Environmental impact and protection of water resources are emphasized. One semester, three lecture hours per week.

Prerequisites: ENSC 201

ENSC 380 Special Topics

Three 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.

Prerequisites: Professor authorization

ENSC 390 Natural History of Puerto Rico and the Caribbean

Three Credits

Study of the natural characteristics of the region, including evolution, biomes, life zones, major organisms and their relations to the environment.

Prerequisites: ENSC 101, ENSC 101L, and ENSC 329

ENSC 399-499 Undergraduate Research in Environmental Sciences One to

Four Credits

Bibliographic, laboratory or field experiences obtained under the mentorship of a Universidad Metropolitana professor, or an external adviser properly approved by the Department of

Science and Technology, that would certify individually the corresponding credit number to each semester according the student's real possibilities and the tutor's request.

Prerequisite: Professor authorization.

ENSC 411 Environmental Laws and Policies

Three 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. One semester, three lecture hours per week.

Prerequisites: ENSC 101, ENSC 101L, and BIOL 329

ENSC 413 Marine Affairs

Three 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.

Prerequisites: ENSC 101, OCEA 101

ENSC 415 Environmental Pollution

Compendium

Three 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.

Prerequisites: ENSC 201, CHEM 305, and BIOL 329

ENSC 421-422 Case Studies Seminar I and II

Two 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.

Prerequisites: ENSC 201, CHEM 305, and BIOL 329

ENSC 443 Integrated Environmental Lab. In Environmental Science

Four Credits

Environmental research and monitoring require numerous field, 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. Prerequisites: ENSC 201, CHEM 305, and BIOL 329

ENSC 455 Solid Waste Management

Three Credits

Public health, economics and policy analysis of the different aspects of the management, collection, storage or disposal of solid waste.

Prerequisites: ENSC 201, CHEM 305, and BIOL 329

MATHEMATICAL

MATH 101 Mathematical Reasoning I

Three Credits

This course offers the opportunity to acquire skills necessary to apply in the solution of situations that appear in the newspaper to live. In addition, ample the operational range with its applicability to different from professional criminals. It develops skills of operations with the cardinal numbers, decimal, fractional, whole and their applications. Also it introduces basic skills in the field of geometry and the one of measurement as much in the Metric system (System the International) and in the English (American Units), by its importance nowadays. This course is developed weekly in 3 hours and includes one hour of laboratory for a total of four hours weekly.

MATH 102 Mathematical Reasoning II

Three Credits

The content of this course is designed to satisfy the necessities with the students of Communications, Social Humanities, Sciences and Education in: Statistic and Probability, Elementary Algebra and Applications of Geometry. This includes the basic of Statistic, the concept of Probability and its applicability to the present world, graphical knowledge like means of Geometry, great impact in the life of the today world. This course is developed weekly in three hours and includes one hour of laboratory for a total of four hours weekly.

MATH 103 Basic Mathematics for Teachers I

Three Credits

Study of the fundamental concepts in basic mathematics: operations with whole numbers, fractions and decimals, ratio, proportions, percent, integer numbers, measurement and applications. One semester, three lecture hours per week.

Prerequisite: Placement Test

MATH 104 Basic Mathematics for Teachers II

Three Credits

Elementary algebra and introduction to geometry, statistics and probability, exponential laws, polynomials, linear equations and basic concepts of geometry. One semester, three lecture hours per week. Prerequisite: MATH 103

MATH 111 Intermediate Algebra I

Three Credits

Real number system, operations with polynomials; equations and inequalities of first degree in one unknown, special products, linear graphs, systems of equations and their applications. One semester, three lecture hours and one laboratory hour per week.

Prerequisite: Placement Test or MATH 102

MATH 112 Intermediate Algebra II

Three Credits

Factoring, rational expressions, rational exponents, radicals and equations, complex numbers, quadratic equations and its applications. One semester, three lecture hours per week.

Prerequisite: Placement Test or MATH 111

MATH 138 Mathematical Introductory for Sciences – First Part

Four Credits

This course is designed like the first part of an intensive training in mathematical for students who initiate their university race in some of the baccalaureates in Sciences and that by the results obtained in the test of institutional location cannot take the first course from mathematical which these baccalaureates require. The course includes/understands the areas of Arithmetic, Algebra and Geometry. The main covered subjects are: arithmetical operations, algebraic operations, linear equations and inequalities, systems of equations, area and perimeter of polygons and circles, Cartesian coordinates, similarity and congruencies of triangles, basic theory of probability, statistics and the Theorem of Pythagoras. Individual is put emphasis in the solution of problems.

One semester, six hours per week. Prerequisite: Placement Test

MATH 139 Mathematical Introductory for Sciences – Second Part

Four Credits

This course this designed like the second part of an intensive training in mathematics that will serve as Bridge between the Superior School and the University to the students who aspire to graduate as a baccalaureate in Natural Sciences. It provides the bases theoretical and practical fundamental to continue the development of the fundamental basic skills of Arithmetic, Algebra and Geometry initiated in the course Math 138. It includes the subjects of operations with polynomials, factorizations and zeros of polynomials, functions polynomials, rational and radical, graphical of linear and quadratic functions, operations with functions, transformations and combinations of linear and quadratic functions, complex numbers and their graphical representation and applications. One semester, six hours per week. Prerequisite: Placement Test or MATH 138

MATH 140 Introductory Mathematics for Science**Eight Credits**

The Introductory Mathematics for Science course at UMET is designed as an intensive bridge course between high school and the university which prepares students to enter the one semester Pre-calculus (Math 153) in their second semester at the university. This is, in fact, a double course including 1.) Arithmetic/Algebra, which will cover: arithmetic operations, algebraic operations, linear and polynomial equations, introduction to functions, and the quadratic formula; and 2.) Geometry, which will cover: polygons, lines, radii of circles, area, perimeter, Cartesian coordinates, parallel lines, angles, similarity and congruence of triangles, the Pythagorean Theorem, and the complex plane, among other topics. One semester ten hours per week. Prerequisite: Placement Test

MATH 151 Pre-Calculus I**Four Credits**

Polynomial, rational, exponential and logarithmic functions, systems of equations; applications, graphs, theory of equations, and analytic geometry. One semester, five lecture hours per week. Prerequisite: MATH 112, MATH 139 or Placement Test

MATH 152 Pre-Calculus II**Four Credits**

Trigonometric and inverse trigonometric functions and graphs, right and oblique triangle trigonometric and applications, analytic trigonometry, complex numbers with trigonometry, arithmetic and geometric sequences and series, Binomial theorem. One semester, five lecture hours per week. Prerequisite: MATH 151

MATH153 Pre-Calculus**Four Credits**

Polynomial, rational, exponential, logarithmic functions and their graphs; theory of equations; systems of equations, analytic geometry and applications; sequences and series. One semester, five lecture hours per week.

Prerequisites: Placement Test or Grade of A in Math 139 or in MATH 140

MATH 221 Calculus I**Four Credits**

Limits, continuity, differentiation and integration of polynomial, rational, trigonometric, exponential and logarithmic functions; applications of differentiation to curve sketching, maximum, minimum, velocity, acceleration problems, and others; the definite integral, the fundamental theorem of calculus. One semester, five lecture hours per week.

Prerequisite: MATH 152 or MATH 153

MATH 222 **Calculus II**

Four Credits

Differentiation and integration of inverse trigonometric and hyperbolic functions; applications of the definite integral, indeterminate forms, methods of integration, infinite sequences and series, Taylor series and applications. One semester, five lecture hours per week.

Prerequisite: MATH 221

MATH 223 **Calculus III**

Four Credits

Analytic geometry, conic sections, polar, cylindrical and spherical coordinates; algebra and calculus of vector valued functions; differential calculus of functions of several variables, multiple integrals, line integrals, Green's Theorem. One semester, five lecture hours per week.

Prerequisite: MATH 222

MATH 285 **Number Theory**

Three Credits

Basic principles, primes and composites, prime factorization theorem, divisibility, Euclidean algorithm, Diophantine equations, and congruencies. One semester, three lecture hours per week. Prerequisite: MATH 221

MATH 300 **College Geometry**

Three Credits

Advanced study of the properties of the triangle, quadrilaterals and polygons, circles and solid figures; constructions and applications. One semester, three lecture hours per week.

Prerequisite: MATH 112

MATH 340 **Discrete Mathematics**

Three Credits

Provides a foundation for the survey and discussion of structures and methods used in the theory and applications of Computer Sciences. Topics include: mathematical reasoning: logical mathematical reasoning (induction, recursion) as applied to algorithms theory and functions, combinatorial analysis, algebraic structures (Boolean algebra), modeling computation (languages & grammars), and graph theory, as applied to computer sciences. One semester, three lecture hours per week.

Prerequisite: MATH 221

MATH 345 **Abstract Algebra**

Three Credits

Basic notions of logic, the relations of equivalency, congruency in Z , modular arithmetic, group theory, ring theory, isomorphism, homomorphism, and quotient groups.

Prerequisite: MATH 221

MATH 350 **Linear Algebra**

Three Credits

Systems of linear equations and matrices. Determinants and Cramer's Rule. Vectors in R^2 and R^3 . Vector Subspaces of R^n . Transformations. One semester, three lecture hours per week. Prerequisite: MATH 221

MATH 384 **Probability and Statistics I**

Three 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. One semester, three lecture hours per week. Prerequisite: MATH 112

MATH 385 **Computerized Probability and Statistics II**

Three Credits

This course provides the theoretical and intuitive base for the use of samples to estimate the size of populations. It also includes techniques for estimating the mean, proportions and variance as well as confidence intervals of the mean of a population with or without knowledge of the variance. Hypothesis testing for the mean, variance and standard deviation with one or two samples. The course ends with one way analyses of variance (ANOVA). Emphasis on the use of the computer. One semester, three lecture hours per week. Prerequisite: MATH 384

MATH 395 **Differential Equations**

Three Credits

First and second order homogeneous, linear differential equations; exact equations; initial value problems; variation of parameters and the method of undetermined coefficients for inhomogeneous problems; equations with regular singular points; series solutions, systems and non-linear differential equations. One semester, three lecture hours per week. Prerequisites: MATH 222

MATH 411 **Mathematical Probability**

Three Credits

Probability spaces, discrete and continuous random variables, joint and conditional distributions, mathematical expectation, central limit theorem, properties of stochastic convergence. One semester, three lecture hours per week. Prerequisite: MATH 223

MATH 412 **Mathematical Statistics**

Three Credits

Sampling distributions, parametric point and interval estimation, hypothesis testing, goodness-of-fit, parametric and nonparametric two sample analysis. One semester, three lecture hours per week. Prerequisite: MATH 411

MATH 420 Advanced Applied Mathematics

Three Credits

Vector analysis; Green's; Divergence and Stokes Theorems; linear algebra; complex analysis; eigenvalue problems (Sturm-Liouville theory); Laplace and Fourier transforms; special functions. One semester, three lecture hours per week

Prerequisites: MATH 395, MATH 350

MATH 430 Applied Numerical Analysis

Three Credits

Numerical solution of algebraic and transcendental equations, numerical linear algebra, approximating functions, numerical differentiation and integration, numerical solutions of differential equations, applications. One semester, three lecture hours per week

Prerequisite: MATH 395 and knowledge of a programming language.

MATH 435 Mathematical Modeling

Three Credits

Construction and analysis of mathematical models in the natural or social sciences, Content may vary, examples: use and theory of dynamic systems (chaotic dynamics, ecological and biological models, classical mechanics), mathematical models in physics, astronomy, actuarial science, finance, physiology, population biology, etc. One semester, three lecture hours per week. Prerequisite: MATH 420

MATH 440 Partial Differential Equations

Three Credits

Boundary value problems; separation of variables; Laplace's equation; heat equation; wave equation; Green's functions; Fourier series; applications. One semester, three lecture hours per week. Prerequisite: MATH 395. Recommended: MATH 420

MATH 451 Advanced Calculus I

Three Credits

Algebraic and order properties of the real numbers, the least upper bound axiom, limits, continuity, differentiation, the Riemann integral, sequences, series, uniform convergence. One semester, three lecture hours per week. Prerequisite: MATH 223

MATH 452 Advanced Calculus II

Three Credits

Partial derivatives and differentiability, gradients, directional derivatives, chain rule, implicit function theorem, surfaces, tangent plane, max-min theory, multiple integrals, change of variables, Green's, Stoke's, and Divergence theorems, differential forms. One semester, three lecture hours per week. Prerequisite: MATH 451

MATH 460 Complex Analysis**Three Credits**

Complex numbers and their properties, analytic functions and the Cauchy-Riemann equations, complex logarithm and other elementary functions of a complex variable, integration of complex functions, the Cauchy integral theorem, power series representation of analytic functions, the residue theorem and applications to definite integrals. One semester, three lecture hours per week. Prerequisite: MATH 420 or MATH 451

MATH 490 Topics in Applied Mathematics One to**Three Credits**

This course is a vehicle by which additional topics may be offered. A list of possible topics includes, but is not restricted to: combinatorics, graph theory, non-linear differential equations, dynamical systems, chaos, mathematical biology, differential geometry, topology, functional analysis, relativity theory, mathematics of insurance, quantum mechanics, engineering mathematics, economic models. Prerequisite: Instructor Approval

MATH 499 Readings and Research One to**Six Credits**

This course is designed to allow students to pursue individual study and research, under the guidance of a faculty mentor, in advanced topics not appearing in the usual curriculum.

Prerequisite: Instructor Approval

PHARMACOLOGY**PHAR 241 Introduction to Pharmacology I****Three Credits**

This course offers the basic pharmacology concepts. Emphasis is given to principles of pharmacokinetics and pharmacodynamics, administration route, drugs preparations, basic and clinical evaluation of new drugs by FDA, mechanism of action of cholinergic and adrenergic receptors. Finally special attention will be given to the sympathetic and parasympathetic nervous system pharmacology.

PHAR 242 Introduction to Pharmacology II**Three Credits**

This course offers the principles of pharmacokinetics and pharmacodynamics of drugs that act in the central nervous, endocrine system drugs and chemotherapeutic drugs. Emphasis is given to therapeutic classification, drug mechanism of action, drugs interactions and collateral and adverse effects. Special attention will be given to the pharmacotherapeutic of the most common drugs used in the systems offers in the course.

PHAR 341 Pharmacotherapy**Three Credits**

This course offers the most actualized pharmacotherapeutic for prevention, treatment and heal of common diseases of our society. Emphasis is given to therapeutic classification, drug

mechanism of action, drugs interactions, collateral and adverse effects and new drugs approved by federal agency Food Drug Administration. Special attention will be given to the pharmacotherapeutic of cardiovascular, gastrointestinal and respiratory tract disease.

PHYSICAL SCIENCE

PHSC 101-102 Introduction to Physical Science

Six Credits

Fundamental concepts and theories of the physical science: physics, chemistry, astronomy and geology; physical sciences topics such as mechanics, conservation laws of matter and energy, electromagnetism, wave propagation, atomic theory, modern physics, the periodic system, laws of chemical combinations, balance, and organic molecules. Two semesters, three lecture hours per week.

PHSC 201-202 General Physics for the Health Science

Eight 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. Two semesters, three lecture hours and one three-hour laboratory per week. Prerequisite: MATH 112

PHSC 203-204 General Physics

Eight Credits

Static, kinematics (lineal and rational), conservation laws, thermodynamics, adulatory movement, electrostatics, circuits and their components (AC, DC), magnetism, light theory, optics and modern physics. Two semesters, three lectures hours and one three hour laboratory per week.

Requisites: MATH 221

PHSC 359 Modern Physics

Three Credits

A study of the modern concepts of physics: theory of relativity, the quantum theory, the fundamentals of quantum mechanics, and electronic configurations in the atom. General applications in chemistry, biology, medicine, and other fields. One semester, three lecture hours per week.

Prerequisites: PHSC 204, MATH 221

PHSC 360 **Introduction to Electromagnetic Theory**
Three Credits

Electrostatics and magnetostatics, uniqueness theorems, dielectric, and magnetic materials, Maxwell's equations; generation and propagation of electromagnetic waves. One semester, three lecture hours per week

Prerequisite: PHSC 359

PHSC 380 **Analytical Mechanics**
Three Credits

Particle mechanics, conservation laws: motion under central forces, rigid body dynamics, small vibrations, continuum mechanics and Lagrange's equations. One semester, three lecture hours per week

Prerequisite: PHSC 359

PHSC 400 **Statistical Thermodynamics**
Three Credits

Elements of the kinetic theory of gases, thermodynamics principles of equilibrium, and an introduction to statistical thermodynamics. One semester, three lecture hours per week.

Prerequisite: PHSC 380

PHSC 410 **Introduction to Quantum Mechanics**
Three Credits

Schrodinger theory of quantum mechanics. Topics include Born's interpretation of the wave function, stationary solutions, properties of eigenfunctions and energy quantization. Solution to simple time-independent problems such as: the step potential, the square well, the infinite well and the harmonic oscillator. Application to hydrogen-like atoms. One semester, three lecture hours per week

Prerequisites: PHSC 359, PHSC 380

PHSC 420-421 **Intermediate Physics Laboratory I & II**
Four Credits

Designed to introduce the student to basic experiments in mechanics, thermodynamics, electricity, magnetism, optics, atomic physics, and electronic instrumentation. Six laboratory hours per week.

Prerequisite: PHSC 410

PHSC 430 **Modern Optics**
Three Credits

Wave propagation, boundary conditions, diffraction. Fourier Optics, image formation and enhancement, introduction to spatial filtering. Quantum optics, optoelectronic devices, lasers, and nonlinear optics. One semester, three lecture hours per week

Prerequisite: PHSC 359

PHSC 460 Electronics for Scientists

Three Credits

A basic course dealing with elementary electric and electronic circuits. Includes operating characteristics of transistors and semiconductor diodes, operational amplifiers and digital electronics. One semester, three lecture hours and one three hours laboratory per week.

Prerequisite: PHSC 204

PHSC 461 Methods of Experimental Physics

Three Credits

Experiments using analog, digital, and integrated circuits including: filtering circuits, diodes, transistor amplifiers, operational amplifiers, triggers, and digital logic applications. One semester, three lecture hours per week

Prerequisite: PHSC 460

PHSC 405 Introduction to Solid State Physics

Three Credits

Crystal and reciprocal lattice, free electron theory of metals. X-ray diffraction, structure and properties of metals, insulators and semiconductors. Band theory of solid, electrical, optical, magnetic, and thermal properties. One semester, three lecture hours per week

Prerequisite: PHSC 400

PHSC 463 Undergraduate Research

One to Three Credits

The student will participate in an ongoing research project in physics of material science with a faculty member as his advisor.

Prerequisite: Advisor Authorization

PHSC 470 Introduction to Material Science

Three Credits

An introduction to the structure of materials, crystal structures and geometry and its electronic, mechanical, thermal and optical properties. Crystalline, ceramic and composite materials are discussed with an emphasis on the properties. One semester, three lecture hours per week

Prerequisite: PHSC 405

SCIENCES

SCIE 111 Integrated Sciences

Three Credits

This course integrates different science concepts applying the scientific method. It establishes the relationship between science and technology. Students will study the origin and development of the Universe, particularly that of planet Earth, and the origin and evolution of organisms. Students will study matter and energy concepts applied to systems. Various energy sources and uses are described as well as their environmental impact incorporating Puerto Rico's situations.

Requisites: MATH 102

SCIE 112 Integrated Sciences

Three Credits

This course integrates different science concepts applying the scientific method. It establishes the relationship between science and technology. Students will study the climate aspects of Earth in particular that of Puerto Rico. They will study the interdependent interactions between organisms, with the environment and the importance of conservation of the environment and biodiversity. They will study the human body as a system emphasizing health, nutrition and sexuality. Requisites: SCIE 111

SCHOOL OF PROFESIONAL STUDIES

Sistema Universitario Ana G. Mendez, pioneer in serving the education needs of adult students, continue this tradition through its Accelerated Program for Adults. This program is designed to meet the educational expectations of professional adults that wish to complete their university degree. In accelerated program, the students participate in a unique educational process different from traditional learning methods. Their professional experience is incorporated into the classroom in order to create an interactive, challenging, and dynamic environment. The program is specially designed for the adult students, offering a professional environment, as well as integrated, personalized and individualized services. The success of this program is the development of adult professional that value continuous learning and increase their contribution to world of employment.

VISION

We aim to become local and international leaders in accelerated education for adults. We will be recognized for the excellence and pertinence of our academic programs, integrated services, the application of emerging technologies and the strengthening of high-level competencies that will allow students to be effective in a globalized work environment, becoming lifelong learners.

MISION

To provide an accelerated educational process to adult students, where their professional experience is incorporated into the classroom to create an interactive challenging and dynamic environment, as well as integrated, personalized and individualized services. Faculty and staff members with professional experience, especially prepared to work with adults, are educational facilitators in an innovative way.

ADMINISTRATION AND STAFF

MILDRED Y. RIVERA

Dean
School of Professional Studies

MELISSA GUILLIANI

Associate Dean
School of Professional Studies

KEILA ROCHE

Associate Dean in Academic Affairs
School of Professional Studies

SKARLET FIGUEROA

Integrated Services Students
School of Professional Studies

VILMARIE MOJICA

Academic Coordinator
School of Professional Studies

JESUS GARCIA OLIVERAS

Counselor
School of Professional Studies

YANIRA ALMONTE

Service Students Coordinator-Bayamón
School of Professional Studies

CARMEN CRUZ

Service Students Coordinator-Jayuya
School of Professional Studies

ORLY T. ROSARIO

Service Students Coordinator-Aguadilla
School of Professional Studies

FACULTY

The School of Professional Studies has a conference faculty with professional experience, specially prepared to work with adults in an innovative way. The faculty certified by the School for Professional Studies, must possess or demonstrate evidence of:

- Doctoral degree. In absence of a Doctoral degree, a Master degree in related areas as per the course that is being offered with practical or research experience in the area.
- Teaching experience or demonstrate potential for teaching adults.
- Knowledge and participation in learning communities that facilitate building new knowledge based on and applicable to the professional and personal reality of adults, using accelerated learning and teaching strategies.
- Knowledge and appropriate utilization of assessment and evaluation techniques.
- Practice framed in constructivism learning theory.
- Demonstrate commitment with continuous and life-long learning and professional development such as: continuing education, civic and professional organizations, serving as resource and participant of workshops, seminars and conferences.
- Skills in the use of technological and support resources such as: computer programs, audiovisual resources, media, communications, Internet and the World Wide Web, among others.
- Knowledge and active practice of action research.
- Publications in academic journals, or literary production in the related field.
- Excellent skills in Spanish and English both in writing and orally.
- Willingness to work in the process of the School for Professional Studies.
- Knowledge and practice of preparing syllabus and educational activities and/or willingness to develop these skills.
- Ability and openness to recognize, respect, and integrate personal and professional experiences of students as needed to achieve course objectives.
- Interpersonal skills to work with adult students and foster their professional success.
- Ability to provide effective, timely and constructive feedback.
- Ability to facilitate effective group work.
- Leadership qualities in a constructivist and active –learning environment.

Bachelor in Public Health in Health services Management

122 Credits	Credits
General Education Courses	48
Business Core Courses	32
Specialization Courses	36
Free Electives	6

Core Courses		
ENGL 101-102	Introductory English Language - Course-Basic Level	6
SPAN 101-102	Introductory Spanish Language - Course-Basic Level	6
SOSC 101	Introduction to the Study of Social Sciences	3
COIS 101	Introduction to Computers	3
QUME 250	Basic Quantitative methods	3
BIOL 227	Environmental Health	3
HIST 253	Puerto Rico History	3
PSYC 123	General Psychology	3
HUMA 101-102	Introduction to the Study of Western Civilization I-II	6
SCIE 111-112	Integrated Sciences I-II	6
SPAN 215	Written Composition	3
ENGL 212	Business English Basic Level	3
ENGL 350	Conversational English	3

Professional Courses		
ACCO 111-112	Introduction to Accounting I and II	8
PUHE 101	Introduction to public Health and Health Education	3
PUHE 201	Introduction to Biostatistics	3

STAT 201	Introduction to business statistics I	3
PUHE 203	Introduction to Epidemiology	3
PUHE 210	Biological Aspects of the Human Diseases	3
MANA 213	Personnel Management	3
MANA 210	Administrative Theories	3
MANA 230	Organization Behavior	3

Specialization Courses		
HESM 110	Health services Management	3
HESM 210	Health System & Models	3
HESM 220	Health Service Planning & Evaluation	3
HESM 230	Applied Accounting for Health industry	3
HESM 310	Applied health Economics	3
HESM 320	Applied Finance for Health Industry	3
HESM 330	Legal Aspects in Health industry	3
HESM 340	Budgeting for Health Industry	3
HESM 410	Health Information Systems	3
HESM 420	Special Topics in the Health Services industry	3
HESM 430	Practicum/Seminar in Health Services Management	3
HESM	Integrate Seminar in Health Services Management	3

Electives		6
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COURSES DESCRIPTIONS

HESM 110 HEALTH SERVICES MANAGEMENT

Three 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 SYSTEM & MODELS

Three 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 204 delivery of health services to the general population. Includes a review of the historical development and the future of health services.

HESM 220 HEALTH SERVICE PLANNING & EVALUATION

Three 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 APPLIED ACCOUNTING FOR HEALTH INDUSTRY

Three 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 APPLIED HEALTH ECONOMICS

Three 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 APPLIED FINANCE FOR HEALTH INDUSTRY

Three 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 HEALTH INDUSTRY

Three 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 HEALTH INDUSTRY

Three 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 410 HEALTH INFORMATION SYSTEMS

Three 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 THE HEALTH SERVICES INDUSTRY

Three 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 430 PRACTICUM/SEMINAR IN HEALTH SERVICES MANAGEMENT

Three credits

Application and integration to the workplace of the competencies and the concepts of health services management. The student will have the opportunity to apply the knowledge and skills acquired to a real health services setting under the supervision and guidance of a faculty member and a preceptor. The seminar session will place special attention to topics, issues and aspects relative to health services administration at the elementary and intermediate levels. A research project on a related topic is required.

HESM 431 INTEGRATE SEMINAR IN THE HEALTH SERVICES MANAGEMENT

Three 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.

PUHE 101 INTRODUCTIONS TO PUBLIC HEALTH AND HEALTH EDUCATION

Three 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 4 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

Three 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.

PUHE 203 INTRODUCTION TO EPIDEMIOLOGY

Three 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 THE HUMAN DISEASES

Three 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

School of Technical Professional Studies

The School of Technical Professional Studies is a specialized academic division designed to meet the academic and personal needs of a growing number of students who seek short-term, professional education in order to enter the job market as their main goal. By doing this the School also addresses immediate employment needs of the community that the university serves. The School not only serves student population in the main campus but also in the off-campus locations the university has throughout the island.

Vision

To become the first option and model in postsecondary technical education programs in Puerto Rico. The School will also represent an important component and contributor in strengthening UMET'S undergraduate enrollment.

Mission

The mission of the School of Technical Professional Studies is to offer high quality, short-term, technical education to students who seek to enter the job market as their main goal. Students will be able to pursue a university level technical certificate or a specialized, technical associate degree, and will receive the proper training to meet the occupational needs for trained personnel in the fields of banking, commerce, industry and government. Students will also develop those skills and competencies necessary to enable them for self-employment and to develop their own business opportunities.

Objectives

To fulfill its Mission the School of Technical Professional Studies will:

1. Offer certificate and associate degree programs designed to prepare students in the necessary skills that will allow them to compete effectively in the employment market.
2. Design and maintain programs that will promote the student's effective working experience.
3. Endow student with the knowledge, skills and attitudes needed to perform with efficiency, dignity, and ethics in his/her respective professions.
4. Educate capable professionals with a sense of social responsibility.
5. Provide technical education that will respond to the present and future demands of the job markets.
6. Develop in the students the skills and knowledge related to their profession, in accordance to the needs of the community we serve.
7. Provide support services to promote the persistency and retention of the student in the program and to contribute to his academic and professional success.

ADMINISTRATION AND STAFF

LAURA E. APONTE

Associate Dean

JACQUELINE FIGUEROA

Academic Coordinator

EUNICE ORTIZ RAMIREZ

Integrated Students' Services Coordinator, Main Campus

VANESSA CASTAÑER

Integrated Students' Services Coordinator, Jayuya

Off-Campus Center

JESÚS RAMOS

Integrated Students' Services Coordinator, Aguadilla

Off-Campus Center

FACULTY

RIVERA QUIÑONES, NILDA

Professor

DED.D, Interamerican University of Puerto Rico

Admission Requirements

1. Diploma from an accredited high School or its equivalence
2. Submission of the following requirements:
 - a. A complete application for admission
 - b. An official high school transcript
 - c. A non-refundable application fee of \$15.00

Course Substitutions

A student with a certificate from UMET or another Higher Education Institution applying for a related associate degree must submit evidence of completion before or at the beginning of the admission procedure.

A special evaluating committee from the School of Technical Studies and the Registrar's Office will study the evidence submitted. No specialization courses with a passing grade below C will be considered for substitution. With respect to General Education courses, UMET's general dispositions for substitution will be honored.

Certificate courses will substitute those associate degree courses that are considered as equivalent to the respective associate degree curriculum in accordance to an Equivalency Chart that is revised periodically by the School of Technical Studies.

Associate Degree in Criminal Justice

Credits 63		Credits
General Education		27
Social Sciences		18
Criminal Justice		18
General Education Courses		
ENGL 101-102	Introductory English Language Course- Basic Level	6
SPAN 101-102	Introductory Basic Spanish Language Course- Basic Level	6
HUMA 101	Western Civilization I and II	3
HIST 253	History of Puerto Rico	3
MATH 101	Basics Mathematics	3
SCIE 111	Integrated Sciences	3
COIS 101	Introduction to Computer	3
Social Science		
PSYC 123	General Psychology	3
PSYC 350	Psychopathology Principles	3
SOCI 203	Principles of Sociology	3
SOSC 225	Contemporary Economic and Political Issues	3
SOSC 103	Introduction to Social Sciences - Survey Course	3
SOSC 303	Statistical Methods Applied to the Social Science (survey)	3
Criminal Justice		
CRIM 107	Introduction to Criminal Justice	3
CRIM 200	Criminal Justice System of Puerto Rico	3
CRIM 300	General Principles of Penal Law	3
CRIM 302	Criminal Procedural Law and Evidence	3
CRIM 301 or CRIM 360	Criminal Legislation in Puerto Rico and other Special Laws or Criminal Investigation	3
CRIM 370 or CRIM 380	Law of Evidence or Criminalistics	3
CRIM 318 or CRIM 350	Police Organization and Management or Correctional System of Puerto Rico	3

Associate Degree in Computer Repair and Network Installations

Credits 66	Credits
General Education	30
Specialization Courses	36

General Education Courses		
SOSC 103	Introduction to Social Sciences (Compendium)	3
ENGL 101-102	Introductory English Language Course- Basic Level	6
SPAN 101-102	Introductory Spanish Language Course- Basic Level	6
HIST 253	History of Puerto Rico	3
MATH 111	Intermediate Algebra	3
OFAD 141	Keyboarding	3
COIS 101	Introduction to Computers	3
ETIC 010	Ethical Foundations	3

Specialization Courses		
COIS 215	Introduction to Software Development	3
CRAN 201	Basic of Electronics Circuits	3
CRAN 202	Installation and Computers Repair I	3
CRAN 203	Installation and Computers Repair II	3
CRAN 204	Installation of Operating System- Windows	3
CRAN 205	Structured Cabling	3
CRAN 206	Wireless and Network Communications	3
CRAN 207	Introduction to the Networks (LAN)	3
CRAN 208	Introduction to the Networks (WAN)	3
CRAN 209	Design and Implementation of Data Networks	3
CRAN 210	Design and Implementation of Voice Networks	3
CRAN 211	Convergent Communication Networks	3

Associate Degree in Architectural Drafting

Credits 71	Credits
General Education	18
Concentration Courses	47
Related Courses	6

General Education Courses		
ENGL 101-102	Introductory English Language Course- Basic Level	6
SPAN 101-102	Introductory Spanish Language Course- Basic Level	6
SOSC 103	Introduction to Social Sciences	3
MATH 111	Intermediate Algebra	3

Concentration Courses		
DRAF 111-111 L	Introduction to Table Architectural Drafting I and Laboratory	5
DRAF 122-122 L	Introduction to Table Architectural Drafting II and Laboratory	5
DRAF 121-121 L	AUTOCAD I and Laboratory	4
DRAF 232-232 L	Introduction to Table Architectural Drafting III and Laboratory	5
DRAF 231-231 L	AUTOCAD II and Laboratory	4
DRAF 223	Building Construction Methods and Materials	3
DRAF 242-242 L	Introduction to Table Architectural Drafting IV and Laboratory	4
DRAF 241-241 L	AUTOCAD III and Laboratory	4
DRAF 233	Cost Estimating ARPE Regulations	3
ENGL 014	Reading Plans in English	3
MATH 1106	Mathematics for Drafters	4
ART 017	Art Appreciation	3
Related Courses		
COSC 113	Computer Applications	3

COURSES DESCRIPTIONS**ART 017 Art Appreciation****Three Credits**

The course addresses basic elements of art appreciation in the areas of painting, sculpture and architecture. Diverse works of art will be studied. One quarter, three hours per week.

CRAN 201 Basics of Electronic Circuits**Three Credits**

Discussion on concepts and terms related to electricity behavior. Includes AC and DC Principles, passive elements and circuits, assets, equipment testing process, laws for the analysis of theorems and circuits, electric circuit simulation, voltage and related topics. One quarter, three hours per week

CRAN 202 Installation and Computer Repair I**Three Credits**

Description of computers parts, electronic devices, power supplies, stabilizers and UPS. It emphasizes on the technical skills and the procedure for computer assembling, finding, repair and color calibration, frequencies and testing of VGA and TRC monitors, and LCD screens. Diagnose and repair of inkjet and Laser printer. One quarter, three hours per week

CRAN 203 Installation and Computer Repair II**Three Credits**

Emphasizes on the technical skills and the procedure to configure and install the computer (Basic input, output system). Includes identification and configuration of part, preventive maintenance, diagnose, repair and installation of components of computers hardware such as the motherboard, the processor, ram (random access memory), the video card and the hard disk. One quarter, three hours per week.

CRAN 204 Installation Windows Operating System**Three Credits**

Concepts, functions, use and maintenance of windows operating system. Includes the analysis of disk structures, files and directories; installation and configuration of systems versions, locating resources, hard disks optimization, security and other related subjects. One quarter, three hours per week

CRAN 205 Structured Wiring**Three Credits**

This course includes the theoretic analysis of the basic standards of communications existent in the network industry. It makes emphasis in the procedures and the tools necessary to do the structured wiring. One quarter, three hours per week

CRAN 206 Wireless and Network Communications

Three Credits

It includes the characteristics and functions of the Enterasys products. Also includes an explanation and illustration of the technology, practice exercises and its application in the laboratory. It gives emphasis to the switches configuration for the different types of network, installation of the VLANs, routers configuration, and the troubleshooter related to the line products. One quarter, three hours per week

CRAN 207 Introduction to the Networks “LAN”

Three Credits

This course studies the concepts, technologies, components and protocols used in local area networks (LAN). Detailed discussion on the protocols for local area networks such as Ethernet (IEEE 802.3) and all their varieties; token ring (IEEE 802.5) and asynchronous transfer mode (ATM). It discusses the reference model bid for system interconnection (OSI). One quarter, three hours per week.

CRAN 208 Introduction to the Networks “WAN”

Three Credits

Study of the concepts, technologies, components and protocols used on wide area networks (wan). The global infrastructure of telecommunications is analyzed and how this support long distance voice and data broadcast One quarter, three hours per week.

CRAN 209 Network Implementation and Design

Three Credits

The course includes the methods used to analyzed, design and administered computers networks. The students will design a new computer network or at least they will propose an arrangement for the existent network. After that they will organized the installation project. One quarter, three hours per week.

CRAN 210 Voice Network Design and Implementation

Three Credits

The course will discuss the technical standards and legal regulations for the design of voice networks (telephonic system). Also studies the effect of voice networks in business productivity. Finally it discusses the basic components of voice networks such as private branch exchange (pbx), analog and digital base stacks for communication services and the system quality and availability. One quarter, three hours per week.

CRAN 211 Convergent Computer Networks

Three Credits

This course discusses the functional requirements of convergent computer networks including voice, data and video also studies several technologies with the requirements for the configuration of convergent networks. One quarter, three hours per week.

DRAF 111 Introduction to Table Architectural Drafting

Five Credits

This course introduces the students to architectural drafting and basic drawing. It includes identification and use of drawing instruments. Symbols and nomenclature will be discussed. All work will be done in a traditional drafting table with instruments. One quarter, five hours per week.

DRAF 121 AUTOCAD I

Four Credits

This course introduces students to AUTOCAD graphs program and its basic concepts. Advantages and disadvantage of using computers to draw blueprints are discussed. One quarter, four hours per week

DRAF 122 Architectural Drafting

Five Credits

This course introduces the students to representative of floor blueprints, facades, elevations and sections of a structure. All work will be done on a traditional drafting table with instruments. The course concludes with a final project that consist of designing a house using the concepts learned in class One quarter, five hours per week.

DRAF 223 Building Construction Methods and Materials

Three Credits

This course introduces students to building methods and selecting materials to build foundations, floors, walls and roofs. Special vocabulary will be discussed. Emphasis will be placed on basic principles used by engineers. One quarter, three hours per week.

DRAF 231 AUTOCAD II

Five Credits

This course continues the sequence teaching of AUTOCAD graphs program. It includes editing and styling of dimension, tolerance, editing with GRIPS format. One quarter, five hours per week.

DRAF 232 Architectural Drafting III

Five Credits

This course examines the requirements to create civil, mechanical and electrical drawings. Symbols and terminology used in drafting will be explained. Works will be done on a traditional drafting table with instruments. The course concludes with a project design in which sanitary, electrical and other details learned in class will be included. One quarter, five hours per week.

DRAF 233 Cost Estimating – ARPE Regulations

Three Credits

This course addresses the fundamentals of cost estimating and ARPE Regulations. The amount of material and its equivalent will be determined as specified on the blueprint, estimating costs

through formulas based in areas (square feet). One quarter, three hours per week.

DRAF 241 AUTOCAD III

Four Credits

This course continues the sequence of teaching AUTOCAD graphs program. It includes blocks, external references and isometric measures. One quarter, four hours per week.

DRAF 242 Architectural Drafting IV

Four Credits

This course prepares students in the areas of foundation, location and site blueprints, the reading of topographical blueprints and other themes related to surveying with instruments. The class concludes with a final project where the students will prepare a location and site plan according to zone codifications. One quarter, four hours per week.

ENGL 014 Reading Blueprints in English

Three Credits

This course introduces basic reading skills of building blueprints in English. Emphasis is placed on technical vocabulary included in drafting texts and AUTOCAD manuals. One quarter, three hours per week.

ETIC 010 Ethical Foundations

Three Credits

This course studies the nature of moral philosophy and the principles of ethics and bioethics theories. The study covers since the origins to the present time. Besides, it analyses the implications of modern social problems that depict the ethics principles and development in our society. One quarter, three hours per week.

MATH 1106 Mathematics for Drafters

Four Credits

The course will introduce basic concepts in mathematics used in drafting. It includes basic operations, fractions, decimals, ratios and proportions, units and their conversion, and basic concepts in geometry and trigonometry. One quarter, four hours per week.