

ANA G. MÉNDEZ UNIVERSITY SYSTEM
Universidad del Este



UNDERGRADUATE CATALOG
2006-2008

*Universidad del Este's Undergraduate Catalog 2006-2008
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Our Profile

Universidad del Este (UNE) is a private non-profit institution of higher education and a component of the Ana G. Méndez University System. Its main campus is located in Carolina and five Off-Campus sites in Puerto Rico are located in the towns of Yauco, Utuado, Cabo Rojo, Manatí and Santa Isabel. In 2003, UNE's first branch campus was established in Orlando, Florida as Metro Orlando University Center. The Carolina campus is within easy reach of the entire Eastern part of the island. Its 21 acres suburban campus and its modern and spacious buildings provide an ideal atmosphere for the learning experience.

A professionally oriented institution, Universidad del Este offers twenty-four baccalaureate programs and sixteen associate degrees, including programs in business, education, liberal arts, hospitality management and sciences. Founded in 1949, as Puerto Rico Junior College, it has continued to grow into a four-year institution in 1992 as Colegio Universitario del Este and finally evolving into a university in 2001 as Universidad del Este.

UNE's student population consists mostly of commuting young adults from the surrounding communities. The 10,700-student body is comprised of undergraduates in the Carolina campus, the five Off-Campus sites, and Metro Orlando branch campus. The graduate programs initiated in October 2001 at Carolina with an enrollment of 25 students and as of August 2005, the student body has increased to over 130 students registered in all the graduate programs offered at the Carolina campus. In January 2006, the graduate programs in Management and Human Resources were initiated in the Off-Campus sites of Manatí, Yauco, and Santa Isabel. Furthermore, Metro Orlando branch campus also initiated offerings of graduate programs in 2005.

The academic staff consists of ninety-four (94) full time faculty and over five hundred and thirty-five part-time professors. Thirty-five per cent of the full time faculty has doctorates while the rest of the faculty possesses master's degrees in their fields of expertise.

History of the Universidad del Este

During the 1940's, three distinguished educators, Dr. Ana G. Méndez, Dr. Florencio Pagán Cruz, and Mr. Alfredo Muñoz Souffront, recognized the need for new developments in the field of education that would keep pace with the social and economic advances that were taking place in Puerto Rico at that time. With this in mind, in 1947 they began to lay the groundwork for establishing a modern institution of higher learning.

In 1949, Puerto Rico Junior College was founded and incorporated according to Puerto Rican laws on June 30, 1950. The Puerto Rico Council of Higher Education licensed the Institution on June 27, 1957, which was followed by the Middle States Association of Colleges and Secondary Schools accreditation on May 1, 1959. It has been subsequently reaccredited since 1959 until the present, been the last reaffirmation on June 2005. In 1992, the institution changed its name to Colegio Universitario del Este in order to incorporate baccalaureate degrees. Finally, in 2001 Universidad del Este completed its transformation and evolution as well as its new name from a junior college to a college to a university by initiating its first master degree programs.

Presently, the Ana G. Méndez University System operates three institutions: Universidad del Turabo, Universidad Metropolitana, Universidad del Este, and WMTJ-TV station Channel 40.

Universidad del Este is a non-sectarian; non-profit, independent, educational institution that serves the people of the Commonwealth of Puerto Rico and the state of Florida, but through its

collaborative agreements contributes to the international communities in general. In the academic area, Universidad del Este offers occupational, liberal arts, education, and business programs leading to certificates, associate, bachelor, and master degree programs in different disciplines. It has been a pioneer institution in Puerto Rico in offering these kinds of programs.

The Chancellor and the staff direct the administrative activities of the Institution with the two governing bodies: the Administrative Council and the Academic Board. The Student Council elected by a governing assembly made up of student delegates also contributes to the student representation in these administrative governing bodies.

The academic programs offered by the Institution can be classified under three categories: occupational and professional programs, transfer programs, and community service programs.

One of the principle goals of the Universidad del Este is to instruct and develop in its students the occupational and academic skills that will allow them to perform efficiently in jobs, and that will permit them to achieve more advanced academic levels. On account of this, the Institution has designed a diversified and flexible program of studies to mold each student into a capable professional in the area of their specialty.

Universidad del Este is a teaching institution, therefore it provides its faculty with professional development opportunities in their teaching specialties; it offers teaching support services within its student holistic development framework and it provides the means through which the teaching-learning process occurs in an appropriate environment.

Universidad del Este fosters both the creative activity and educational, scientific, and social research to: promote continuous institutional progress, contribute to the advancement of knowledge, and better serve the community at large.

The principal function of the faculty, according to UNE's philosophy, is to provide responsible and innovative teaching. Faculty enjoys complete academic freedom and participates actively in academic advising processes. Faculty's professional activities on and off campus should follow UNE's basic tenets.

UNE expects to reach academic excellence by means of a well-trained faculty, academic programs sensitive to the needs of students and the job market in adequate and well-equipped physical facilities.

Mission Statement

Universidad del Este is a non-profit, lay, higher education learning community, which is part of the Ana G. Méndez University System. The school has a flexible admissions policy and an ample and varied academic courses offering.

The mission of the Universidad del Este is to promote the integral development of a diverse student population through research, critical-creative thinking, the construction of knowledge and its application.

Academic offerings include certificates, associate degrees, bachelor's degrees, graduate studies and continuing education. These offerings meet the needs and interests of the members of the university community and receive the support of all institutional resources. Study programs incorporate multidisciplinary educational perspectives through learning and teaching strategies that are in harmony with local, regional, and global demands and with the latest technology. The learning vision also incorporates a life-long learning process based on the most effective access to information for its gathering, handling, analysis and application. The Institution is committed to continuous improvement of the teaching-learning process, support services, assessment, research and the appreciation of Puerto Rican culture in harmony with global cultures.

Principles

The principles, which guide the Institution, are wisdom, justice, honor and freedom.

Goals

To fulfill its mission, Universidad del Este proposes:

- To develop a well-rounded person through a multidisciplinary and liberal education.
- To value diverse manifestations of Puerto Rico's cultural-historic patrimony in our national identity and within a globalized culture.
- To help students enrolled at the institution to achieve their educational goal.
- To develop optimum levels in the quality of student life through the broadening of academic support services, team work, the use of emerging technologies and occupational and professional orientation pertinent to a well-rounded education.
- To improve quality levels in the teaching, learning and service processes.
- To strengthen human resource competencies through personal and professional development activities.
- To perform research as a fundamental means to solve problems and as an essential part of institutional duties.
- To develop current and pertinent academic courses that respond to society's needs.
- To improve the quality, efficiency and effectiveness of decision making in institutional administrative procedures.
- To demonstrate leadership in services provided to Puerto Rico and abroad.

Accreditation and Licensures

Middle States Commission on Higher Education

Council on Education of the American Health Information Management Association (AHIMA)

Joint Review of the Health Commission in Radiologic Technology

Puerto Rico Council on Higher Education

Puerto Rico General Council for Education

Memberships

American Association for Adult and Continuing Education

American Association for Counseling and Development.

American Association of Collegiate Registrars and Admissions Officers

American Association of Higher Education

American Council on Education

American Library Association

American Physical Plant Association

Asociación Universitaria de Programas de Honor Puerto Rico

Association for Educational Communications and Technology

College Entrance Examination Board

Council for Continuing Education Units (CEU)

Hispanic Association of Colleges and Universities

International Facility Management Association

Learning Resources Network

Library Administration and Management Association
 National Collegiate Honors Council
 National University Continuing Education Association (NUCEA)
 Puerto Rico Association of Higher Education
 Puerto Rico Association of Honors Programs
 Puerto Rico Association for Counseling and Development.
 Puerto Rico Chamber of Commerce
 Puerto Rico Library Association
 Puerto Rico Manufactures Association
 The Association for Institutional Research
 The Society for College and University Planning

Non-Profit Status

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

Non-Discrimination Statement

Universidad del Este does not discriminate on the basis of race, handicap, national or ethnic origin, creed, color, sex, social condition or political, religious, social or trade union beliefs.

Statement of Policy

This catalog includes the main terms concerning the formal relationship between students and Universidad del Este. Regardless of its effective date, the Institution reserves the right to admit, re-admit or register a student only for a semester, part of term or session separately. The Institution binds itself only during the semester, part of term for which the student has enrolled and paid his/her tuition fees.

It is the student's responsibility to know and comply with the content of this catalog and all UNE's rules and regulations. This catalog is in compliance with the institution's bylaws, regulations and administrative orders and duties under Federal Law. It is subject to subsequent amendments.

Important Note:

This catalog contains the major points of the current agreement between the students and Universidad del Este. 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.

It is the student's responsibility to know and comply with the instructions 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.

Student Body

Our student body includes young adults who proceed mainly from the San Juan - Carolina metropolitan area as well as adjacent towns the off-campus sites serve. The majority are members of families, which have low incomes and limited education. The student body is also composed of youths and adults that have recently graduated from high school or have done so sometime ago, as well as adults that having entered the working market need to complete an academic degree need to improve skills in a technical profession or desire an opportunity for self improvement.

Programs and Curriculum

Our admissions policy requires that the student have finish high school or have approved an Equivalency Exam from the Department of Education of Puerto Rico. As a way of helping the students to overcome any cognitive difficulty and adaptation to university life, UNE offers special academic courses to improve in mathematics, English and Spanish basic skills.

The academic programs at Universidad del Este are conducive to obtaining a certificate, associate, bachelor, and /or master degrees. The academic programs are classified in these general categories: Certificate Programs, Associate Degree Programs, Bachelor Degree Programs, Master Degree Programs, and Continuing Education Programs. The first program allows the student to continue toward an associate or baccalaureate degree after graduation. The nature of the curricula of these programs is of such nature as to allow other universities to ratify them.

The certificate, associate, baccalaureate, and master's degree programs are geared toward a profession and to prepare the graduate to enter the employment market immediately. The curricula include courses in general education, core/professional courses, and major courses but emphasis is also given to the technical and occupational courses. The continuing education programs are offered in accordance with the needs of public and private agencies, mainly in skilled areas where employees need to be re-skilled or retrained for a specific job.

Community Relations

Universidad del Este's mission as a learning community is assisted through the relations developed with the community. Among the relations developed with the community are active participation on special projects through professional organizations, the educational consortia's, clinical affiliations, and advisory boards. Universidad del Este participates in these consortia as part of the AGMUS and it also has its own.

Advisory Board

Universidad del Este has an Advisory Board. This Board provides advice and support to the Institution's administration.

Board of Directors and Administration of Ana G. Méndez University System

Board of Directors of the Ana G. Méndez University System

Jorge A. Pierluisi, Jr., President of the Board

Mario F. Gaztambide, Jr., Vice President of the Board

José F. Méndez, President of the Ana G. Méndez University System

Juan M. García-Passalacqua

Antonio J. de Haro
 Juan R. Melecio
 Néstor De Jesús Pou
 Rita DiMartino
 Juan José Jiménez
 Antonio J. Colorado
 Teresita Fuentes
 Jaime R. Escalona
 Zoraida Fonalledas
 David Rivé-Power
 Florabel G. Mullick
 Ivan A. Pietri
 José Domingo Pérez
 Enrique M. Cardona
 Victor Hernández
 José E. De la Cruz Skerrett, Legal Counselor

Administration of the Ana G. Méndez University System

José F. Méndez, President of the Ana G. Méndez University System
 Alfonso L. Dávila, Executive Vice President
 Jorge L. Crespo, Acting Vice President for Academic Affairs
 Juan A. Vazquez Aldea, Vice President for Financial Affairs
 Jorge L. Crespo, Vice President for Planning and Research
 Francisco J. Bartolomei, Vice President for Marketing and Student Affairs
 Victoria De Jesús, Vice President for Human Resources
 Jesús A. Díaz, Vice President for Administrative Affairs
 Federico Matheu, Chancellor, Universidad Metropolitana
 Dennis R. Alicea, Chancellor, Universidad del Turabo
 Migdalia Torres, Vice President and General Manager WMTJ-TV station
 John Navarro, Internal Auditor

Universidad del Este's Administrative Council and Academic Board

Administrative Council

The Administrative Council of Universidad del Este is the legislative body of the Institutional policy of the university in accordance with the by-laws of the Ana G. Méndez University System as established by its Board of Directors.

The Chancellor, the Vice Chancellor, Vice Chancellor of Student Affairs, Vice Chancellor of Outreach, Physical Facilities and Operations Manager, Deans of schools, four faculty representatives, and two student representatives constitute the Administrative Council.

Academic Board

The Academic Board of Universidad del Este regulates all the academic aspects of the Institution. It recommends relevant regulations regarding faculty, curricula, educational projects, and other educational innovations.

The Academic Board consists of the Vice Chancellor, the Associate Deans of the schools, ten undergraduate faculty representatives, and two student representatives.

Universidad del Este's Administration and Staff

Office of the Chancellor

Alberto Maldonado Ruiz, Esq. Chancellor
 María S. Díaz, MBA. Executive Assistant to the Chancellor
 María I. De Guzmán, MA, Assistant Vice Chancellor for Development
 Ivonne D. Arroyo, MBA, Director of Public Relations
 Gisela Negrón, MBA, Director, Alumni Affairs and Fundraising
 Yamil Natal, BS, Banner Security Administrator and Web Page

Office of the Vice Chancellor

Mildred Huertas Solá, Ed.D., Vice Chancellor
 Nilda I. Rosado, M Ed. Associate Vice Chancellor for Licensing and Accreditation
 Magalie Alvarado Hernández, MPA Associate Vice Chancellor for Administrative Affairs
 María Véaz, EdD., Associate Vice Chancellor for Retention
 José R. Figueroa Britapaja, EdD., Assistant Vice Chancellor for Evaluation & Faculty Development
 Ezequiel Bayuelo, Ph.D. Assistant Vice Chancellor for Assessment and Investigation
 Luis J. Zayas, MA, Associate Vice President and Dean, School of Professional Studies
 Omar J. Pagán, MS, Dean, School of International Tourism and Hospitality Management
 José R. Cintrón, Ed.D., Dean, School of Education
 Maritza Espina, Ph.D., Dean, School of Business Administration
 Jaime Rodríguez Cancel, Ph.D., Dean, School of Social and Human Sciences
 Wilfredo Colón Guasp, Ph.D., Dean, School of Sciences and Technology
 Ynes Cordova, MPH, Interim Dean, School of Health Sciences
 Amarilis Figueroa, MA Ed, Director, School of Technical Studies
 Carmen Marrero, Ed.D., Director, Upward Bound Program

Office of the Vice Chancellor of Information Resources and Telecommunications

Carmen Ortega, MLS, Vice Chancellor for Information Resources
 Carlos H. Medina, MA, Director, Educational Technology
 Elsa Mariani, MLS, Director, Library
 Nestor Más, MBA, Director, Telecommunication and Information Systems

Office of the Vice Chancellor of Student Affairs

Georgina León de Rivera, MA, Vice Chancellor of Student Affairs
 Nahomy Curet, MA, Associate Vice Chancellor of Student Affairs
 Ramón Fuentes BBA., Associate Vice Chancellor for Enrollment Management
 Magda E. Ostolaza, MBA, Associate Vice Chancellor for Marketing and Recruitment
 Camen G. Velázquez, MA, Associate Vice Chancellor of Quality of Life and Student Wellness
 Migdalia S. Torres, M Ed., Assistant Vice Chancellor for Multidisciplinary Services
 Belinda Ruiz, MA, Assistant Vice Chancellor for Scholarships and Internship Program
 Eigna De Jesús, MBA, Registrar
 Clotilde Santiago, BBA, Director of Admissions and Financial Aid
 Angel González, BBA, Bursar
 Nelly Ann Pagán, BA, Director of Social and Cultural Activities
 Julio Figueroa, M Ed., Director Athletics and Sports

Jeffrey Gladstone, M A., Director of Complimentary Educational Services
 Betzaida Cora, M Ed, Director, Center for Employment
 Jorge R. Méndez, MD, Doctor, Carolina Campus
 Lydia E. Meléndez, BS, Nurse, Carolina Campus

Office of the Vice Chancellor of Outreach

Lourdes González Jimenez, M A., Vice Chancellor of Outreach
 Lourdes González Velazquez, Ed.D, Associate Vice Chancellor of Outreach

Office of Physical Facilities and Operations

Edgar Dixon Rodríguez, Eng., Manager of Physical Facilities and Operations
 Juan Boada, Eng., Assistant Manager of Physical Facilities and Operations

Off-Campus University Centers Directors

Maricelli Zaragoza, MA, Director, Yauco Off-Campus Center
 Rosemary González, MS., Director, Utuado Off-Campus Center
 Griselda Correa, MA., Director, Manatí Off-Campus Center
 Rosa Pérez, MA., Director, Cabo Rojo Off-Campus Center
 Evelyn Ayala, MA, Director, Santa Isabel Off-Campus Center

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 or institution attended must be submitted.
- Applicants should submit 3. College Entrance Examination Board (CEEB) scores. This is not required for applicants over twenty-three (23) years old.
- 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 these programs)

Admission's Requirements to some Specific Programs

- Radiologic Technology (Basic year)
 - a. High school grade point average of 2.50 or above.
 - b. Passing grades in high school Biology and Chemistry and/or Physics.
 - c. Personal interview with the Program's Admissions Committee Coordinator
- Health Information Technology
 - a. High school grade point average of 2.30 or above.
 - b. Personal interview with the Program's Admissions Committee Coordinator.
- Pharmacy Technician
 - a. High school grade point average of 2.30 or above.
 - b. Passing grades in high school Biology and Chemistry.

- c. Personal interview with the Program's Admissions Committee Coordinator.
- Medical Sonography
 - a. High school grade point average of 2.50 or above.
 - b. Passing grades in high school Biology and Chemistry.
 - c. Personal interview with the Program's Admissions Committee Coordinator.

***Note: See the School section of this catalog for other programs and their admission's 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 23 years old.
- Applicants for the Health Sciences or Hospitality 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 call to be interviewed by the Program Coordinator/Director.
- 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.

Readmitted Students

An applicant for readmission is a student who has interrupted his studies for one or more semesters (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 Admissions Committee will evaluate the applicants who met all the requirements.
- The applicant must comply with all requirements established by his selected programs of studies.
- Compliance with all Universidad del Este'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 del Estes' by-laws, rules and regulations.

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 applicant may be required to: Submit a copy of the catalog of the institution where the student attended if the applicant studied outside of Puerto Rico.

Special Students

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

Transitory Students

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

Requirements for Special and Transitory Student

- Fill out a Special Student application form.
- Enclose payment of an application fee of \$15.00. This fee is non-refundable.
- Applicants with a college degree must enclose a copy of the degree or an official permit authorizing them to enroll.
- The Admission's Committee may require a personal interview.

Foreign Students

Requirements

- Submit a certification from the Department of Education of Puerto Rico. The applicant will be considered for admission if the courses approved are equivalent to the high school diploma of the Commonwealth of Puerto Rico's Department of Education.
- Affidavit (Verification of Foreign Economic Qualification).
- Complete certificate of eligibility for Non-immigrants.
- The admission of foreign students is subject to immigration laws.

Procedure

Foreign students applying for admission must meet the requirements set forth by the Institution in the general admissions.

Rights Reserved:

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

Rules and Regulations for Admission and Registration

Students should familiarize themselves with all rules, norms and regulations of the Institution through the *Student Handbook*, *Student Regulation*, and *the Manual of Academic Norms and Administrative Procedures*, which are distributed once a year and are available upon request at the Office of the Vice Chancellor of Student Affairs and at the web site: www.suagm.edu/une

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 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 del Este 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 for 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. This registration schedule should be presented at the registration desk.

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.

Pre-Registration

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

Late Registration

Late registration 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. A student who does not attend classes and does not follow the corresponding procedures for cancellation of their classes will be penalized by receiving **(WF)** in his permanent record at the Institution.

Relocation 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.

Important Note:

Registration is not complete until the student has paid all fees required by the Office of the Treasurer; the official stamps of the Registrar and the Office of the Treasurer have been stamped on his registration class schedule; and he has signed a statement consenting to follow and observe the rules, norms, and regulations of the Institution.

Official Admission to Classes

At the beginning of the semester or part-of-term each student should present his official registration class schedule to each of his professors. This class schedule should be stamped with the official seals of the Office of the Registrar and of the Office of the Treasurer. The absence of any one of these seals or unofficial changes in the class schedule will invalidate it.

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, diploma or certificate.
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, diploma or certificate.

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 on Academic Probation
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 form from the institution or Institution they attend as regular students, or any others who take courses not leading to a degree.
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 graduation candidates 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 notified 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, with the written authorization of the Dean of the School in order to be processed by the Registrar's Office.
- 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, with the consent of the Dean or Associate Dean of the School after a previous interview with the Program Director/Coordinator or Academic Assessor.

- Total withdrawal may be considered in the case of a registered student who drops 75% or more of his total course load. This does not include the two summer sessions.
- 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, temporarily, 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.
 - c. Deficient academic work (below required scholastic standards).
 - d. Students who withdraw from the Institution or finish their studies without settling their financial obligations forfeit their right to receive grades, transcripts or diplomas.

Class Attendance

- Class attendance is mandatory. The students will be responsible for work missed.
- If a student enrolled in a course never attends each and every class, the professor will identify him as a non-attending student (N/A). The Registrar's Office, then, will adjudicate a withdrawal for non-attendance (WN). Adjustments in, Financial Assistance benefits or total cancellation of Financial Aid and the payment of 12% of the total cost of enrollment, as pertinent, will also take effect.
- Those students whose absences exceed the minimum allowed (6 hours) and do not have authorization of the professor or have not processed official withdrawal will receive a "WF" classification as penalty. This classification has a value of "0" and affects the grade point average.

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 any 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 equivalents for laboratory work have 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	Administrative withdrawal (no grade points)
WF	Student deserted the classroom or excessive unjustified absences from course.
I	Incomplete work. Student absent from final examination or failed to complete and turn in final work assignment.
WA	Administrative withdrawal. Processed by the Vice Chancellor of Student Affairs
P	Passed
NP	Not passed
IP	In progress
*	Repeated Course
T	Transfer course
NR	Not Reported (Grade) by professor

A "W" indicates a withdrawal from a course with the approval of the professor, or the Dean of the School or the Program Coordinator, and the official approval of the Registrar.

A "WN" Indicates no assistance to a course within the first few days after classes begin (no grade points). Reported in the official *Student Assistance Register* by the professor.

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

An "I" a student, who is absent from the final examination or does not satisfy all financial obligations to the Institution, will receive an incomplete as a provisional grade.

A "WA" indicates an administrative withdrawal approved by the Vice Chancellor of Student Affairs given for one of the following reasons:

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

Incompletes

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

- If his absence from a final examination can be justified

- If his absence of not more than 25% of his work in laboratory experiences, practice teaching or seminar can be justified.
- If the student does not satisfy all financial obligations to the Institution before the final examination.

In order to remove an Incomplete the student should take the corresponding final examination within the first 30 days of the subsequent semester or summer session. Those students receiving Incomplete in prerequisite courses during the summer session must take the final examination within the first fifteen days of the following 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 grade 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 grade.

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 UNE 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 mailed to each student from the Registrar's Office at the end of each academic term and at the end of the Second Summer Session.

Students' Records

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

Transcripts

Official transcripts, which bear the seal of the Institution, will not be given to students or alumni, but sent directly to institutions specified by the students in their official requests to the Registrar's Office

Requests for transcripts of credits should be made fifteen working days in advance. In those cases where a student is in debt with the Institution, the Registrar will not certify the courses approved until the student has satisfied his debt.

Any claim concerning a transcript request should be presented at the Registrar's Office no later than 90 days after making the request.

Important Note:

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

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 Department 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 on Academic Probation** - 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 UNE 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.

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 UNE will be based on the norms established by the Institution.
- The Satisfactory Academic Progress Appeals Committee must approve readmission to UNE. 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 del Este 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 receive a copy of the *Standards for Satisfactory Academic Progress*, where this table is included upon their registration and available at the web site: www.suagm.edu/une

An example for each academic program is presented below:

Required Credits and Retention Index per Program

Certificate Program (36 credits)

Accumulated Attempted Credits	% Required of Attempted Credits Approved	Retention Index Required
1 - 14	50%	1.60
15 - 28	55%	1.80
29 - 42	60%	2.00
43 - 54	67%	2.00

Associate Degree Program (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

**Bachelor Degree Program
(121 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

Graduation Requirements

The student usually graduates from the Universidad del Este under the program requirements prevailing at the time of his admission to the Institution; however, the Institution reserves the right to make changes in the different programs and in the requirements for the degree or certificate. Students who do not complete their studies during the time required by their respective programs, as well as those who apply for readmission after a period of absence from the Institution, are governed by the rules of the class in which they graduate.

To receive a degree or certificate from the Universidad del Este, 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 3.74 will graduate with Cum Laude, and those within the 3.75 to 3.89 range will graduate Magna Cum Laude, and those with a grade point average ranging from 3.90 to 4.00 will graduate 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.

Important Note:

Students should familiarize themselves with all rules, norms and regulations of the Institution through the *Student Handbook*, *Student Regulations*, and *the Manual of Academic Norms and Administrative Procedures*, which are distributed once a year and are available upon request at the Office of the Vice Chancellor of Student Affairs and at the web site: www.suagm.edu/une These documents provide the information and updates as to program requirements, academic policy changes, as well as other academic and administrative changes that may take place during your years of studying at the Institution.

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 del Este 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: (1) 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 organizational structure of the Universidad del Este provides student services through the 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	Recreation and Sports
Registrar	Quality of Life and Students Wellness
Social and Cultural Activities	Student Associations Program
Counseling and Guidance	Bursar
Student Support Services Program	Financial Aid
Health Services	

The Office of the Registrar answers to the Office of the Vice Chancellor for Academic Affairs. The remaining offices, Bursar and Financial Aid respond to the Vice President for Financial Affairs. However, since these offices provide major services to the student population, they are presented here.

The organizational structure of the Office of the Vice Chancellor of Student Affairs allows for the provision of specialized student services for all students under the direct supervision of the Associate Vice Chancellor for Quality of Life and Students Well Being.

Human resources have been assigned to the Office of the Vice Chancellor for Quality of Life and Students Well Being in order to provide counseling and orientation, social/psychological services, tutoring, and an academic advising/mentor program.

A complete program is designed to aid the student in his personal, academic, and career development areas. The following programs are coordinated: Academic Advising/Mentor Program, Counseling and Orientation, Psychology, Social Work, and Tutoring. All of these services have proven effective in student retention and the provision of a better quality of student life.

The program gives continuing assessment and support by consolidating institutional and community resources. The following services are provided:

- Personal, academic, vocational and occupational counseling.
- Workshops and seminars according to the student needs.
- Academic advising - a faculty member is assigned to a group of students to assist in their academic progress. The professor will assist the students during the academic year.
- Learning support services - these services are offered on basic areas such as: mathematics and English through the teacher assistance program and tutorial 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 economical needs.
- First year student association - provides the freshman student the opportunity to develop leadership by coordinating activities that facilitates students' integration to the Institution.

Professional Counseling and Guidance Programs

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.

The Counseling and Guidance Program focuses its services and projects on the new paradigms in Counseling: integral human development, prevention and pro-active educational strategies to develop special skills for life and career.

The main objectives of the program 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 leadership 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.

Advising Program

The Academic Advisement services promote continuous interaction between the students, faculty members, the academic counselor and other administrators of the Office of the Vice Chancellor.

Helping the students with their academic problems is a major aspect of advising. Because it requires curricular knowledge and expertise, academic advising is an academic concern.

Freshmen student are assigned to a mentor, a faculty member who belongs to the student study program, who is responsible for discussing with students information concerning course selection, nature of educational programs, courses which are relevant to their interests, course content, academic requirements, regulations and procedures, and more.

The mentor (faculty member) works in cooperation with the Student Support Services Staff to coordinate services required by the student who has special needs.

Mentoring Program

This program is geared towards helping first year students adapt to college life. As part of an integrated advising team, a professor is assigned to each participating student to counsel him on academic and personal matters.

Assessment Program

The Assessment Program at UNE consists of three levels of examination to gather information about the skills of the students throughout their academic experience. The first stage of the assessment measures the skills of entering students in basic areas. The information obtained is used to diagnose and place them in the appropriate courses. The second level of assessment is taken after approving 48 to 60 credit hours. The assessment includes basic areas and the skills developed in the core courses. The third level of assessment is taken after approving 112 to 120 credits hours. In addition to the content listed before, these assessments

include the skills developed during the specialization courses. Results of the three stages of assessment are compared to measure the value added to a student during his career. This service is one of UNE's efforts to improve the retention rate of students admitted to the Institution, as well as the revision of these academic programs and as part of the Institution's outcomes assessment plan.

Tutorial Services

In close cooperation between the Offices of the Vice Chancellor of Student Affairs and the Vice Chancellor, a free of charge Tutorial Program is offered to every student who requests this service in areas such as Mathematics, English, Spanish, Biology, Chemistry, Statistics, Accounting and others.

Student Support Services Program

The Student Support Services Program at Universidad del Este provides an integrated gamma of academic and counseling services to 384 UNE students a year that meet the eligibility criteria established by federal law for participation in this program.

Its 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 university centers.

*A doctor and/or nurse will be available to serve the student population at the Carolina Campus. The off-campus university centers 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.

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

Sports and Recreational Activities

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 athletes in the Program participate in internal and inter-university competitions. Universidad del Este is a member of the inter-university sports organization.

To strengthen the Program and increase the number of participants, the Director and coaches of the Program visit the sports programs of high schools. During these visits they present the Program and identify prospective candidates. The Program has a Procedures Manual and a guide for granting athletic scholarships.

Books and Supplies

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

Veteran's 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. Students that extend their studies beyond the time established by the program cannot continue to receive Veteran's benefits. 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.

Student Activities

Universidad del Este 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.

Each group or club has a faculty adviser who counsels its members and helps to promote the activities of the group.

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 for Students Affairs. The purpose of the organization and the name of the advisor should be stated.

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. The Office of the Vice Chancellor of Student Affairs has recognized the following organizations.

Carolina Campus

Alpha Chi, National Honor Society for Students in Bachelor Degree
 Applied Microbiology Students Association
 Association of Christian Students
 Early Childhood Education Students Association
 International School of Tourism and Hospitality
 Management Students Association
 International Students Association
 Management Association Student Staff
 Office Systems Students Association
 Paralegal Studies Students Association
 Phi Theta Kappa, National Honor Society for Students in Associate Degree
 PRHonor Students Association
 Professionals and Sonography Students Association
 Radiologic Technology Students Association
 Social Work Students Association
 Student Support Services Participants Association
 Theater Students Association
 Tutors Association
 Voluntary Helping Together Students Association

Off Campus Locations

Social Work Students Association - Cabo Rojo
 Christian Youth University Students Association - Cabo Rojo
 Association of Ebenezer Christian Students - Manatí
 Criminology Association Student Staff - Manatí
 Pro Health and Physical Fitness Students Association – Manatí
 Peer Social Work Students Association - Utuado
 Education Students Association - Yauco
 Office Systems Students Association - Yauco
 Pro Student's Quality of Life Association - Yauco
 Peer Counselors Association - Yauco
 Management Students Association - Yauco
 Social Work Students Association - Yauco

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. They must attend and participate in meetings of campus delegates and must establish relationships among faculty, administration and students of

their corresponding sections. The Chancellor and the Vice Chancellor of Student Affairs supervise 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.

An Alternate delegate is also elected to act in case of the absence of the delegate in charge.

Academic Dean's List

The list of all honor students is published at the beginning of the second semester. It has the names of all students who have approved more than 24 credits hours with a grade point average of 3.80 or higher.

In the official transcript, the inscription "On the Academic Dean's List" appears. This list is also posted on all bulletin boards of the main Carolina Campus and Off-campus university centers and all students listed may apply to become members of the honor students' organization, Phi Theta Kappa.

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 del Este's Student Council representative has approved disciplinary rules and regulations that were ratified by the Ana G. Mendez University System Board of Directors.

The students at Universidad del Este 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.

Important Note:

Due to the importance of the Disciplinary Regulations each student is required to obtain a copy of the Student's Handbook from the Office of the Vice Chancellor of Student Affairs, sign a receipt for it, and commit himself to read and become familiar with the Student's Handbook contents, Student's Regulations, and Manual of Academic Norms and Administrative Procedures. These requirements cannot be waved or omitted under any circumstances.

Student Financial Aid

The mission of the Student Financial Aid Program is to provide the student with scarce economic resources equal educational opportunities to obtain an academic preparation that will facilitate his integration to society.

Our Student Financial Aid Program operates under the basic principle that the primary responsibility of financing higher education is of the family. Therefore, 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 2005-2006 the maximum annual award is \$4,050 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.

Educational Opportunity Program

The Commonwealth of Puerto Rico provides yearly funds for grants and scholarships to qualifying students. The grant is awarded on the financial need basis and the scholarships on the academic performance basis.

State Student Incentive Grant (SSIG)

The Council of Higher Education of Puerto Rico manages this program. The institution participating in this program must submit the candidates to the CHE 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 variable 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. The interest rate is variable, 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 40 hours per week. 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.

PR Honor

This institutional scholarship program is designed to provide to talented high school students the opportunity of pursuing their college education at UNE.

Its objectives are:

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

How to Apply for Financial Aid

Financial Aid is awarded annually. The student must apply each year. The Financial Aid Application packets will be available after January, from OSFA.

The student must submit the Free Application for Federal Student Financial Aid (FAFSA) or Renewal FAFSA to the U.S. Department of Education. Renewals FAFSA's will be mailed early to prior applicants. If you do not receive a Renewal FAFSA, please pick up a FAFSA in our Office of Admissions and Financial Aid.

Late applicants will be awarded only on a funds-available basis.

The amount of financial aid may vary each year according to your need, the type of aid you are eligible, your academic performance and available funding.

All applications for financial aid can be made either personally or by mail to:

Universidad del Este
P.O. Box 2010
Carolina, P.R. 00984-2010

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 no citizen.
- have a valid Social Security Number.
- not owe a refund on a Federal Grant or be in default on a Federal Educational loan.
- be making Satisfactory Academic Progress.
- be registered with Selective Service (if required).
- be enrolled at least half-time except for the Federal Pell Grant, which allows less-than-half-time enrollment.
- not receive a Bachelor's Degree for Pell and FSEOG.
- provide documentation of any information requested by the Office of Admission and Financial Aid.

Important Note:

The Institution complies fully with the privacy Rights of Parents and Students Act of 1974 (Title IV of the U.S. Public law 90-247), as amended, 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 other wise 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. New Admission Student-Pro Rate Refund

New admission or transfer students enrolled in their first semester at UNE who completely withdraw from their classes during the first 10 weeks starting the first day of class of each semester, and during the first 10 days, since the first day of class during the summer session, will be refunded part of the tuition costs. This norm will apply only to those students enrolled in their first semester for the first time. In subsequent semesters, the active student refund policy will apply.

Ten weeks into the semester and ten days in the summer session equal 60% of the corresponding academic term. Therefore, after this period, the System will charge 100% of the tuition costs.

The amount of tuition to be refunded will be pro-rated in accordance with the date of withdrawal as decreed in the following table:

Semester Week	Amount of Refund
First and Second	88 Percent
Third and Fourth	76 Percent
Fifth and Sixth	64 Percent
Seventh and Eight	52 Percent
Ninth and Tenth	40 Percent

B. Active Student-Federal Refund

Students, previously enrolled at UNE, who completely withdraw before the end of 50% of the academic period, semester or summer session, will be refunded part of the tuition costs according:

- 100% if the student withdraws on or before the first day of class
- 90% after the first day and up to 10 percent of the academic period
- 50% the first day after the 10 percent period and up to 25 percent of the academic period
- 25% the first day after the 25 percent period and up to 50 percent of the academic period

After 50 percent of the academic period, the System will charge 100% of the tuition costs. The semester is composed of 15 weeks, where six days (Monday through Saturday) are considered.

The amount of tuition to be refunded is based on the date of withdrawal as decreed on the following table:

SEMESTER ATTENDANCE							
WEEK	PERCENT	WEEKSDAYS	REFUND				
15	x	0	=	0	=	0	100%
15	x	10	=	1.50	=	9	90%
15	x	25	=	3.75	=	22	50%
15	x	50	=	7.50	=	45	25%

In accordance with the Title IV Student Financial Assistance Programs regulations, when calculating the amount to be refunded, tuition costs not paid by the student will be subtracted before determining the amount of funds applied to the costs. The principle behind this rule is that the student and his/her parents are primarily responsible for tuition expense.

Financial aid from federal programs, state and institutional, accredited to the student's account will be refunded to the original program. The amount paid by the student will be refunded to him/her, and it will depend on the withdrawal date.

C. Partial Withdrawal

Students who partially withdraw during the first two (2) week starting the first day of classes of each semester, and within the first two days of classes during the summer session, will be refunded 88% of tuition costs. After this period, the System will charge 100% tuition costs.

D. Non - Attendance

Students who do not attend their registered courses will be marked NA by the professors, given an administrative withdrawal, and refunded 88% the cost of the course. The student will be held responsible for 12% 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 (2/3) 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.

Cash refunds will be made if payment was made in cash. Tuition paid for with financial aid is not eligible for a cash refund.

Tuition, Fees, and Related Information

Every year the Office of the Vice President for Financial Affairs publishes a circular with information about tuition cost for all academic programs and other fees for all institutional services. This circular is available at the Bursar's Office.

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

- Regular Programs \$ 143.00
- Special Programs \$ 148.00
- Technical Programs \$ 123.00

In addition, for each academic term the institution has a general fee of \$295.00 per student. Costs are subject to change from one academic year to the next.

Please note that in attending any Institution, you will need 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 the student requests services. 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 requested and retained, and presented with any claim or adjustment requested. The Bursar's Office will not accept claims without receipts.

Tuition Option Payment Plan (TOPP)

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

The TOPP grants 50% tuition and fees deferred payment to students who do not satisfy cost or receive financial aid at the registration time. Contact the Bursar's Office for more information about the TOPP.

Clear Statement

Students with an outstanding debt balance will not be allowed to take final examinations until such balance is paid in full.

Upon receipt of payment, the Bursar's Office will issue a "clear" statement, which must be presented by the student at each examination. Students who do not comply with this requirement will receive a qualification of Incomplete (I) and will be required to pay \$20 fee in order to remove the qualification from the academic record.

Invoices

The Bursar's Office will mail four invoices during the regular semester and two during the summer session. The approximate dates for the mailing of such invoices are: September 15,

October 15, November 15, December 10, February 15, March 15, April 15, May 10, June 14 and July 22.

If the invoice is not received in the mail, it is the student's responsibility to request it personally from the Bursar's Office.

Office of the Vice Chancellor of Information Resources and Telecommunications

Vision

In harmony with the mission of the Institution, the vision of the Office of the Vice Chancellor of Information Resources and Telecommunications endeavors to become a recognized leader in the process of learning, teaching, research, and service.

Mission

The Office of the Vice Chancellor of Information Resources and Telecommunications will contribute to the integral development of its students. As an administrative and academic center, we pretend to promote in our students, the social and cultural values of our people, offering effective quality service through information resources that are inherent to the academic development of our Institution environment. We pledge to complement the Institution's commitment to research, creativity and innovation through the use of new technologies.

Description of the unit

The Office of the Vice Chancellor of Information Resources and Telecommunications is the administrative unit that integrates the Library, Distance Education, Information and Telecommunication, Exhibit area, Piñero Collection, Educational Technology, and the Community Technological Center. Through a structured and systemic approach the units provide the necessary services to support the Institution's academic programs. It provides educational services and materials to serve the diverse learning and instructional needs of students and faculty members, thus becoming an integral part of the teaching-learning process of the Institution. The units of the Vice Chancellor of Information Resources and Telecommunications houses a wide variety of printed, audiovisual, and electronic materials selected in accordance with the academic programs and adequately organized to foster their usage.

Library

The Library has a complete automated system that provides access to the materials available in all of the three libraries of the Ana G. Méndez University System. UNE's five Off-campus university centers are also part of this automated system and have the use of inter-library loans of materials available to all the students of AGMUS. A Virtual Library is also available for students through an electronic web page (WEB Voyager) <http://www.suagm.edu>

Materials include a variety of formats: books, journals and newspapers, microfilms, microfiche, Multimedia CDROMS, VHS, and DVD's as well as on line resources.

The library provides seating areas for individual study, facilities for small study groups and computers for students' independent use with wireless access as well as for students that are physically challenge.

The Bibliographic Instruction Program in the library provides the necessary skills for the effective use, services, and academic resources, Internet.

Sala Florencio Pagán Cruz

The Reference and Reserve unit are located in this area. The Reference collection has the basic resources needed to do research and investigation projects such as: general and

specialized dictionaries, annuals, atlas, directories, reference books, indices in electronic and printed formats, access to Internet and the data base specialized in legal resources. We have invested in the research-based search engine Voyager System, which greatly facilitates the identification and access to a vast quantity of research literature, journals, textbooks, and other relevant documentation. The total collection of magazines, books, e-books, journals, and audiovisual ascends to a total of 90,738 titles and over 164,938 volumes.

Circulation and Reserve Area

This area facilitates the loan of books out of the library to authorized users. The Magazine Collection provides more than 4,000 titles combined in printed materials and online resources, local as well as international newspapers.

Inter-Library Loans

The inter-library loan is the opportunity given to the academic community of obtaining, as a loan, the use of resources of other libraries in, as well as outside of Puerto Rico. At the same time, the Library at the Carolina campus participates actively in lending its resources to the other libraries of the Ana G. Méndez University System and to the five Libraries in the Off Campus university centers.

Exhibit Area

The art works exhibition area is located strategically in the entrance to the Information Resources Center. The atrium was designed with all the necessary specifications to offer to the public the opportunity of enjoying exhibitions while visiting us. The interior garden, situated to the end of this atrium is a sculpture of our founder, Dr. Ana G. Méndez.

Collection Developments and New Acquisitions

The Center at the Carolina Campus provides all the printed and non-printed resources necessary to facilitate the teaching learning process and to enrich the Institution educational programs. To facilitate collection access, the material is catalogued using Spanish and English subject heading and classified according to the Subject Headings from the Library of Congress. Some of the resources identified are Bibliographical file, Internet, etc.

Educational Technology

This unit advises on the appropriate use of technological resources in the classroom. This unit also administers and distributes electronic materials and equipment requested by the faculty and students. The faculty and students can coordinate the loan services of educational materials and audiovisual equipment to be used in the [e@classroom](#).

Distance Education

The mission of this unit is to expand the cultural and educational offerings utilizing the modality of distance education. Distance education as an educational strategy is part of the academic task of the Institution. The Institution participates in various academic projects such as: offering of courses through ITS, the broadcasting of conferences from various parts of the world, as well as providing training to faculty regarding distance education strategies and methodologies thus certifying faculty in the use of this media.

Computerized Information Technology and Telecommunications

Its mission is to integrate the computerized information technology and the telecommunications to the administrative and academic processes. The design is following a plan that has considered the necessary details to bring up to date and to expand the equipment and the software of the student's computer laboratories, the faculty and administrative personal training laboratory, and the access to Internet in all the computers located in the libraries.

Hours of Operation

The Library offers its services in the following schedule for the Carolina campus and the five Off-Campus University Centers located in Yauco, Cabo Rojo, Santa Isabel, Utuado, and Manatí.

Monday - Thursday	7:00 a.m. - 10:00 p.m.
Friday	7:00 a.m. – 10:00 p.m.
Saturday	8:00 a.m. - 5:00 p.m.
Sunday / Holidays	12:00 p.m. – 5:00 p.m.

Staff

The Center has a staff of professional librarians, educational technologists, assistant librarians, technicians, and clerks whose main goal is to provide the collegiate community with efficient services. They offer students and faculty direct assistance in locating information that will best satisfy their particular interests and needs. Orientation in the proper use of the Center facilities is one of the main features of the daily work.

Office of the Vice Chancellor of Outreach

Mission

Its mission is to provide academic and administrative services needed to students enrolled in the evening and weekend classes at UNE. Design and provide support services to this segment of the student population geared towards improving retention and graduation. Coordinate in consortia with the Schools the enrollment process, evaluation process of faculty, dissemination of information related to the academic offerings, and assist in designing and promoting student activities to improve evening and weekend university life.

Its mission is to serve the learning needs of adults and organizations as well as to provide leadership in developing adult education programs through the attainment of external funds.

Description of the unit

The office is headed by the Vice Chancellor of Outreach and assisted by an Associate Vice Chancellor in charge of providing direct services to students and faculty. These services entail coordinating services needed by evening and weekend students with the Registrar's Office, Financial Aid, Treasure's Office, Professional Counseling, Academic Advising, and the Schools.

The Programs features the regular academic degree programs. These are offered during evenings from 5:00 to 10:00 p.m. and Saturdays from 7:00 a.m. to 4:00 p.m.

Off Campus Locations (University Centers)

The Off Campus Locations programs respond to the needs of the communities in the various geographical areas through out Puerto Rico. The University Centers are located in the towns of Utuado, Manatí, Yauco, Cabo Rojo and Santa Isabel.

The academic programs offered are certificate, associate and bachelor degrees in Business Administration, Criminal Justice, Social Work, Education, Sciences, and Office Systems in all of the Centers. Some Centers have more program offerings than others do to their physical facilities.

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.

Off Campus Locations

Academic Offerings

The five Off-Campus University Centers offer the following academic programs:

Yauco Off-Campus

Santo Domingo Street #29

Yauco, Puerto Rico 00698

Certificate Programs in:

- Management
- Teacher's Aid in Early Education
- Computer Software Application
- Billing and Collection of Medical Plans
- Sales and Marketing
- Clerk/Receptionist
- Tour Guide
- Criminology for Municipal Police
- Associate in Networking of CISCO
- Health Assistant
- Hydroponics Technician
- Technician in Maintenance of Green Areas and Golf Course
- Banking Operations
- Private Security Guard

Associate Degrees in:

- Management
- Criminology
- Social Work
- Executive Secretary with Word Processing
- Legal Secretary
- Medical Secretary with Medical Billing
- Criminal Justice with emphases in: Police, Corrections

Bachelor Degrees in:

- Management

- Marketing
- Computerized Information Systems
- Administrative Secretary
- Social Work
- Criminal Justice
- Early Childhood and Primary Education
- Public Affairs (Municipal Government)

Master's Degree in:

- Human Resources
- Management

Cabo Rojo Off-Campus

Carretera Núm. 100 K.4.8, Intersección Carretera 311

Barrio Miradero, Sector Conde Ávila

Cabo Rojo, Puerto Rico 00623

Certificate Programs in:

- Management
- Teacher's Aid in Early Education
- Computer Software Application
- Billing and Collection of Medical Plans
- Sales and Marketing
- Clerk/Receptionist
- Tour Guide
- Criminology for Municipal Police
- Associate in Networking of CISCO
- Health Assistant
- Hydroponics Technician
- Maintenance of Green Areas and Golf Course Technician
- Banking Operations
- Private Security Guard

Associate Degrees in:

- Management
- Criminology
- Social Work
- Executive Secretary with Word Processing
- Medical Secretary with Medical Billing
- Legal Secretary
- Criminal Justice with emphases in: Police, Corrections

Bachelor Degrees in:

- Management
- Marketing
- Computerized Information System
- Administrative Secretary
- Social Work
- Criminal Justice
- Early Childhood and Primary Education

- Public Affairs (Municipal Government)

Santa Isabel Off-Campus
Carretera Núm 153, Barrio Felicia 2, Sector Jauca
Santa Isabel, Puerto Rico

Certificate Programs in:

- Management
- Teacher's Aid in Early Education
- Computer Software Application
- Billing and Collection of Medical Plans
- Sales and Marketing
- Clerk/Receptionist
- Tour Guide
- Criminology for Municipal Police
- Associate in Networking of CISCO
- Health Assistant
- Hydroponics Technician
- Technician in Maintenance of Green Areas and Golf Course
- Banking Operations
- Private Security Guard

Associate Degrees in:

- Management
- Criminology
- Social Work
- Criminal Justice with emphases in: Police, Corrections

Bachelor Degrees in:

- Management
- Marketing
- Computerized Information Systems
- Social Work
- Criminal Justice
- Early Childhood and Primary Education
- Administrative Secretary
- Public Affairs (Municipal Government)

Master's Degree in:

- Human Resources
- Management

Utuado Off-Campus
Ave. Fernando Ribas Dominicí
Carr. 111 Km. 1.8,
Utuaado, Puerto Rico 00641

Certificate Programs in:

- Management
- Teacher's Aid in Early Education
- Computer Software Application
- Billing and Collection of Medical Plans
- Sales and Marketing
- Clerk/Receptionist
- Tour Guide
- Criminology for Municipal Police
- Associate in Networking of CISCO
- Health Assistant
- Hydroponics Technician
- Technician in Maintenance of Green Areas and Golf Course
- Banking Operations
- Private Security Guard

Associate Degrees in:

- Management
- Programming
- Criminology
- Social Work
- Executive Secretary with Word Processing
- Medical Secretary with Medical Billing
- Legal Secretary
- Criminal Justice with emphases in: Police, Corrections

Bachelor Degrees in:

- Management
- Marketing
- Computerized Information Systems
- Social Work
- Criminal Justice
- Early Childhood and Primary Education
- Administrative Secretary
- Public Affairs (Municipal Government)

Manatí Off-Campus
Puerta del Norte Building
Suite 16, Manatí, Puerto Rico 00674

Certificate Programs in:

- Management
- Teacher's Aid in Early Education
- Computer Software Application
- Billing and Collection of Medical Plans
- Sales and Marketing
- Clerk/Receptionist
- Tour Guide
- Criminology for Municipal Police
- Associate in Networking of CISCO

- Health Assistant
- Hydroponics Technician
- Technician in Maintenance of Green Areas and Golf Course
- Banking Operations
- Private Security Guard

Associate Degrees in:

- Health Information Technology
- Executive Secretary with Word Processing
- Medical Secretary with Medical Billing
- Legal Secretary
- Criminal Justice with emphases in: Police, Corrections

Bachelor Degrees in:

- Marketing
- Accounting
- Management
- Computerized Information Systems
- Social Work
- Criminal Justice
- Early Childhood and Primary Education
- Administrative Secretary
- Public Affairs (Municipal Government)

Master's Degree in:

- Human Resources
- Management

General Education, Core, and Major Components with the Academic Programs

The Universidad del Este offers a wide variety of academic programs that satisfy the students' interests in the social sciences, sciences, arts, and technical fields. Through these programs, the Institution develops students' competence in some special field of learning. It will also provide a general body of knowledge that will enable them to develop interest and respect for learning, the ability to think clearly and act independently, and a proper understanding of our cultural heritage and its importance in the solution of contemporary problems.

All programs are structured with at least three of the following components:

- General Education
- Core Curriculum
- Major
- Electives
- Practicum

The General Education component was revised in 2004, at the bachelor level 48-51 credits are needed of which 18 credits are selected by the students from six areas which are: **Society and Culture, Communications and Information, Natural World and Logical Reasoning, Quality of Life, History: Humanistic Perspectives and esthetics, and Globalization and Diversity.** At the associate level 15-24 credits are general education courses.

The profile of the graduate of the General Education Component is based on those curricular principles that are essential to achieve integral human development. The profile intends

to train the professional for the new century with those competencies, skills and attitudes, which permit optimum functioning in the workplace. These principles involve cognitive, affective and psychomotor dimensions as foundational elements of human and professional development.

In its cognitive dimension, the profile covers such aspects as the development of scientific-philosophical thought, mastery of the vernacular, effective use of technology, and development of research skills. Regarding affective aspects, the profile seeks the development of the human being with social, cultural, and environmental consciousness, capable of developing personal relationships, an agent of change who values diversity and shows social and ethical commitment. Finally, from the psychomotor dimension, the profile describes the student as one who effectively manages technology, works in teams, and uses diverse resources to communicate effectively.

The development of the profile objectives is based on linguistic and conceptual parameters from Amnesty International, which promotes inclusive and non-violent language.

The Core and Major components introduce the student to subjects within his chosen profession and a special subject area. By interweaving general knowledge with competence in some field of study, students who select courses wisely will be prepared for the occupation of their choice immediately upon graduation. The programs of study or degrees hereby described will be offered according to students' demands, and may be cancelled or eliminated by the decision of the Institution if there is a lack of demand or funding for them.

Universidad del Este offers curricula leading to the following certificate, associate, bachelor degrees, and master degrees. The master programs are described in a separate catalog.

Academic Programs

Certificates in International Tourism and Hospitality Management in:

- Hotel Operations
- Bartending
- Culinary Arts
- Pastry and Baking

Certificates in Technical Programs in:

- Computer Software Applications
- Billing and Collection of Medical Plans
- Architectonic Draftsman
- Sales and Marketing
- Clerk/Receptionist
- Tour Guide
- Teacher's Aid in Early Education
- Associate in Networks of CISCO
- Criminology for Municipal Police
- Private Security Guard
- Health Assistant
- Leader of Recreational and Sports Programs
- Banking Operations
- Hydroponics Technician
- Technician in Maintenance of Green Areas and Golf Course

Associate Degree in Arts (AA)

- Social Work
- Criminology

Bachelor's Degree in Arts (BA)

- Social Work
- Public Affairs
 - Municipal Government
- Early Childhood Education
- Criminal Justice
- Paralegal Studies

Associate Degree in Sciences and Technology (AS)

- Natural Sciences
- Radiologic Technology
- Pharmacy Technician
- Medical Sonography
- Health Information Technology

Bachelor's Degree in Health Education (BS)

- School Health
- Occupational Health and Safety
- Community Health

Bachelor's Degree in Science (BS)

- Applied Microbiology
- Radiologic Technology
- Computerized Tomography with Magnetic Resonance
- Health Services Management

Bachelor's Degree in Scientific Education (BS)

- Scientific Education in the Elementary Level
- Scientific Education in the Intermediate Level

Post Graduate:

Certificates in:

- Medical Sonography
- Radiation Therapy Technology

Associate Degree in Business Administration (ABA)

- Management
- Accounting
- Marketing
- Computerized Information Systems in: Programming

Bachelor's Degree in Business Administration (BBA)

- Management
- Accounting
- Computerized Information Systems
- Marketing

Associate Degree in Office Systems (AOS)

- Executive Secretary with Word Processing
- Legal Secretary
- Medical Secretary

Bachelor's Degree in Office Systems (BOS)

- Administrative Secretary

Associate Degree of Science in International Tourism and Hospitality Management (AS)

- Hotel Operations

- Travel Agency Operations
- Bachelor's Degree of Science in International Tourism and Hospitality Management (BS)
- Hotel Management
 - Destination Marketing and Sales

General Education Component Courses

Required General Education Courses by area:

Area: Society and Culture

Sosc 112 The Human Being and His Social Surroundings - 3 credits

Sosc 113 Analysis of Cultural and Historical Processes - 3 credits

Sosc 230 Political and Economic Systems - 3 credits

Soci 215 Culture and Folklore of Puerto Rico – 3 credits

Area: Communications and Information

Comp 110 Introduction to Computer Programs and Applications – 3 credits

Span 115 Reading, Writing and Oral Communication in Spanish I – 3 credits

Span 116 Reading, Writing and Oral Communication in Spanish II – 3 credits

Span 275 Advanced Writing in Spanish – 3 credits

Engl 115 College Reading and Writing I – 3 credits

Engl 116 College Reading and Writing I I – 3 credits

Engl 217 English for Allied Health Professions – 3 credits

Engl 118 English for the Workplace I – 3 credits

Engl 119 English for the Workplace II – 3 credits

Engl 246 Conversational English – 3 credits

Area: Natural World and Logical Reasoning

Math 117 Basic Mathematics for the Health Sciences – 3 credits

Phsc 208 Physical Science Compendium – 3 credits

Math 119 Mathematics Applied to Business Administration – 3 credits

Math 116 Fundamentals of Mathematic Reasoning - 3 credits

Math 130 Pre-Calculus I – 3 credits

Math 131 Pre-Calculus II - 3 credits

Math 118 Fundamentals of Intermediate Algebra - 4 credits

Biol. 252 Life on Planet Earth: Origins, Characteristics and Conditions - 3 credits

Biol. 301 The Human Being as a Biological Entity - 3 credits

Biol. 255 Environmental Sciences - 3 credits

Area: Quality of Life

Sosc 228 Interpersonal Relations - 3 credits

Qyle 110 Development of Values, Attitudes and Adaptation to University Life - 3 credits

Fina 204 Personal Financial Planning - 3 credits

Mana 215 Human Behavior in the Workplace - 3 credits

Area: History: Humanistic Perspectives and esthetics

Hist 255 Analyses of the Puerto Rican Historical Processes – 3 credits

Huma 224 Contributions of the Great Civilizations of the World: Old, Medieval and Modern
- 3 credits

Area: Globalization and Diversity

Mana 217 International Relations - 3 credits

Huma 228 Puerto Rico and its Contribution to the Caribbean and the World - 3 credits

Sosc 242 Socio Economics and Political Principles of Globalization - 3 credits

Soci 216 Contemporary Social Problems - 3 credits

Menu Selection of General Education Courses by area:

Area: Society and Culture

Huma 230 Appreciation of the Arts and Music – 3 credits

Psyc 225 Social Psychology – 3 credits

Soci 335 Ethics, Morality and Society – 3 credits

Soci 360 Sociological Imagination – 3 credits

Sosc 227 Cultural Diversity – 3 credits

Area: Communications and Information

Engl 307 Professional Writing – 3 credits

Span 240 Literature and Diversity – 3 credits

Comm 105 Effective Presentations – 3 credits

Engl 234 Advanced Conversational English – 3 credits

Fren 103 Introduction to Basic French – 3 credits

Area: Natural World and Logical Reasoning

Nutr 101 Nutrition – 3 credits

Hesc 202 Basic Epidemiology – 3 credits

Biol. 115 Introduction to Human Biology – 3 credits

Phil 205 Philosophical and Sociological Fundamentals of Science – 3 credits

Easc 120 Terrestrial Sciences: Concepts and Applications – 3 credits

Stat 104 Introduction to Basic Statistics – 3 credits

Hesc 123 Health and Occupational Security – 3 credits

Unre 101 Concepts and Principles of Research – 3 credits

Area: Calidad de Vida

Hesc 124 Health and Natural Medicine – 3 credits

Hesc 203 Human Sexuality – 3 credits

Area: History: Humanistic Perspectives and esthetics

Hist 274 History of the United States – 3 credits

Hist 310 Latin American and Carribean Cultural Perspectives – 3 credits

Geog 203 Cultural Geography – 3 credits

lthm 190 History of Gastronomy – 3 credits

Area: Globalization and Diversity

Mark 322 International Markets – 3 credits

Posc 350 Dinamics of International Political Relations – 3 credits

Educ 230 Education for Peace – 3 credits

Psyc 228 Psychology of Diversity – 3 credits

Non-Degree Programs

The Universidad del Este has several non-degree programs to serve both the interests and special needs of students within the Institution as well as the surrounding community.

These are:

Resource Center for Educational Excellence - this is a service program initiated in 2003 as the center for diagnostic and placement of students in developmental courses in Spanish, English, and Mathematics for all degree programs. It also serves the students of these courses, as well as students in other level courses as a tutorial program especially in the English, Spanish, and Mathematic courses. A replica of this service program can also be found at the five off-campus university centers.

Complementary Educational Services Program - this is a federally funded program whose goal is to provide academic and counseling services to eligible students of the Institution in order to facilitate their academic success and personal growth. These services in the areas of Spanish, English and Mathematics are delivered through tutoring, mini-courses, individual counseling and career activities.

Upward Bound Program - a federal government funded program, Upward Bound is geared for secondary school students. The group is carefully selected to receive weekly intensive instruction and tutoring to help the students increase their academic performance as well as to enrich their cultural background. Participants also receive guidance with regard to vocational and career

opportunities. The Vice Chancellor for Academic Affairs directly supervises the Program. During the summer, a six-week residential program is offered with emphasis on the academic, tutoring, counseling areas and socio-cultural activities. The main goal of this program is to increase the academic performance and motivations of eligible students enrolled in Puerto Rico's public high schools located within the target areas, so they may complete secondary education, apply for and score competitively in college entrance examinations, and thus secure admission to post secondary programs.

Gear-Up Program – initiated in 2001, it offers Saturday classes, field trips experiences, and tutoring to students of several junior high schools until they finish high school. Parents and teachers also receive workshop and seminars addressing their needs.

Special Program

Air Force Reserve Officers Training Corps (ROTC)

A formal cross-enrollment agreement was established in 1996 between Universidad del Este and the Air Force ROTC.

Students from Universidad del Este are authorized to enroll and attend classes in the ROTC Program at the Universidad de Puerto Rico. Those courses will be considered as Universidad del Este resident courses. Credit will be granted and students will be entered on the official academic record.

Students will not be charged for courses taken in the ROTC Program. The Air Force through the Universidad de Puerto Rico will provide ROTC textbooks, military type equipment, uniforms and military training. Students will have equal opportunity to compete for two and three year scholarships on a nationally competitive basis.

Students must be approved by the Vice Chancellor of the Institution prior to participating in the ROTC cross enrollment. The courses of the ROTC at the Department of Aerospace Studies are as follows:

Basic Courses		Credits
ESAE 3001 – 3002	Foundations of USAF	4
ESAE 3011 – 3012	Evolution of USAF Aerospace Power	4
Advanced Courses		Credits
ESAE 4001 – 4002	AF Leadership Studies	8
ESAE 4011 – 4012	National Security Affairs & Preparation for Active Duty	8

Universidad del Este's Anthem

Nuestro es el porvenir,
la promesa de un nuevo amanecer
horizontes de luz,
nuestra es la juventud.

Nuestra es la libertad,
la verdad, la justicia y el honor
esperanza en flor
para la humanidad...

Nuestro es el sol y el mar
nuestros sueños podemos alcanzar
nuestro es el saber,
y el saber es la libertad....

Lyrics and Music by Alberto Carrión

UNIVERSIDAD DEL ESTE

SCHOOL OF BUSINESS ADMINISTRATION

UNDERGRADUATE CATALOG

2006-2008

SCHOOL OF BUSINESS ADMINISTRATION

The School of Business Administration provides its students, through experiences in the courses, with the necessary tools to obtain a complete and up-to-date professional preparation in the different disciplines within business administration. The School offers associate degrees in accounting, Management, Marketing and Sales, Programming in Information Systems, Data Entry, Executive Secretary with Word Processing, Legal Secretary, and Medical Secretary with Health Insurance Billing. Also, it offers bachelor degrees in the areas of: Accounting, Management, Marketing, Computerized Information Systems, Insurance, and Administrative Secretary.

Mission

As part of its mission, the School of Business Administration is committed to offer the business perspective and orientation aimed at self-employment and at efficient placement of highly qualified personnel in the diverse industries located in Puerto Rico as well as outside the island. All of this framed within the institutional mission.

The goals of the School of Business Administration and Office Systems are as follows:

- Provide programs of studies consistent with the objectives of the Universidad del Este and the needs of the community.
- Offer a curriculum that responds to the economic, social, cultural and professional needs of our country, while integrating values and humanistic disciplines with the competences of the profession.
- Offer a curriculum with the necessary business perspective for the development of businesses through diverse means.
- Provide students with a complete service that supports their academic career and facilitates their studies.
- Guarantee the quality of the teaching learning processes by hiring highly qualified faculty and the development and implementation of diverse methodologies that contribute to building knowledge and its application.
- Promote the continuous development of the School's Faculty and support personnel.

Faculty

Aponte Vega, Jorge, Assistant Professor

Jackson State University
MS, Computer Information Systems

Arvelo López, Israel, Associate Professor

Interamerican University
MBA, Marketing

Camacho García, Margarita, Full Professor

New York University

MA, Business Subject at College Level
Phoenix University
MBA, Accounting

Candal Vicente, Isabel, Assistant Professor

Jackson State University
MS, Computer Information Systems

Candelario Muñoz, Carlos, Instructor

Jackson State University
MS, Computer Information Systems

Carrasquillo Báez, Wilma, Assistant Professor

Interamerican University
MA, Administration and Supervision

Cotto Vargas, José, Instructor

Palm Beach University
MBA and CPA, Accounting

Escobar Ortiz, Angelita, Full Professor

University of Puerto Rico
MA, Counseling and Guidance
New York University
MA, Business Subject at College Level

Espina Romero, Maritza, Associate Professor

Rensselaer Polytechnic Institute Troy NY
Ph.D, Management

Figuroa Papaleo, Ana de L., Associate Professor

New York University
MA, Business Subject at College Level

González Contreras, Carmen, Assistant Professor

Universidad del Turabo
MBA, Management
Universidad Metropolitana
MS, Management and Environmental Management

Irizarry Feliciano, Herminio, Associate Professor

Walden University
Ph.D, Management

Laham Bauzó, Isis, Instructor

Boston University
Eng. Computer Engineer, Computer Information

Lebrón González, Edwin, Assistant Professor, CPA
Interamerican University
MBA, Accounting

Meléndez Morales, Lourdes, Instructor
Iowa State University
MBA, Marketing

Ramos González, Jenny, Instructor
Interamerican University
MBA, Human Resources, Management

Santiago Blas, Edward, Instructor
University of Phoenix
MBA, Computer Information Systems

Torres González, José, Instructor
Universidad del Turabo
MBA, Marketing

Vázquez Meléndez, Oscar, Associate Professor
Nova Southeastern University
Ed.D, Computing and Information Technology

Yglesias Quiñónez, Lola, Instructor
Universidad Metropolitana
MBA, Management

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Program Descriptions

Accounting

The accounting program, both, associate and bachelor degree, prepare the students to analyze all the business accounting and financial processes. The students will be able to develop the necessary skills to prepare and analyze accounting statements and financial statements. This program helps the future accountant to study the problems related to control, valuation, presentation, recording cash, account receivable and inventory. It also includes accounting of fixed assets, investments, funds and debts, leasing, income tax and payroll.

Computerized Information Systems

This program is designed to meet the needs of a technological changing world. It will allow the student to become a manager in information systems. It will also provide our students with the key tools for analyzing the most common problems in computerized information in order to make accurate decisions to enhance the achievement of the organization's goals and objectives. This program includes the major subjects related to the use of software and hardware as well as the different languages for programming.

Insurance

The professional in this area will use the insurance profession tools to establish differences between the diverse types of insurance and to plan an insurance risk management program, designed to meet the needs of its clients. The alumni from this major will develop mechanisms of control and evaluation for the application of standards, policies and laws, related to the insurance industry.

Management

The Management program prepares the student to be a strong leader within the organization. The students will be able to analyze all the aspects of the managerial processes. It includes the administration of human resources, the application of behavioral sciences, the broad principles of marketing, business law, finance, organization and administration. The graduate of this program will be able to see the organization and its roles and functions as a whole. This will allow them to be effective in the organization's decision-making process.

Marketing

The program is focus in creating values for a firm's custom therefore a company's marketing efforts can affects the entire organization. The marketing professional will be able to help their clients how to define their business, understand the reasons why their clients should want to buy the company's product or use its services and discover how the company positions those products or services.

Office Systems

The Office Systems curriculum prepares individuals for positions in administrative support careers. It develops office professionals to respond to the demands of a dynamic computerized workplace. The courses are designed to develop proficiency in the use of integrated software, oral and written communication, analysis and coordination of office duties and systems, and other support topics. Emphasis is placed on both the technical and non –technical skills.

Admission's Requirements to the Hospitality Programs

These are in addition to the general admissions requirement at UNE.

- High School grade point average of 1.2 for Associate programs
- High School grade point average of 2.00 for Bachelor programs

ASSOCIATE DEGREES IN BUSINESS ADMINISTRATION

Associate in Business Administration in Management 61 credits

Credits

General Education	18
Core Curriculum Courses	20
Major Courses	19
Practicum	4

General Education 18

COMP 110	Introduction to Computer and Software	3
*SPAN 115-116	Reading, Writing & Oral Communication I and II	6
* ENGL 115-116	College Reading and Writing I and II	6
* MATH 119	Mathematics Applied to Business	3

Core Curriculum Courses 20

ACCO 110	Quantitative Aspects of Accounting	3
ACCO 111-112	Elementary Accounting I & II	8
MARK 133	Fund. of Marketing	3
MANA 101	Intro. to Business	3
STAT 201	Business Statistics	3

Major Courses 19

COIS 204	Microcomputers and Office Automation	3
MANA 125	Business Ethics	3
MANA 204	Elements of Business Law	4
MANA 210	Administrative Theory	3
MANA 213	Personnel Administration	3
MANA 230	Organizational Behavior	3

Practicum 4

**MANA 282	Business Work Experience	4
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* The English, Spanish and Math courses will be offered according to student's proficiency level.

** Prerequisite for the Practicum: 12 credits approved in the major.

Associate in Business Administration in Accounting

64 credits	Credits
General Education	24
Core Curriculum Courses	13
Major Courses	23
Practicum	4

General Education **24**

*SPAN 115	Reading, Writing & Oral Communication I	3
*ENGL 115-116	College Reading and Writing I and II	6
SOSC 113	Analysis of Cultural and Historic Processes	3
COMP110	Introduction to Computer & Software	3
FINA 204	Personal Finances Planning	3
*MATH 119	Mathematics Applied to Business	3
MANA 217	International Relations	3

Core Curriculum Courses **13**

COMP 111	Software Applied to Business Management	4
MANA 101	Intro. to Business	3
ACCO 110	Quantitative Aspects of Accounting	3
MARK 133	Fundamentals of Marketing	3

Major Courses **23**

ACCO 111-112	Elementary Accounting I & II	8
ACCO 201-202	Intermediate Accounting	8
ACCO 203	Cost Accounting	4
ACCO 205	P.R. Income Tax	3

Practicum **4**

**MANA 282	Business Work Experience	4
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* *The English, Spanish and Math courses will be offered according to student's proficiency level.*

** *Prerequisite for the Practicum: 12 credits approved in the major.*

Associate in Business Administration in Marketing

60 credits	Credits
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General Education	18
Core Curriculum Courses	17
Major Courses	21
Practicum	4

General Education **18**

*SPAN 115-116	Reading, Writing & Oral Communication I and II	6
* ENGL 115-116	College Reading and Writing I and II	6
COMP110	Introduction to Computer & Software	3
*MATH 119	Mathematics Applied to Business	3

Core Curriculum Courses **17**

MANA 101	Intro. to Business	3
ACCO 110	Quantitative Aspects of Accounting	3
ACCO 111-112	Elementary Accounting I & II	8
STAT 201	Business Statistics	3

Major Courses **21**

MARK 133	Fundamentals of Marketing	3
MARK 204	International Marketing	3
MARK 205	Creative Strategies in Selling	3
MARK 206	Consumer Behavior	3
MARK 251	Advertising and Promotion	3
COIS 204	The Microcomputer in the Office	3
MARK 324	Telemarketing and Student Services	3

Practicum **4**

**MANA 282	Business Work Experience	4
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** The English, Spanish and Math courses will be offered according to student's proficiency level.*

*** Prerequisite for the Practicum: 12 credits approved in the major.*

**Associate in Business Administration in Computerized Information Systems:
Programming**

68 credits

Credits

General Education	21
Core Curriculum Courses	21
Major Courses	22
Final Project	4

General Education **21**

*SPAN 115-116	Reading, Writing & Oral Communication I & II	6
*ENGL 115-116	College Reading and Writing I and II	6
COMP 110	Introduction to Computer & Software	3
SOSC 112	The Human Being & its Social Environment	3
*MATH 118	Fundamentals of Intermediate Algebra	3

Core Curriculum Courses **21**

ACCO 110	Quantitative Aspects of Accounting	3
ACCO 111-112	Elementary Accounting I & II	8
MANA 101	Introduction to Business	3
COIS 111	Software Applied to Business Management	4
MARK 133	Fundamentals of Marketing	3

Major Courses **22**

COIS 115	Programming Logic	4
COIS 106	Business Programming in Visual Basic	4
COIS 262	Programming in C Language	4
COIS 303	Data Base	3
COIS 394	Programming in JAVA	4
WEBD 101	HTML	3

Final Project **4**

** CAPP 400	Final Project	4
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* *The English, Spanish and Math courses will be offered according to student's proficiency level.*

** *Prerequisite for the Final Project: 15 credits approved in the major.*

**Associate in Business Administration in Computerized Information Systems:
*Computer Support Technician***

64 credits	Credits
General Education	18

Core Curriculum Courses	17
Major Courses	25
Final Project	4

General Education **18**

*SPAN 115	Reading, Writing & Oral Communication I	3
*ENGL 115-116	College Reading and Writing I and II	6
COMP 110	Introduction to Computer & Software	3
SOSC 112	The Human Being & its Social Environment	3
*MATH 118	Fundamentals of Intermediate Algebra	3

Core Curriculum Courses **17**

ACCO 110	Quantitative Aspects of Accounting	3
ACCO 111	Elementary Accounting I	4
MANA 101	Introduction to Business	3
COIS 111	Software Applied to Business Management	4
MARK 133	Fundamentals of Marketing	3

Major Courses **20**

CSST 103	Pc Troubleshooting and Maintenance	3
CSST 104	Introduction to Networks	3
CSST 200	Network Hardware Installation and Maintenance	3
CSST 201	LAN Administration	3
CSST 205	Disaster Discovery	3
COIS 250	Systems Analysis & Design	3
COIS 393	Operatives Systems	3
COIS 115	Programming Logic	4

Final Project **4**

** CAPP 400	Final Project	4
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* *The English, Spanish and Math courses will be offered according to student's proficiency level.*

** *Prerequisite for the Final Project: 15 credits approved in the major.*

**Associate in Business Administration in Computerized Information Systems:
WEB Design**

66 credits	Credits
General Education	18
Core Curriculum Courses	13
Major Courses	31

Final Project		4
General Education		18
*SPAN 115-116	Reading, Writing & Oral Communication I & II	6
* ENGL 115-116	College Reading and Writing I and II	6
COMP 110	Introduction to Computer & Software	3
*MATH 118	Fundamentals of Intermediate Algebra	3
Core Curriculum Courses		13
MANA 101	Intro. to Business	3
MARK 133	Fundamentals of Marketing	3
ACCO 110	Quantitative Aspects of Accounting	3
ACCO 111	Elementary Accounting I	4
Major Courses		31
COIS 115	Programming Logic	4
COIS 394	Programming in Java	4
ART 101	Art Appreciation	2
ART 105	History of Art	3
WEBD 100	Intro. To Web Networking Concepts	3
WEBD 101	HTML	3
WEBD 201	Web Programming	3
WEBD 203	Web Graphics	3
CSGD 101	Introduction to Graphic Design	3
CSGD 103	Image Design Photoshop	3
Final Project		4
** CAPP 400	Final Project	4

* *The English, Spanish and Math courses will be offered according to student's proficiency level.*

** *Prerequisite for the Final Project: 15 credits approved in the major.*

Associate in Business Administration in Computerized Information Systems: *Graphic Design*

68 credits	Credits
General Education	26
Core Curriculum Courses	17
Major Courses	21
Final Project	4

General Education 26

*SPAN 115-116	Reading, Writing & Oral Communication I & II	6
*ENGL 115-116	College Reading and Writing I and II	6
COMP110	Introduction to Computer & Software	3
*MATH 118	Fundamentals of Intermediate Algebra	3
SPAN 275	Advanced Writing	3
ART 101	Art Appreciation	2
ART 105	History of Art	3

Core Curriculum Courses 17

COIS 111	Software Applied to Business Management	4
MANA 101	Intro. to Business	3
MARK 133	Fundamentals of Marketing	3
ACCO 110	Quantitative Aspects of Accounting	3
ACCO 111	Elementary Accounting I	4

Major Courses 21

CSGD 100	Photography & Computer Components	3
CSGD 101	Introduction to Graphic Design	3
CSGD 103	Image Design Photoshop	3
CSGD 201	Publishing Design I	3
CSGD 202	Publishing Design II	3
CSGD 210	Advanced Graphic Design	3
CSGD 220	Portfolio	3

Final Project 4

** CAPP 400	Final Project	4
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* *The English, Spanish and Math courses will be offered according to student's proficiency level.*

** *Prerequisite for the Final Project: 15 credits approved in the major.*

ASSOCIATE DEGREES IN OFFICE SYSTEMS

Associate in Office Systems in Executive Secretary with Word Processing

66 Credits	Credits
General Education	21
Core Curriculum	27
Major Courses	14
Office Internship	4

General Education 21

*ENGL 118	English for the Workplace I	3
ENGL 119	English for the Workplace II	3
*SPAN 115	Reading, Writing & Oral Communication I	3
SPAN 275	Advanced Writing	3
*MATH 116	Fundamentals of Mathematics	3
QYLE 110	Values Develop. & Adaptation to College Life	3
HIST 255	Analysis of Historic Processes	3

Core Curriculum Courses 27

OFAS 125	Secretarial Accounting	3
OFAS 121-122	Basic Keyboarding I-II	8
OFAS 221	Advanced Word Processing I	4
OFAS 290	Records Management	3
OFAS 291	Modern Office Procedures	3
OFAS 306	Software Applications in Word Processing; Graphic Presentation and Editing	3
OFAS 323	Spreadsheet and Database Application	3

Major Courses 14

OFAS 104	Speedwriting	3
OFAS 204	Speedwriting Transcription	3
OFAS 303	Documents Production	3
OFAS 326	Software Integration	4

Office Internship 4

**OFAS 392	Office Internship	4
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** The English, Spanish and Math courses will be offered according to student's proficiency level.*

***Minimum of one hundred and forty four (144) hours working in an Internship Centre for the duration of a semester.*

Associate in Office Systems in Legal Secretary

66 Credits	Credits
General Education	21
Core Curriculum	27
Major Courses	14
Office Internship	4

General Education 21

*ENGL 118	English for the Workplace I	3
ENGL 119	English for the Workplace II	3
*SPAN 115	Reading, Writing & Oral Communication I	3
SPAN 275	Advanced Writing	3
*MATH 116	Fundamentals of Mathematics	3
QYLE 110	Values Develop. & Adaptation to College Life	3
HIST 255	Analysis of Historic Processes	3

Core Curriculum Courses 27

OFAS 125	Secretarial Accounting	3
OFAS 121-122	Basic Keyboarding I-II	8
OFAS 221	Advanced Word Processing I	4
OFAS 290	Records Management	3
OFAS 291	Modern Office Procedures	3
OFAS 306	Software Applications in Word Processing; Graphic Presentation and Editing	3
OFAS 323	Spreadsheet and Database Application	3

Major Courses 14

PALE 301	Aspects of Notary Law and the Registration Law	3
PALE 313	Writing Techniques for Legal Documents	3
PALE 203	Administration of a Legal Office	2
CRIM 207	Justice System	2
OFAS 307	Legal Transcription	4

Office Internship 4

**OFAS 392	Office Internship	4
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** The English, Spanish and Math courses will be offered according to student's proficiency level.*

******Minimum of one hundred and forty four (144) hours working in an Internship Centre for the duration of a semester.

Associate in Office Systems in Medical Secretary with Medical Billing

68 Credits	Credits
General Education	18
Core Curriculum	27
Major Courses	19
Office Internship	4

General Education 18

*ENGL 118	English for the Workplace I	3
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ENGL 119	English for the Workplace II	3
*SPAN 115	Reading, Writing & Oral Communication I	3
SPAN 275	Advanced Writing	3
QYLE 110	Values Develop. & Adaptation to College Life	3
BIOL 301	The Human Being and its Functions	3

Core Curriculum Courses 27

OFAS 125	Secretarial Accounting	3
OFAS 121-122	Basic Keyboarding I-II	8
OFAS 221	Advanced Word Processing I	4
OFAS 290	Records Management	3
OFAS 291	Modern Office Procedures	3
OFAS 306	Software Applications in Word Processing; Graphic Presentation and Editing	3
OFAS 323	Spreadsheet and Database Application	3

Major Courses 19

SMED 112	Introduction to Medical Terminology	3
SMED 200	Codification and Medical	4
SMED 230	Legal and Medical Aspects and Administrative Principles	2
SMED 314	Health Education and Personal Safety	3
BIOL 106	Human Biology Synthesis	3
OFAS 107	Medical Transcription	4

Office Internship 4

**OFAS 392	Office Internship	4
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** The English, Spanish and Math courses will be offered according to student's proficiency level.*

***Minimum of one hundred and forty four (144) hours working in an Internship Centre for the duration of a semester.*

BACHELOR DEGREE IN OFFICE SYSTEMS

Bachelor in Office Systems Major in Administrative Secretary

122 Credits	Credits
General Education	45
Core Curriculum Courses	27
Major Courses	33
Electives	6
Office Internship	4
Action Research	4

General Education 45

SOSC 113	Analysis of Cultural and Historic Processes	3
*SPAN 115	Reading, Writing & Oral Communication I	3
*ENGL 118	English for the Workplace I	3
ENGL 119	English for the Workplace II	3
ENGL 246	Conversational English	3
*MATH 116	Fundamentals of Mathematics	3
QYLE 110	Values Develop. & Adaptation to College Life	3
HIST 255	Analysis of Historic Processes	3
MANA 217	International Relations	3
MENU COURSES	(Menu Selection of courses by students)	18

Core Curriculum Courses 27

OFAS 125	Secretarial Accounting	3
OFAS 121	Basic Keyboarding I	4
OFAS 122	Basic Keyboarding II	4
OFAS 221	Advanced Word Processing I	4
OFAS 290	Records Management	3
OFAS 291	Modern Office Procedures	3
OFAS 306	Software Applications in Word Processing; Graphic Presentation and Editing	3
OFAS 323	Spreadsheet and Database Application	3

Major Courses 33

OFAS 104	Speedwriting	3
OFAS 204	Speedwriting Transcription	4
OFAS 208	Management Applications in Office Automation	3
OFAS 303	Documents Production	3
OFAS 230	Machine Transcription	4
OFAS 300	Documents Creation	3
OFAS 301	Introduction to Telecommunications	3
OFAS 324	Preparation of Workshop Training	3
OFAS 326	Software Integration	4
OFAS 491	Administrative Office Procedures	3

Electives 6

Office Internship		4
**OFAS 392	Office Internship	4

Action Research 4

BAOS 499	Action Research	4
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** The English, Spanish and Math courses will be offered according to student's proficiency level.*

****Minimum of one hundred and forty four (144) hours working in an Internship Centre for the duration of a semester.**

**** Six (6) general education menu courses from the following: SC – Culture & Society, 1 course; CI – Communication & Information, 1 course; MN - Natural World and Logic Reasoning, 1 course; HIS – History: Humanistic and Aesthetics Perspectives, 1 course; CV - Life Quality, 1 course; GD - Globalization & Diversity, 1 course.*

BACHELOR DEGREES IN BUSINESS ADMINISTRATION

Bachelor in Business Administration Major in Management

119 credits	Credits
General Education	48
Core Curriculum Courses	34
Major Courses	30
Electives	3
Practicum	4
Action Research	4

General Education 48

SOSC 230	Economic & Politics Systems	3
*SPAN 115-116	Reading, Writing & Oral Communication I & II	6
*ENGL 115-116	College Reading and Writing I and II	6
COMP 110	Introduction to Computer & Software	3
MANA 215	Human Behavior & Work Environment	3
MANA 217	International Relations	3
HIST 255	Analysis of Historic Processes	3
*MATH 119	Mathematics Applied to Business	3
MENU COURSES	(Menu Selection of courses by students)	18

Core Curriculum Courses 34

MANA 101	Introduction to Business	3
COIS 111	Software Applied to Business Management	4
ACCO 110	Quantitative Aspects of Accounting	3
ACCO 111-112	Elementary Accounting	8
FINA 202	Business Finance	3
MARK 133	Fundamentals of Marketing	3
MANA 204	Elements of Business Law	4
ECON 123	Fundamentals of Economics	3
STAT 201	Business Statistics	3

Major Courses 30

MANA 210	Management Theory	3
MANA 213	Personnel Administration	3
MANA 230	Organizational Behavior	3
MANA 316	Small Business	3
MANA 340	Operations and Productions Management	3
COIS 204	Microcomputers & Offices	3
MANA 401	Business Policy	3
MANA 404	Labor Relations	3

MANA 405	International Management	3
MANA 125	Business Ethics	3
Electives		3
Practicum		4
**MANA 282	Business Work Experience	4
Action Research		4
BAOS 499	Action Research	4

* *The English, Spanish and Math courses will be offered according to student's proficiency level.*

** **Prerequisite for the Practicum: 25 credits approved in the major.**

*** *Six (6) general education menu courses from the following: SC – Culture & Society, 1 course; CI – Communication & Information, 1 course; MN - Natural World and Logic Reasoning, 1 course; HIS – History: Humanistic and Aesthetics Perspectives, 1 course; CV - Life Quality, 1 course; GD - Globalization & Diversity, 1 course.*

**Bachelor in Business Administration
Major in Accounting**

124 credits

Credits

General Education	48
Core Curriculum Courses	34
Major Courses	31
Electives	3
Practicum	4
Action Research	4

General Education **48**

SOSC 113	Analysis of Cultural and Historic Processes	3
SOCI 215	PR Folklore & Culture	3
*SPAN 115	Reading, Writing & Oral Communication I	3
*ENGL 115-116	College Reading and Writing I and II	6
COMP 110	Introduction to Computer & Software	3
FINA 204	Personal Finances Planning	3
MANA 217	International Relations	3
HIST 255	Analysis of Historic Processes	3
*MATH 119	Mathematics Applied to Business	3
MENU COURSES	(Menu Selection of courses by students)	18

Core Curriculum Courses **34**

MANA 101	Introduction to Business	3
COIS 111	Software Applied to Business Management	4
ACCO 110	Quantitative Aspects of Accounting	3
ACCO 111-112	Elementary Accounting	8
FINA 202	Business Finance	3
MARK 133	Fundamentals of Marketing	3
MANA 204	Elements of Business Law	4
ECON 123	Fundamentals of Economics	3
STAT 201	Business Statistics	3

Major Courses **31**

ACCO 201-202	Intermediate Accounting	8
ACCO 203	Cost Accounting	4
ACCO 205	P.R. Income Tax	3
ACCO 297	Fund Accounting	3
ACCO 304	Auditing	3
ACCO 450	Advanced Accounting	4
ACCO 250	Computerized Accounting	3
ACCO 295	Managerial Accounting	3

Electives **3**

Practicum **4**

**MANA 282	Business Work Experience	4
Action Research		4
BAOS 499	Action Research	4

** The English, Spanish and Math courses will be offered according to student's proficiency level.*

**** Prerequisite for the Practicum: 25 credits approved in the major.**

**** Six (6) general education menu courses from the following: SC – Culture & Society, 1 course; CI – Communication & Information, 1 course; MN - Natural World and Logic Reasoning, 1 course; HIS – History: Humanistic and Aesthetics Perspectives, 1 course; CV - Life Quality, 1 course; GD - Globalization & Diversity, 1 course.*

**Bachelor in Business Administration
Major in Computerized Information Systems**

127 credits	Credits
General Education	51
Core Curriculum Courses	34
Major Courses	35
Electives	3

Final Project		4
General Education		51
SOSC 112	The Human Being & its Social Environment	3
*SPAN 115 -116	Reading, Writing & Oral Communication I & II	6
*ENGL 115-116	College Reading and Writing I and II	6
COMP 110	Introduction to Computer & Software	3
*MATH 116	Fundamentals of Mathematics	3
*MATH 118	Fundamentals of Intermediate Algebra	3
SOSC 228	Interpersonal Relations	3
SOSC 216	Contemporary Social Problems	3
HIST 255	Analysis of Historic Processes	3
MENU COURSES	(Menu Selection of courses by students)	18
Core Curriculum Courses		34
MANA 101	Introduction to Business	3
COIS 111	Software Applied to Business Management	4
ACCO 110	Quantitative Aspects of Accounting	3
ACCO 111-112	Elementary Accounting	8
FINA 202	Business Finance	3
MARK 133	Fundamentals of Marketing	3
MANA 204	Elements of Business Law	4
ECON 123	Fundamentals of Economics	3
STAT 201	Business Statistics	3
Major Courses		35
COIS 115	Programming Logic	4
COIS 215	Visual COBOL	4
WEBD 101	HTML	3
CSST 104	Introduction to Networks	3
COIS 250	Information Systems Analysis and Design	3
COIS 262	Programming in C Language	4
COIS 303	Database	3
COIS 106	Business Programming in Visual Basic	4
COIS 207	Visual Basic II	3
COIS 394	Programming in JAVA	4
Electives		3
Final Project		4
** CAPP 400	Final Project	4

* The English, Spanish and Math courses will be offered according to student's proficiency

level.

*** Prerequisite for the Final Project: 15 credits approved in the major.*

**** Six (6) general education menu courses from the following: SC – Culture & Society, 1 course; CI – Communication & Information, 1 course; MN - Natural World and Logic Reasoning, 1 course; HIS – History: Humanistic and Aesthetics Perspectives, 1 course; CV - Life Quality, 1 course; GD - Globalization & Diversity, 1 course.*

**Bachelor in Business Administration
Major in Marketing**

	Credits
123 credits	
General Education	48
Core Curriculum Courses	34
Major Courses	30
Electives	3
Practicum	4
Action Research	4

General Education		48
SOSC 230	Economic & Politics Systems	3
*SPAN 115-116	Reading, Writing & Oral Communication I & II	6
*ENGL 115-116	College Reading and Writing I and II	6
COMP 110	Introduction to Computer & Software	3
MANA 215	Human Behavior & Work Environment	3
MANA 217	International Relations	3
HIST 255	Analysis of Historic Processes	3
*MATH 119	Mathematics Applied to Business	3
MENU COURSES	(Menu Selection of courses by students)	18
Core Curriculum Courses		34
MANA 101	Introduction to Business	3
COIS 111	Software Applied to Business Management	4
ACCO 110	Quantitative Aspects of Accounting	3
ACCO 111-112	Elementary Accounting	8
FINA 202	Business Finance	3
MARK 133	Fundamentals of Marketing	3
MANA 204	Elements of Business Law	4
ECON 123	Fundamentals of Economics	3
STAT 201	Business Statistics	3
Major Courses		30
MARK 205	Creative Selling	3
MARK 206	Consumer Behavior	3
MARK 251	Advertising and Promotion	3
MARK 204	International Marketing	3
MARK 302	Service Marketing	3
MARK 320	Marketing Research	3
MARK 324	Telemarketing & Consumer Services	3
MARK 401	Strategic Marketing	3
MARK 407	Channels Distribution	3
MARK 408	Product Management	3
Electives		3
Practicum		4
**MANA 282	Business Work Experience	4
Action Research		4
BAOS 499	Action Research	4

* *The English, Spanish and Math courses will be offered according to student's proficiency level.*

** **Prerequisite for the Practicum: 25 credits approved in the major.**

*** *Six (6) general education menu courses from the following: SC – Culture & Society, 1 course; CI – Communication & Information, 1 course; MN - Natural World and Logic Reasoning, 1 course; HIS – History: Humanistic and Aesthetics Perspectives, 1 course; CV - Life Quality, 1 course; GD - Globalization & Diversity, 1 course.*

Bachelor in Business Administration Major in Insurance

120 credits		Credits
General Education		48
Core Curriculum Courses		34
Major Courses		29
Electives		9
General Education		30
SOSC 113	Analysis of Cultural and Historic Processes	3
SOCI 215	PR Folklore & Culture	3
*SPAN 115	Reading, Writing & Oral Communication I	3
*ENGL 115-116	College Reading and Writing I and II	6

COMP 110	Introduction to Computer & Software	3
MANA 215	Human Behavior & Work Environment	3
MANA 217	International Relations	3
HIST 255	Analysis of Historic Processes	3
*MATH 119	Mathematics Applied to Business	3
MENU COURSES	(Menu Selection of courses by students)	18

Core Curriculum Courses 34

MANA 101	Introduction to Business	3
COIS 111	Software Applied to Business Management	4
ACCO 110	Quantitative Aspects of Accounting	3
ACCO 111-112	Elementary Accounting	8
FINA 202	Business Finance	3
MARK 133	Fundamentals of Marketing	3
MANA 204	Elements of Business Law	4
ECON 123	Fundamentals of Economics	3
STAT 201	Business Statistics	3

Major Courses 29

INSU 101	Introduction to Insurance	3
INSU 201	Life Insurance and Disability Insurance	3
INSU 202	Property and Miscellaneous Insurance	3
INSU 203	Accident Insurance and Bonding	3
INSU 301	Microeconomics in Insurance	3
INSU 302	Legal Environment in Insurance	3
INSU 303	Re-Insurance	3
INSU 401	Seminar: Obtaining Designation	4
INSU 402	Advanced Solutions in Insurance	4

Electives 9

* *The English, Spanish and Math courses will be offered according to student's proficiency level.*

** Prerequisite for the Practicum: 25 credits approved in the major.

*** Six (6) general education menu courses from the following: SC – Culture & Society, 1 course; CI – Communication & Information, 1 course; MN - Natural World and Logic Reasoning, 1 course; HIS – History: Humanistic and Aesthetics Perspectives, 1 course; CV - Life Quality, 1 course; GD - Globalization & Diversity, 1 course.

Course Descriptions

Accounting

ACCO 110 Quantitative Aspects of Accounting **3 Credits**

This course includes the use of the electronic calculator for the student to work in business applications of the following concepts. Use of percents in business, commercial discounts, cash discounts, commissions, profit margin, simple interest, compound interest, present value, discounting commercial loans, payroll deductions, inventory and depreciation. One semester, 3 hours weekly.

ACCO 111 Elementary Accounting I **4 Credits**

The course of accounting fundamentals includes theory of debit and credit and its effects in the financial statements. Practice in account management. Principles and analysis of preparing a work sheet and financial statements. Includes inventory accounting and accounts receivable, voucher systems, concepts and principles of bank statement reconciliation. One semester, 4 hours weekly.

ACCO 112 Elementary Accounting II **4 Credits**

The course includes the basic concepts in registering fixed assets and equipment. Methods of depreciation and payroll accounting. Also includes the accounting principles for the regulation of societies and corporations and the preparation of statements of cash flow. The course encourages analytical thinking and problem solving. One semester, 4 hours weekly. Prerequisite : ACCO 111

ACCO 201 Intermediate Accounting I **4 Credits**

Analysis of generally accepted accounting principles and their application in preparing financial statements. Study of the problems related to the control, valuation, presentation, recording cash, accounts receivable and inventory. One semester, 4 hours weekly.
Prerequisite : ACCO 112

ACCO 202 Intermediate Accounting II **4 Credits**

This course includes the analysis of the different ways to obtain financing. Ways of entering the emission of debts and stocks. Also, it includes accounting of fixed assets, investments, funds and debts, leasing, income tax and payroll. It also analyzes cash flow. One semester, 4 hours weekly.
Prerequisite: ACCO 202

ACCO 203 Cost Accounting

4 Credits

This course covers fundamental principles of cost accounting; methods of determining the basis and classification of costs in a manufacturing, distribution or service organization; solutions to cost problems; preparation of cost reports; use of forms and records; and overhead and wage systems in industry. One semester, 4 hours weekly. Prerequisite: ACCO 112

ACCO 205 **Puerto Rico Income Tax**
3 Credits

The course presents the history and objectives of income taxation. Also included are tax statutes covering taxable income, inclusions, exclusions, allowable deductions; and computation of surtax and normal income tax of individuals, partnerships and corporations as applied to Puerto Rico. One semester, 3 hours weekly. Prerequisite: ACCO 112

ACCO 250 **Computerized Accounting Systems**
3 Credits

This course presents to the student the commonly used computerized accounting systems and also provides practice in the use of these systems. The approach of the course is to apply accounting concepts through the use of already available software. One semester, 3 hours weekly, One-hour laboratory. Prerequisites: ACCO 112 and COIS 105

ACCO 295 **Managerial Accounting**
3 Credits

This course reviews the accounting process and financial statements. Analysis of financial information and accounting reports as a managerial tool such as sources of funds, analysis ratios, working capital and forecasting. It also prepares the student with in the analytical skills of planning, organization and control of the business activities within the organization. One semester, 3 hours weekly. Prerequisite: ACCO 112

ACCO 297 **Funds Accounting**
3 Credits

This course studies the types and characteristics of non-profit organizations, applications of principles, concepts and accounting procedures. Includes organizational structure, budget, systems, financial statements, and municipal accounting systems in Puerto Rico. One semester, 3 hours weekly. Prerequisite: ACCO 112

ACCO 304 **Auditing**
3 Credits

Study of generally accepted auditing standards. Emphasizes the evaluation of the integral control structure. Includes the discussion of auditing procedures, professional codes of ethics, statistical

sampling and the use of computers in the auditing processes in order to issue the auditor's report. One semester, 3 hours weekly. Prerequisite: ACCO 202

ACCO 306 **Accounting Systems**
3 Credits

Study of the basic concepts of the accounting systems, system analysis and designs. Evaluation and implementation of the established computerized system. Effective conversion from manual accounting systems to computerized systems. One semester 3 hours weekly, One-hour laboratory.

ACCO 308 **Contemporary Accounting**
3 Credits

Study and analysis of the different accounting principles and positions with emphasis in these special areas with greater impact in the profession. In addition, will study those opinions that are in process of being approved by the regulating bodies of the financial accounting practice. One semester, 3 hours weekly. Prerequisite: ACCO 202

ACCO 320 **Federal Income Tax**
3 Credits

Study of the Internal Revenue Code of the United States. Includes the knowledge and preparation of the different Federal Income Tax forms and returns. In addition, cases will be examined as well as judicial decisions. One semester, 3 hours weekly. Prerequisite: ACCO 112

ACCO 402 **Advanced Cost**
3 Credits

The course focuses on the application of the concepts, classification and flow of costs in organizations. In addition, it promotes the investigation, development and establishment of the principles and norms of costs. One semester, 3 hours weekly. Prerequisite: ACCO 203

ACCO 450 **Advanced Accounting**
4 Credits

The advanced accounting course consists of the study and discussion of the generally accepted accounting principles that regulate the analysis, registration and preparation of the reports related to mergers and consolidates financial statements. Includes other topics related to accounting of branches and liquidations of partnerships and corporations. One semester, 4 hours weekly. Prerequisite: ACCO 202

ACCO 460 **Auditing Practices**
4 Credits

The auditing practices course emphasizes the applications of auditing norms. It also examines the procedures to compile evidence, prepare worksheets and determine and prepare the different auditor's reports. One semester, 3 hours weekly. Prerequisite: ACCO 450

MANAGEMENT

MANA 101 Introduction to Business **3 Credits**

The course presents a study of business, its nature, its environment and opportunities. It introduces students to the broad principles of business in the fields of marketing, finance, organization and administration, and teaches the application of behavioral science by management. It also applies case studies to encourage analytical thinking. This course is a prerequisite for all other business courses. One semester, 3 hours weekly.

MANA 125 Business Ethics **3 Credits**

This course is concerned mainly with fundamental problems of ethics and all kinds of human activities, social and economic, related moral values. Moral aspects of human behavior are studied within the whole social system and within particular groups in which the individual operates. It includes the study of ethical problems of management with social, political and labor relation. One semester, 3 hours weekly.

MANA 131 Human Relations in Business **3 Credits**

This course studies the interaction and interpersonal relations of the decision making process. Individual leadership and group behavior are analyzed through the discussion and presentation of case studies. Managerial and labor relations are examined in production, communication and salesmanship. One semester, 3 hours weekly.

MANA 204 Elements of Business Law **4 Credits**

Studies the legal aspects of business transactions with particular emphasis on legislation in Puerto Rico. Special attention is given to contracts, sales, negotiable instruments, personal property, insurance, conveyance, mortgage deeds, and the relationship of government to business. One semester, 4 hours weekly. Prerequisite: MANA 101

MANA 210 Management Theory **3 Credits**

This course examines the principles and functions of the managerial process systematically. Analyzes the role and behavior of human resources in an enterprise and its interrelations. Studies

the application of functional planning, organization, direction and control of managerial case studies. One semester, 3 hours weekly. Prerequisite: MANA 101

MANA 213 **Personnel Administration**
3 Credits

Studies the basic functions in personnel administration: recruiting, selecting, training and personnel evaluation. In addition, this course will place emphasis on the importance of the personnel office and also of the supervisor and his / her relation with the employer. One semester, 3 hours weekly. Prerequisite: MANA 101

MANA 215 **Human Behavior in the Workplace**
3 Credits

Analysis of theories related with human behavior in work environment. Discussion of the ethical aspects and organizational justice that underlies behavior and that facilitate healthy human relations and productivity in work environments. Examination of topics such as: attitudes, conflict management, stress, motivation and problem solving. The course integrates technology, exposition of topics, labor case study, semantic maps, collaborative group, and up-to-date work environment topics oral presentations. The responsible use of technology will be promoted.

MANA 217 **International Relations**
3 Credits

Theoretical study of the international relations in a political and legal context providing emphasis in the development of an international mind setting. Analysis of the political, cultural, social and economic world map. Issues such as global political power, economic relations, war and peace motivations, national security, terrorism and the role of international organizations are discussed in the course. Course strategies such as research, case studies, class presentations and cooperative work among others are utilized in addition to the effective use of the technological resources.

MANA 230 **Organizational Behavior**
3 Credits

Provides an overview of the individual's personal characteristics, focusing upon the organizational setting. In order to understand people's behavior in organizations, students will thoroughly cover the following topics: organizational theory and practices, individual characteristics and social processes, understanding group behavior and organizational objectives, organizational effectiveness and performance. One semester, 3 hours weekly. Prerequisite: MANA 101, MANA 210

MANA 282 **Business Work Experience Practicum**
4 Credits

This course is designed for students working toward the Associate/Bachelor's Degree in Business Administration. Requires a minimum of 15 hours per week of supervised work in government, banking, business offices, or in a public or private organization. The practice is supplemented with

readings, reports and group discussions. One semester, one hour lecture weekly. Prerequisite: For Associate Degree, 12 credits in the major courses; for Bachelor's Degree, a minimum of 24 credits in the major courses.

MANA 316 **Small Business**
3 Credits

This course considers all the documentation needed to establish a business operation. The development of a business plan is discussed. Also, inventory planning and handling are considered as well as the accounting system, financial analysis quality control and the evaluation of the methods for establishing the efficiency and productivity of employees, among others. The marketing of the business as well as of its products and services are fundamental aspects of this course. One semester, 3 hours weekly. Prerequisite: MANA 101, MANA 213, MARK 133, ACCO 112

MANA 321 **Personnel Supervision**
3 Credits

The Personnel Supervision course consists of the study and analysis of the personnel supervision functions, techniques and the necessary tools for an effective development and performance. The most outstanding subjects of this course will be planning, group communication, recruitment, training, personnel evaluations, employee discipline and counseling. One semester, 3 hours weekly. Prerequisite: MANA 210, MANA 213 and MANA 230

MANA 340 **Operations and Productions Management**
3 Credits

Principles of production management and importance of a successful strategic plan. Study techniques and tools to solve problems such as production design, objectives, policies, work methods, standards, plan location, layout, scheduling maintenance, inventory and quality control. One semester, 3 hours weekly. Prerequisites: MANA 210, STAT 201

MANA 401 **Business Policy**
3 Credits

This course integrates knowledge acquired in marketing, finance, economy, accounting, production and human relations through the study of problems, cases and situations. The decision making process is emphasized. Includes a study of business in all its stages and its social and environmental impact. One semester, 3 hours weekly. Prerequisite: MANA 340

MANA 404 **Labor Relations**
3 Credits

This course is an introduction, analysis and evaluation of labor relations theory and practices. It takes into consideration both the global and local aspects of labor relations and evaluates the development and functions of organizations and unions. It emphasizes the principles and general practices of collective bargaining, its stages, strategies, interpretation and execution. The course compares processes and solutions of complaints, grievances, and mediations. One semester, 3 hours weekly. Prerequisite: MANA 204, 213

MANA 405 **International Management**
3 Credits

This course studies the different management process structured from an international perspective. The managerial roles and functions are also discussed. The selection, recruitment, training, evaluation and promotion of employees are some of the issues analyzed in this course. One semester, 3 hours weekly. Prerequisite: MANA 210, 230, ECON 123

FINANCE

FINA 202 **Business Finance**
3 Credits

This course studies the fundamental principles involved in raising, administering and distributing funds of an enterprise. Different types of businesses are examined, with emphasis on the modern corporate systems. It analyzes working capital management and its components: current assets and liabilities. Capital structure, capital budgeting, cost of capital; short, intermediate and long-term financing are examined. Emphasis is placed on decision making concepts and variables. One semester, 3 hours weekly. Prerequisite: ACCO 112

FINA 204 **Personal Financial Planning**
3 Credits

It studies financial concepts and planning processes. Includes critical analysis and evaluation of personal financial situations to fulfill the decision-making process, considering ethical aspects. It emphasizes in the causes of financial problems, savings and investments. Offer alternatives and strategies to improve life standards and to ease financial compromises. The course is developed through the analysis of cases, researches, and simulations as well as through the creation of a personal investment portfolio. It promotes the use of technology.

MARKETING

MARK 133 **Fundamentals of Marketing**
3 Credits

This course studies marketing as a business function and social process, including problems and policies of manufacturers, wholesalers and retailers in the marketing of goods and services. Studies channels of distribution, unfair competition, functions of sales departments, market research and analysis applied to economic conditions in Puerto Rico. One semester, 3 hours weekly. Prerequisite: MANA 101

MARK 203 **Purchasing and Materials Handling**
3 Credits

This course introduces marketing students to the dynamic functions of purchasing and materials handling. In-depth study of basic purchasing decisions as well as inventory controls, reordering points and economic order quantities are included. Fundamentals of price-cost analysis for purchases and inventories, discounts, quality assurance, inventory management, purchasing policies, and legal aspects of purchasing are among the topics discussed. One semester, 3 hours weekly. Prerequisite: MARK 133

MARK 204 **International Marketing**
3 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. One semester, 3 hours weekly. Prerequisite: MARK 133.

MARK 205 **Creative Selling**
3 Credits

The purpose of this course is to introduce the student to the development of sales strategies. The principles and sales techniques and their applications in business are analyzed thoroughly. The course emphasizes those elements, which the salesman should use to convince the customers to buy his products, and the presentation of the characteristics, advantages and uses of the product. One semester, 3 hours weekly. Prerequisite: MARK 133

MARK 206 **Consumer Behavior**
3 Credits

This course presents insights into consumer behavior and how it developed from other disciplines. Areas relevant to the field, such as: social and cultural influences to consumer behavior, individual influences and choice, the consumer decision processes, consumer's environment and consumerism are discussed. Offers practical applications of these concepts to marketing situations. One semester, 3 hours weekly. Prerequisite: MARK 133

MARK 207 **Credit and Collections**
3 Credits

This course analyzes the importance of the credit function. Instruments, rules, decisive factors in the concession of credit, credit sources of information analysis and investigation of risk are discussed in detail. It also presents the organization and functions of a department. The course analyzes the financial statements from the credit perspective, methods and procedures of collections, credit extension, composition and reorganization in the credit department and other related areas. One semester, 3 hours weekly. Prerequisite: MANA 101, ACCO 112

MARK 209 **Marketing Seminar**
3 Credits

The course offers a critical discussion of the activities such as planning, design strategy and marketing decision-making process. Marketing analyses of cases are presented in the course. The student will identify a problem related to the marketing of a line of products of a company and develop a research paper on the selected problem. One semester, 3 hours weekly.

MARK 251 **Advertising and Promotion**
3 Credits

This course introduces the student to the exciting world of advertising and promotion. In it the student will study the advertising process in detail, the advertising systems and methods of the past decades and the present one. Emphasis will be placed on the technical aspects of the media and the strategies to be developed. One semester, 3 hours weekly. Prerequisite: MARK 133

MARK 302 **Service Marketing**
3 Credits

The purpose of this course is to analyze the basic principles of service management. It will focus on the services marketing mix and its peculiar characteristic. It includes special services such as: health, professional, bank, financial, sports, tourism, telecommunication and information systems services. One semester, 3 hours weekly. Prerequisite: MARK 133, ECON 123, STAT 201

MARK 320 **Marketing Research**
3 Credits

The purpose of this course is to examine the principles of marketing research as an essential tool to effective problem solving. This course provides the necessary tools to develop a complete marketing research. The student is exposed to the role, planning implementation and control of research, as a basis to the fulfillment of the marketing concept. One semester, 3 hours weekly. Prerequisite: MARK 133, ECON 123, STAT 201

MARK 322 **International Markets**
3 Credits

This course examines international economics transformation using an integrative and critical approach, specifically set around the questions of "How the National Markets Change to

international markets" then, a holistic analysis for global concepts, trends and strategies will be explained, followed by international situation, affairs and cases.

MARK 401 **Strategic Marketing**
3 Credits

The course focuses on decision making and problem solving techniques and skills through practice. The students will solve real life problems and will develop a final marketing plan, which will provide students the opportunity to apply concepts, tools and problem solving techniques. One semester, 3 hours weekly. Prerequisite: MARK 133, MARK 205, MARK 206, MARK 251, ECON 123, FINA 202

COMPUTERIZED INFORMATION SYSTEMS

COMP 110 **Introduction to Computer & Software**
3 Credits

Study, application and handling of basic computer concepts, productivity tools. Include the analysis and evaluation of different application software. Emphasize on the creation and editing of documents and effective presentation of programs such as: search engine, internet, electronic mail, word processor and presentations. Includes laboratory experiences and practice in the use of the internet.

COIS 106 **Business Programming in Basic**
4 Credits

This course prepares the student to solve common business' problems using the BASIC (Visual Basic) programming language. Control codes and instructions used in Visual BASIC will be discussed. One semester, 4 hours weekly. Prerequisite: COMP 115

COIS 111 **Software Applications for Business Administration**
4 Credits

Integration of application programs such as: word processor, spreadsheet, in an advanced atmosphere; basic principles of database and graphic organizers for the productivity of the businesses. It includes the development and extensive presentation of solutions to the businesses. The course is developed by means of discussions of readings, supported critics, investigations and oral presentations in the technology One semester, 4 hours weekly. Prerequisite: COMP 110

COIS 115 **Programming Logic**
4 Credits

Introduction to the development of algorithms and computer's programming using C language. Design, representation of algorithms, flow diagrams, pseudo codes and codification of programs.

Study of the basic elements of C language, such as basic data types, control structures and routines. It includes experience in laboratory. One semester, 4 hours weekly.

COIS 207 **Visual Basic II**
3 Credits

Study on the advanced concepts and strategies of Visual BASIC. Development diagnosis and solution of problems using the most novel concepts of Microsoft Visual BASIC. The course will be mainly developed by means of demonstration and application. The course will be mainly developed by means of demonstration and application of the use of the advanced tools of Microsoft Visual BASIC. In addition, the cooperative work will be emphasized. It includes experience in laboratory. One semester, 3 hours weekly. Prerequisite: COIS 106: Minimum grade: B.

COIS 215 **Visual Cobol**
4 Credits

Study on the Visual Cobol programming language. Analysis and evaluation of the syntax of Visual COBOL programming language. This language is mainly used to implement businesses' systems. The concepts of objects, classes, messages, instances, types of variables, encapsulation, inheritance, methods and everything related to object-oriented programming will be studied. The techniques of programming for the creation, modification and program maintenance will be presented. Analysis and interpretation of projects and cases, referring to information systems developed in COBOL OO. The course is developed by means of supported discussions of readings, reflections, critics, investigations and oral presentations. It includes experience in laboratory. One semester, 4 hours weekly. Prerequisite: COMP 115

COIS 250 **System's Analysis and Design**
3 Credits

This course presents a logical discipline in the analysis and design of new information systems, improvement of existing systems, data base applications, manual procedures and others. The objective of this course is to explore and develop practical methods to improve the effectiveness of the processes applied to systems' analysis. One semester, 3 hours weekly. Prerequisite: COIS 262, COIS 303

COIS 262 **Data Structures in C**
3 Credits

Study of different data structures (linear and nonlinear) and their implementation (search techniques, arrangement and handling). It includes stacks, queues and trees from the perspective of abstract data types (ADT). Programming for the processing of these structures is studied. Programming projects are required using C language. It includes experience in laboratory. One semester, 3 hours weekly. Prerequisite: COMP 115

COIS 303 Database
3 Credits

This course consists of the study of the various database models: hierarchical, networks and relational. It discusses the physical and logical structures database. It also includes the design and application of database concepts, report generation and files management. One semester, 3 hours weekly, requires laboratory. Prerequisite: COMP. 115, COIS 262

COIS 394 JAVA Programming
4 Credits

Introductory course based on the basic concepts of JAVA programming. Analysis and application of the structure, syntax, codification, classes, objects and methods of the JAVA programming language. It includes the use of objects of the JAVA libraries. The student will learn how to use the JAVA programming language to produce APLET and "stand-alone" applications. The course will be developed by means of presentations of verbal problems, analysis of cases, analysis and creation of programs and cooperative work. One semester, 4 hours weekly. Prerequisite: COIS 262

CSST 104 Introduction to Networks
3 Credits

This course is an introduction to the fundamentals, basic concepts, and terminology of networks. Topics include access and use of the Internet, intranet and networking hardware and software. The course is offered in a laboratory. One semester, 3 hours weekly.

GRAPHIC DESIGN

CSGD 100 Photography and Computer Components
3 Credits

This course covers the basic elements and principles of photography. The student will learn the use and differences of digital and film cameras and their auxiliary equipment. In addition the student will become familiarized with the computer digital equipment and software.

CSGD 101 Introduction to Graphics Design
3 Credits

This course covers the history, use and alternatives in the graphics design environment. The student will be exposed to computers and application software related to graphics design. They will learn how marketing, psychology, research, mass media, law, and ethics are important to professionals working in industry. Class will emphasize the use of strategy to develop creative advertising. One semester, 3 hours weekly.

CSGD 103 **Image Design**
3 Credits

This course covers the photo editing strategies to be applied on graphics design. The students will learn how to implement digital filters and textures to picture objects. The student will develop creative thinking to achieve innovative ideas. This course exposes the student to the Adobe Photoshop software. One semester, 3 hours weekly. Prerequisite: CSGD 101

CSGD 201 **Publishing Design I**
3 Credits

This course incorporates typesetting, electronic photo editing, graphics, and page design and layout. Students will learn computer publishing and creative problem solving utilizing Adobe Page Maker and Adobe Illustrator. One semester, 3 hours weekly. Prerequisite: CSGD 101

CSGD 202 **Publishing Design II**
3 Credits

This course provides an in-depth study of desktop publishing concepts and electronic page layout through graphics and typography. Student assignments will be worked out with the instructor focusing on individual needs. One semester, 3 hours weekly. Prerequisite: CSGD 201

CSGD 210 **Advanced Graphics Design**
3 Credits

This course implements critical and creative thinking to create a variety of professional and high quality publications such as magazines, books and publications. One semester, 3 hours weekly. Prerequisite: CSGD 201

CSGD 220 **Portfolio**
3 Credits

This course focuses on the development of professional portfolio as a requirement to obtain a position in the graphics arts industry. One semester, 3 hours weekly. Prerequisite: CSGD 210

CAPP 400 **Seminar: Capstone Project**
4 Credits

Supervised computer project to assist student in the development of work skills related directly to their field of study. It serves as evidence of learning assessment. Students must present the project as a requirement for the degree. One semester, 4 hours weekly. Prerequisite(s): 15 credits approved in major courses

COMPUTERIZED SYSTEMS SUPPORT TECHNICIAN**COIS 111 Software Applications for Business Administration**
4 Credits

Integration of application programs such as: word processor, spreadsheet, in an advanced atmosphere; basic principles of data base and graphic organizers for the productivity of the businesses. It includes the development and extensive presentation of solutions to the businesses. The course is developed by means of discussions of readings, supported critics, investigations and oral presentations in the technology. One semester, 4 hours weekly. Prerequisite: COMP 110

COIS 393 Operating Systems
3 Credits

The purpose of this course is for the student to learn and apply functions and commands of the operating system. It emphasizes basic concepts such as: disc initiation, programming language, handling of files, "backup" and operating systems such as Linux, DOS, Windows and MacOS. One semester, 3 hours weekly. CSST 200

COIS 250 System's Analysis and Design
3 Credits

This course presents a logical discipline in the analysis and design of new information systems, improvement of existing systems, data base applications, manual procedures and others. The objective of this course is to explore and develop practical methods to improve the effectiveness of the processes applied to systems' analysis. One semester, 3 hours weekly. Prerequisite: CSST 103, CSST 104

CSST103 PC Troubleshooting and Maintenance
3 Credits

This introductory course teaches how to set up, operate, and maintain a personal computer. Students will gain practical hands-on experience in the following areas: installing software packages, preventive maintenance, diagnostic testing, and peripheral interfacing. The course is offered in a laboratory. One semester, 3 hours weekly.

CSST 104 Introduction to Networks
3 Credits

This course is an introduction to the fundamentals, basic concepts, and terminology of networks. Topics include access and use of the Internet, intranet and networking hardware and software. The course is offered in a laboratory. One semester, 3 hours weekly.

CSST 200 Network Hardware Installation and Maintenance
3 Credits

This course covers the assembly of the components of a network. Students will apply their knowledge in the installation, configuration and troubleshooting in a network. They will learn how to connect buildings using microwave antennae and all the wiring to be used. They will learn about the use of tools for measuring the behavior of a network to identify problems. One semester, 3 hours weekly. Prerequisite: CSST 104

CSST 201 LAN Administration
3 Credits

This course teaches the students how to install and configure Windows 2000 Advanced Server in an Active Directory. One semester, 3 hours weekly. Prerequisite: CSST 200

CSST 205 Disaster Recoveries
3 Credits

This course presents methods to identify vulnerabilities and how to take appropriate countermeasures to prevent and mitigate failure risks for an organization. Also presents the students the principles of disaster recovery, including the preparation of a disaster recovery plan, assessment of risks in the enterprise, development of policies and procedures, understanding the roles and relationships of various members of an organization, testing and rehearsal of the plan, implementation of the plan, and actually recovering from a disaster. One semester, 3 hours weekly. Prerequisite: CSST 200

WEB DESIGN

WEBD 100 Introduction to Web Concepts
3 Credits

This course presents an overview of computing technology and the field of computer science. Discussion topics will include the organization of modern computers, the history of the Internet, the societal impact of technology, and the ethical issues and concerns related to Internet. Since the World Wide Web has evolved into a universal medium for communication and computation, special emphasis will be placed on studying the Web protocols and related technologies. One semester, 3 hours weekly. Prerequisite: COMP 110

WEBD 101 HTML
3 Credits

This course introduces students to building a Web page and teaches the basic HTML tags needed, to add color and graphics, or add links to other Web pages. One semester, 3 hours weekly.

WEBD 201 **WEB Programming**
3 Credits

This course introduces the student to the various tools used to develop today's web pages. It also covers basic web site administration. This course is taught in a laboratory and includes tools such as Front Page, MS Office, XML, and other programs found in the Internet. One semester, 3 hours weekly. Prerequisite: WEBD 101, COMP 115

WEBD 203 **WEB Graphics**
3 Credits

This course includes the use of advanced computerized programs (Macromedia, Flash) for the creation of animated web sites. It covers techniques to create professional Flash animations, animated GIF, interactive documents, materials for advertisement and sales to be used in web pages. One semester, 3 hours weekly. Prerequisite WEBD 201

CSGD 103 **Image Design**
3 Credits

This course covers the photo editing strategies to be applied on graphics design. The students will learn how to implement digital filters and textures to picture objects. The student will develop creative thinking to achieve innovative ideas. This course exposes the student to the Adobe Photoshop software. One semester, 3 hours weekly. Prerequisite: CSGD 101

STATISTICS

STAT 201 **Business Statistics**
3 Credits

Introduction to Business Statistics. This course is basic descriptive statistics: frequency distribution, measure of dispersion, time-series, index numbers, probability theory and measures of central value. One semester, 3 hours weekly. Prerequisite: MATH 111

QUME 250 **Quantitative Methods**
3 Credits

This course introduces the students to the study of quantitative methods. Topics include: exponentials, radicals, linear and quadratic equations, fractional and irrational equations, successions, sigma notation, arithmetic and geometric progressions. One semester, 3 hours per week. Prerequisite: MATH 111

The purpose of this course is to examine managerial aspects from 3 relevant perspectives in the insurance industry: the part granting the risks, the assuming part, and the facilitating and producing part. From point of view of the corporate part, the course identifies the managerial decisions necessary to manage risks. From the point of view of the insurer, the managerial processes to maximize efficiency are studied, within an acceptable relation with the regulator. From the perspective of the facilitating agency, the decisions necessary to be consistent with its mission and objectives are also identified. One semester, 3 hours weekly. Prerequisite: INSU 201, 202 or 203

INSU 401 **Seminar: Obtaining Certification**
3 Credits

The purpose of this course is to facilitate the student's integration to the industry, promoting their accreditation as professionals. The mechanism of designation developed by the industry to distinguish its professionals is used. The course will expose the students to the existing alternatives and will motivate them to choose their preferred one. The course will guide the students at the beginning of their studies and will assist them through tutoring and monitoring. One semester, 3 hours weekly. Prerequisite: INSU 301, 302 or 303

INSU 302 **Reinsurance**
3 Credits

The course identifies the purposes, modalities and tendencies of contemporary reinsurance. From this perspective the participants in the reinsurance market are also identified. From an operational point of view, strategies are defined and prepared to meet the objectives of the insurance business using reinsurance as a tool. Finally, the course develops tasks of an administrative nature that reinsurance requires. One semester, 3 hours weekly. Prerequisite: INSU 201, 202 or 203

INSU 303 **Legal Environment**
3 Credits

In this course, the focal points of regulations of the participating entities in the insurance industry in Puerto Rico are identified and examined. It also examines the impact of the dispositions of the law on planning and operation for insurers. Finally, recent developments in the area of integration of financial services are studied. The development of the analysis of the situation from a legal perspective is used as a learning tool. One semester, 3 hours weekly. Prerequisite: INSU 201, 202 or 203

INSU 402 **Advanced Solutions in Insurance**
3 Credits

The course objective is to discuss and reflect those concepts, insurance products or risk management strategies that have been proposed as solutions to highly complex or impacting problems in the insurance industry. The performers of these solutions are the institutional insured

in some cases and the insuring entities in others. Some of the topics included on this list of solutions are the finite risk plans, integrated risk plans, self-insurance, retroactive tariff plans, financial reinsurance and retroactive reinsurance. The course provides the students with the opportunity to develop a topic of their choice. It also demands the responsibility to support their proposals with research, in addition to transferring that knowledge to their colleagues. One semester, 3 hours weekly. Prerequisite: 301, 302 or 303

OFFICE SYSTEMS

OFAS 104 Speedwriting **3 Credits**

This course is designed to develop skills in the speedwriting system. The skill is developed through practice in reading, writing and dictation as well as transcribing in a logical form, exactly what was abbreviated. In addition, the course emphasizes language and punctuation rules. One semester, 3 hours weekly.

OFAS 107 Medical Transcription **4 Credits**

This course develops the student's skills to transcribe medical information through the use of a Dictaphone and transcription machine. It also includes the use and development of medical terminology. Emphasis is given to the production of medical reports. One semester, 4 hours weekly. Prerequisite: OFAS 221

OFAS 121 Basic Keyboarding I **4 Credits**

This course is designed to begin developing writing skills on the computer for students. The main emphasis will be on mastering techniques to achieve speed and the precision required. The basic skills for text copy, drafts and documents with knowledge of word processing, outlook managing and introduction to power point presentations will be applied. The course also develops good team working habits, and the use of technology and analysis. One semester, 4 hours weekly.

OFAS 122 Basic Keyboarding II **4 Credits**

This course continues developing skills and basic techniques necessary to achieve speed and the precision required. Once the students master the basic word processing techniques, they can transfer these skills to the production of business documents, such as: email, letters, unbound and left bound reports, references and footnotes. They will continue developing techniques for proofreading in the production of documents and tests for speed and accuracy. The course also develops good team working habits, and the use of technology and analysis. One hour of practice per week in an open lab. One semester, 4 hours weekly. Prerequisite : OFAS 121

OFAS 125 **Secretarial Accounting**
3 Credits

This course has been designed to cover the basic knowledge of accounting. The main objective is to help the students understand and apply the principles of accounting that are necessary for those that wish to succeed in their administrative career. It is developed through demonstrations, application exercises, team working, Internet search and designing graphic maps. One semester, 3 hours weekly.

OFAS 204 **Speedwriting Transcription**
3 Credits

The course is an in-depth review of the theory of the speedwriting system, where the student develops speedwriting skills of 60 words per minute. The skills are developed through practice in reading, writing and dictation. Transcription skills are integrated with correct language usage and typewriting skills to produce different types of commercial documents. One semester, 3 hours weekly. Prerequisites: OFAS 104, OFAS 122

OFAS 208 **Management Applications in the Office Automation**
3 Credits

In this course the students will analyze the principles and goals of the automated office system from the point of view of and administrator. It studies the administrative problem established in establishing and implementing a plan for an automated office system. The course emphasizes the analysis of situations and decision making. One semester, 3 hours weekly.

OFAS 221 **Advanced Word Processing I**
4 Credits

This course emphasizes the development of advanced skills and knowledge to produce information using a microcomputer with a word processing program. It also develops the basic skills and techniques to type a minimum of 30 words per minute, in tests of five minutes each. The student will master written communication using acceptable office formats such as, business letters with special characteristics and styles, memorandums, tabulation, technical and statistical reports and others. Speed and accuracy will be increased in rough-draft copy, statistical script and handwriting copy. Emphasis is given to proofreading, good habits, organization of work and good interpersonal skills. One semester, 4 hours weekly. One hour of practice per week in an open lab. Prerequisite: OFAS 122

OFAS 230 **Machine Transcription**
3 Credits

This course is designed to develop the student's proficiency in the use of transcribing equipment. Emphasis is on application of Spanish language skills through transcription of business correspondence. Proofreading and accuracy in transcription will be emphasized. One semester, 3 hours weekly. Prerequisites: OFAS 221 approved or concurrently, and SPAN 102.

OFAS 290 **Record Management**
3 Credits

This course is aimed at the application of the systematic analysis and control of business records from their creation up to their final disposition. This includes the planning, organization and control of documents in different systems as well as the following applications: database filing, microfilm, magnetic registers, etc. It also includes the discussion the application of procedures and policies, the discussions of readings, supported critics, investigations and oral presentations in the technology, problem solving and interactive activities. One semester, 3 hours weekly.

OFAS 291 **Modern Office Procedures**
3 Credits

This course develops the necessary skills for effective performance in the business world. It emphasizes the need for the development of good working habits, decision making and work organization. The course emphasizes the development of business vocabulary and the application of office procedures. One semester, 3 hours weekly. Prerequisite: OFAS 122

OFAS 300 **Document Generation**
3 Credits

This course examines the varied and different methods utilized to generate and produce documentation (correspondence) by administrative personnel. Emphasis is placed in the development of different types of documents utilizing common means of creation, such as machine dictation, handwritten and rough drafts or computer keyboarding composition. One semester, 3 hours weekly.

OFAS 301 **Introduction to Telecommunications**
3 Credits

This course is an introduction to telecommunications in the office. Practical applications are an integral part of this course. Emphasis will be on the application of telecommunication to facilitate information interchange in whatever form the information takes: voice, data, text and image. One semester, 3 hours weekly.

OFAS 303 **Document Production**
3 Credits

This course develops keyboarding skills in the production of business documents at its highest level. It includes the preparation of complex documents such as: business letters with two or more pages, circular letters, reports, administrative communications, business forms and tabulation with many columns. An in-basket exercise will be utilized as the means to develop skills in the decision-making process and skills in how to establish priorities. One semester, 3 hours weekly. Prerequisite: OFAS 221

OFAS 306 **Software Applications in Word Processing; Graphic**

3 Credits Presentation and Editing

This course provides the students with the skills and techniques to create pages with all kinds of design elements, such as formatted text, lines, photographs and pictures using the desktop publishing program. Also, the students can create print publications, such as newsletters, brochures, activities programs, invitations, postcards, professional identification cards, and calendars. Using the tools and features of the Presentation Program the students will create and effective presentation integrating texts, photographs, tables, graphic and sound. One semester, 3 hours weekly. Prerequisite: OFAS 122

**OFAS 307 Legal Transcription
4 Credits**

This course develops the skills for legal transcription of documents, using the dictation from a computer. It includes the development of legal terminology. Emphasis is placed on the production of legal documents and the use of technology. One semester, 4 hours weekly. Prerequisites: OFAS 122, SPAN 275

**OFAS 323 Spreadsheet and Database Applications
3 Credits**

This course is designed to introduce the students to the basic and intermediate concepts and applications of spreadsheets and databases. The students will learn to use various electronic spreadsheet applications as well as create and manage database programs, data files, and produce documents and reports. Emphasis is given to good habits, organization of work, use of technology and good interpersonal skills. One semester, 3 hours weekly. Prerequisite: OFAS 122

**OFAS 324 Preparation of Workshop Training
3 Credits**

This course prepares the students in the planning and implementation of workshops within an office setting. The course consists of a simple orientation of new employees to the development of workshops for employees in the use of new technologies and an administrative system for the office as well as the workplace. One semester, 3 hours weekly. Prerequisite: OFAS 306

**OFAS 326 Programs Integration
4 Credits**

The application of advanced functions for the Microsoft Office programs integration in the creation of documents. Includes word processing, data sheet, database, presentations and email skills. The course is developed by means of cooperative work, supported critics, investigations and oral presentations in the technology. One semester, 4 hours weekly. Prerequisites: OFAS 221, 323 y 306

OFAS 392 **Office Internship**
4 Credits

The application of concepts and skills related to the Office System career through supervised work within an office. It requires a minimum of 144 during the semester. Emphasis on developing initiative and assuming responsibility through actual experience. Also, the seminar course is developed by means of discussions of readings, cooperative work, oral presentations and Internet use. Prerequisites:

BACHELOR: OFFICE SYSTEMS

OFAS 326
 OFAS 290
 OFAS 491

ASSOCIATE: EXECUTIVE SECRETARY

OFAS 326
 OFAS 290
 OFAS 291

**ASSOCIATE: MEDICAL SECRETARY
 WITH HEALTH INSURANCE BILLING**

OFAS 290
 OFAS 221
 OFAS 291

ASSOCIATE: LEGAL SECRETARY

OFAS 290
 OFAS 291
 OFAS 221

OFAS 491 **Administrative Office Procedures**
3 Credits

This course studies the process of administration, organization and communication. It also emphasizes the following areas of office administration: personnel selection, professional development, supervision, motivation, performance assessment, analysis of positions, job evaluation, salaries, measuring work performed and employee productivity. The course emphasizes the analysis of situations, case evaluations and decision-making. One semester, 3 hours weekly. Prerequisites: OFAS 221, 291

BUSINESS ADMINISTRATION AND OFFICE SYSTEMS RESEARCH PROJECT

BAOS 499 **Research Project**
4 Credits

The course focuses on assist students in the development of diverse research skills related directly to their field of study. Practical emphasis in the elaboration of a research project, applying the basic concepts learned through the course. One semester, 4 hours weekly

Prerequisites for Management, Accounting and Marketing:

MATH 119

MANA 282 or concurrently

Prerequisites for Office Systems and Administrative Secretary:

MATH 116

OFAS 392 or concurrently

UNIVERSIDAD DEL ESTE

School of Education

Undergraduate Catalog

2006-2008

SCHOOL OF EDUCATION

The School of Education is home to the UNE graduate and undergraduate academic programs that prepare teachers, educational leaders and other professionals in education. Also, it is responsible for the fundamental and professional courses for obtaining the corresponding State teaching certifications (Professional Pedagogical Component). The School guides and collaborates with those initiatives that are inherent to its body of knowledge, including the graduate programs in Education. In addition, it promotes the integration of purposes between different units that offer programs and projects in education, at the main campus, at the off-campus centers, as well as in the School of Professional Studies (AHORA). The School's goal is to use continuous assessment as an effective means of objective and true decision-making.

According to the Institutional Mission, the learning paradigm, along with the constructivist educational approach, and the cognitive-humanistic theoretical framework, are the core of the pedagogical operation of the School of Education.

Theoretical / philosophical framework of the School

The development of the School's theoretical framework is supported in the study of educational fundamentals inherent to the educational effort. The philosophical, sociological and psychological fundamentals of the School are based on support for the learning paradigm under which several focal points have been developed. Among those used and modeled by the School in its educational actions are: (1) the cognitive – humanistic theories; (2) the constructivist paradigm; and (3) the new focus of studies on learning based on the brain (Sylvester), multiple intelligence (Gardner), emotional intelligence (Goleman), moral values and education (Kolberg), among others.

Also, the School has developed by integrating the educational fundamentals (theoretical and applied) that are inherent and essential to its effort, which is to educate. Each of the educational fundamentals is projected in some manner in the organization of the new School, especially in its curriculum and educational activities. The fundamentals allow flexible development and the agility required by a curriculum in education.

Vision

Beliefs and Values

The School of Education is by nature an organic academic – administrative unit; that is, where life is given and a system of common values, goals and objectives are shared in an interrelated and co-existing manner. The values are attributes or elements to specific modes of behavior or states of existence, personal or social, individual or in groups (Goldstein, Nolan & Pfeiffer, 1992).

Using this premise, the School shares, develops its culture, gives meaning to its existence, facilitates its processes and aligns with the principles that guide the UNE in its new Mission. These principles, **wisdom**, **justice**, **honor** and **freedom**, are the pillars of the conduct and the general development of the School.

The School believes in the individual and collective capacities of all of its constituents, who are, the faculty, the students, the administrators, the support professionals and the community in general.

In its inherent educational endeavor, it places emphasis on students as the center of all the processes, academic and administrative.

Mission

...To promote the formation, the personal and professional development and learning for all their lives of future teachers and professionals in education. This is attained by means of **transformative** learning based on the building of knowledge and the development of critical - creative thinking.

The academic programs respond to the study about the needs in the reality of Puerto Rican education. Pedagogical theory, early internships, formal teaching practice, community service and research are integrated throughout the curriculum as a means of active and applied learning. Integrating into the professional community, both in the government and private sectors, as well as into the general community by developing collaborative learning communities, is a priority interest for the School.

Assessment and access to information through different sources are the principal means that support academic, administrative, and service activities aimed at the student teachers.

Goals

To achieve its Mission, the School is dedicated to developing an educational environment favorable for achieving the following strategic goals:

1. *Develop a culture of achievements appropriate for the university academia...*
 ...Based on common values, beliefs and customs, that allow the integration of all the components, collaborative discussion, measured and decisive dialogue about affairs relevant to the teaching endeavor, that shows new venues to celebrate the achievements and learn from the opportunities, and that the administrative and budget processes be based on the discussion of its constituents according to the work plan.
2. *Provide to the students an academically transformative environment so they can achieve their full and whole development...*
 ...So they can be prepared for life as Puerto Rican and global citizens, to exercise leadership and face a technologically changing and dynamic occupational world.
3. *Develop in the students the pedagogical – professional knowledge and skills necessary in the fundamentals of education, emphasizing writing and reading, as well as in the specialties, through a flexible and updated curriculum...*
 ...That will emphasize teaching, obtaining their Professional Certification, learning assessment processes, inquiring, team work experiences derived from cooperative learning and from manipulative and field experiences, among others; and that incorporates elements of access, evaluation and application of information to lead them to the solution of problems, personal as well as professional and communitarian.
4. *Develop, implement and evaluate undergraduate academic offerings to contribute to the development plan of the School...*

...In tune with the occupational trends and identified needs, strengths and opportunities, to achieve academic competitiveness necessary for the sustained development towards quality and excellence.

5. Obtain the specialized accreditations in the corresponding academic offerings...

...To allow an updated curricular development, to be in tune with the professional changes and trends, to allow occupational mobility for our alumni, to position us as an institution of prestige and participate in the development of professions related to education.

6. Maintain an active and dynamic faculty that develops a variety of pedagogical activities, including research, publishing and writing fundraising proposals...

...For its personal and professional development; to integrate into the organizational development by means of implementing and evaluating a plan for continuous training and professional development for the constituents, so as to achieve innovation and efficiency in the teaching and administrative processes.

7. Maintain and continue developing strategic alliances and collaborative agreements...

...That allow to contribute to the development of universal values and socioeconomic of the Island, to promote strengthening of the academic programs and the creation of advisory boards, in addition to integrating efforts of mutual collaboration.

8. Develop community service...

...As a means of contributing to a better quality of life in the surrounding communities and serve the public and private schools from pre-school and elementary, through high school.

Faculty

Almodóvar López, Mayra

Instructor; Early Childhood
MA Ed., Pratt Institute in New York

Arribas, María del Carmen

Assistant Professor; Early Childhood and Graduate Education
Ed D., Curriculum and Teaching in Spanish, UPR, Río Piedras Campus

Cintrón Cabrera, José R.

Assistant Professor; Graduate Education
Ed.D., Educational Administration with emphasis in Higher Education, InterAmerican University, Metropolitan Campus

Bayuelo Flórez, Ezequiel de Jesús

Assistant Professor; Graduate Education
Ed.D., Curriculum and Teaching in Science, UPR, Río Piedras Campus

Figueroa Britapaja, José R.

Assistant Professor; Graduate Education
Ph.D., Education in Curriculum and Supervision, The Pennsylvania State University

Figueroa Camacho, Julio

Instructor; Physical Education
 MA Ed., Physical Education, Universidad Metropolitana, Cupey Campus

Figueroa Rosario, Amarilis
 Instructor; Education
 MEd., UPR., Río Piedras Campus

Huertas Solá, Mildred
 Full Professor; Graduate Education
 Ed.D., Curriculum and Teaching in Science, UPR., Río Piedras Campus

Martínez Plana, Mayra
 Assistant Professor; Education undergraduate and graduate
 Ph.D., Educational Psychology, UPR, Río Piedras Campus

Soto Sonera, José
 Instructor and Coordinator, Science Education Program;
 Ed.D Curriculum and Teaching in Science, MEd. Biology, UPR, Río Piedras Campus

Reeves García, Luis R.
 Instructor; Physical Education
 MEd., Physical Education, InterAmerican University, Metropolitan Campus

Administrative and Support Staff

Cintrón, Cabrera, José R.
 Dean,
 Ed.D., Educational Administration with emphasis in Higher Education, Inter. American University,
 Metropolitan Campus

Rivera, Pablo S.
 Associate Dean,
 Ed.D., Administration y Supervision , UPR, Río Piedras Campus

Almodóvar López, Mayra
 Coordinator, Early Childhood Education Program

Soto Sonera, José
 Coordinator, Science Education Program
 Reeves García, Luis R.
 Coordinator, Physical Education Program

Meléndez, Aurora, MA, Education, University of Puerto Rico, Río Piedras Campus
 Director, Early Education Practice Teaching Center

Marybell Rodríguez, MA, Early Childhood Education, University of Puerto Rico, Río Piedras Campus
 Director, Early Childhood Center (Child Care)

Bárbara García, BS, Universidad del Este
 Director, After School Tutoring Center

Meléndez Bayala, Denisse, BBA, Marketing, Universidad del Este
 Coordinator, Students Affairs-Undergraduate level

Becoming a Future Teacher at UNE

Special rules and remarks for all candidates, applicants and students enroll in any teacher preparation program at the undergraduate level at Universidad del Este

1. Due to constant new requirements and accountability initiatives from the US Department of Education, the PR Department of Education, the PR Council on Higher Education and other agencies, School's curricula, rules and regulations, and requirements could experience changes in many instances during any given period of his/her studies or cycle of the academic year. Any changes that take place affecting the students teaching and learning processes will be communicated immediately by the School officials.
2. Students are responsible to meet any new requirement and share it with future teachers colleagues (Please, see Student's Rules and Regulations Manual). Please, visit our Office or ask Program's coordinators or faculty for any doubt.
3. According to the Puerto Rican legislation and in compliance with the Puerto Rico's Department of Education 2004 Regulation for Teacher Certification Bulletin, to obtain a permanent teaching credential/license every candidate must pass the teacher certification examination board titled Pruebas de Certificación de Maestros de Puerto Rico (PCMAS by their Spanish Acronym), (***Puerto Rico Teacher Examination Certification***) administered by The College Board.
4. *In order to obtain UNE's degree and be certified as so, future teacher must evidence and submit to Registrars Office the overall approval of Prueba de Certificación de Maestros-PCMAS. (Puerto Rico Teacher Examination Certification).*
5. The Department of Education of the Commonwealth of Puerto Rico establishes that the future teacher candidate must possess a 2.50 of Graduation Index (in addition of PCMAS approval) to apply for a job position in the public education system.
6. In addition to formal courses and labs, students enrolled in any major shall participate and evidence several extracurricular activities, such as: additional clinical experiences, workshops, seminars and voluntary work.
7. All courses titled EDUC, ECED, SCED, EASC, PHED, HEED, MAED, SPED or any new code adopted for new educational programs must be approved with a minimum of a "B". Courses

with C or less could be repeated at least two times. Education majors shall maintain a 2.50 general index average.

8. All Practicum and Seminar courses shall be taken concurrently. Program's Coordinator and faculty staff would assign practicum centers and schools.
9. All Education students who are going to take Prueba de Certificación de Maestros –PCMAS- given on March of each year, must take and approve EDUC 436-Pedagogical Integration. Approval of this course means complies with course syllabi and the approval of School's Mock Test.
10. The School is not responsible for students taking Pruebas de Certificación de Maestros-PCMA'S- without the necessary prerequisites and authorization by the Dean.
11. Simulated or mock tests could be given at any time, especially after the completion of the second year.
12. The English, Spanish and Mathematics courses will be assigned according to the student's proficiency level resulting from the College Entrance Examination Board or the tests given by UNE's Centro de Recursos para la Excelencia Educativa (CREE).

NOTE: The enrollment of the student gives knowledge and approval of the School's norms mentioned above. The School of Education is not responsible for any misinformation, misunderstanding or incorrect decisions made by the student concerning these norms.

Program Description

Bachelor in Arts in Education

Early Childhood and Primary Education (0 thru 3er grade)

The alumni of the Bachelor of Arts in Education with a major in Early Childhood and Primary Education may have several employment opportunities working with children from 0 to kinder level and/or kinder to third grade. Graduates may work directly with children in public and private centers and schools, as educators, teachers or administrators. Those that work as teachers for the Department of Education will work at the following levels: pre-school and primary. They will also have employment opportunities with programs such as: Early Head Start, Head Start, early pre-schools and public and private pre-school centers. Alumni will also be qualified to establish their own pre-school center.

Bachelor in Science in Education School Health

Teachers of school health are professionals that offer their services to elementary and secondary schools, public as well as private, in and out of the country (the teaching level is determined by the Practicum). These professionals facilitate the students to develop the concepts, skills and attitudes favorable for the development of holistic health, through educational processes and models appropriate to the subject matter. The teaching-learning process in School Health involved student's healthy behavior to be able to deal assertively with the pressures of the physical and sociocultural environments to which they are exposed. Teaching school health implies dealing with the problems of our youth associated to lifestyles: sexual behavior, use of tobacco, alcohol, and drugs, violence and others.

Teachers of school health are professionals in education that must see themselves as being in continuous development, both as a person and as a professional. They must become a student for life; as a facilitator they must possess knowledge and skills and must also maintain a reflexive attitude towards the curriculum and towards the teaching-learning process. They must have good attitudes and elements of effective communication with students, parents, and the general community.

Special Certification via Alternate Route: School Health Teachers

Universidad del Este is the only post-secondary education institution in Puerto Rico that offers the specialty in School Health for those in service teachers or for those professionals outside the field of education that wish to obtain the respective Certification of the Department of Education of PR. The cluster of courses recommended by the School of Education, prior evaluation of the Department of Education of PR, is offered in the eight weeks part of term modality.

Science Education: Elementary and Middle School Levels

Science teachers teach science in elementary schools (grades 4-6) and middle schools (7-9). Teachers receive an integral formation in their studies that combine the broadest scientific knowledge along with the most advanced teaching methodologies and strategies. The teaching methodologies and strategies will be subordinated to the conceptual base of sciences as a subject matter for study. The base of the professional preparation of the science teacher is designed according to the qualifications required by the Department of Education for its certifications. The alumni can choose to be certified for teaching in elementary (grades 4-6) or for science teacher at middle school level (grades 7-9).

The professional profile of the science teacher responds to the highest quality criteria suggested by organizations that set the standards of excellence regarding the teaching of science. The profile considers all the elements presented in the Puerto Rico Teacher Profile, as established by the Department of Education. Teachers will be agents of constructive change, knowledgeable and able to manage technology and scientific concepts, facilitators of the learning process.

A solid preparation in natural sciences places these teachers in an advantageous position to direct students towards scientific research aimed at preparing science projects that can compete successfully in Science Fairs in Puerto Rico and the United States. The fields of science and technology in Puerto Rico offer excellent employment opportunities for science teachers. There is a great demand for them, both in public and private schools. Also, these teachers can broaden their knowledge of natural sciences, which allow them to compete for other jobs in the field of natural sciences.

Science Education: Terrestrial Sciences

The Science Education program offers a unique specialization in Terrestrial Sciences. The alumni of this offering will be a professional that will develop scientific concepts in the field of terrestrial sciences, and will apply them to as a terrestrial sciences' teacher at the middle level (7-9).

Also, this major is available for in-service teachers and candidates who want to obtain this Certification via Alternate Route. The cluster of concentration courses recommended by the School of Education is offered in the eight weeks part of term modality.

Physical Education

The Physical Education Program of the School of Education offers a diverse curriculum aimed at the integral development of future teachers. The bachelor degree in physical education is offered for two levels of teaching: the elementary level, which covers from kindergarten to the sixth grade, and secondary, which includes seventh to twelfth grade. The elementary level is subdivided into grades K-3 and 4-6, and the secondary into grades 7-9 and 10-12. This bachelor degree is aimed at developing professionals capable of working in physical education integrating modern scientific concepts of exercises, movement, group sports, individual and team sports, as well as other manifestations of human movement.

The Program's alumni will be qualified as excellent educators that perform effectively in educational related areas, such as: public and private schools, health services organizations, institutions related to sports, as well as the general community.

UNE presents an innovative, coherent, articulate and integrated model. This model will be developing in the future physical education teachers the professional skills with a scientific base, broad curricular schemes and a wide repertory of experiences of teaching and learning. The model will include knowledge of the scientific base that will allow the physical educator a broad understanding of the processes of growth and development from birth to adolescence. The broad knowledge of curricular schemes from early childhood to secondary school will allow physical educators to detect the needs of their students, be they physical, cognitive, or affective and motor, in addition to enriching the formal curriculum with its movement activities.

School's Minors

Minor Concentration / Special Certification: Teaching of Infant and Toddlers

Universidad del Este is the only post-secondary education institution in Puerto Rico that offers the specialty of Teaching of Infant and Toddlers for those teachers, in service and pre service, who wants to develop additional competencies in this field. The twelve credits clusters of courses recommended by the School of Education are offered in the eight weeks part of term modality. A student who wants to pursue this cluster obtains a Minor in this field.

Minor Concentration / Special Certification: Kinder thru Third Grade (K-3).

Universidad del Este offers the twelve credits clusters of courses for those teachers, in service and pre service, who wants to develop additional competencies in grades kinder thru third (K-3). The courses recommended by the School of Education are offered in the semester and in the eight weeks part of term modalities. A student who wants to pursue this cluster obtains a Minor in this field.

Minor Concentration / Special Certification: School Violence Deviation

Universidad del Este is the only post-secondary education institution in Puerto Rico that offers a professional Certificate in School Violence Deviation, for those teachers (in-service and pre-service), administrators, counselors, social workers, community leaders, and any other education related human resource. The cluster of four courses (12 credits) recommended by the School of Education is offered in the eight weeks part of term modality. A student who wants to pursue this cluster obtains a Minor in this field.

Minor Concentration / Special Certification: School Social Work

Universidad del Este offers the necessary education courses for Social Workers to be certified as School social workers. The cluster of seven courses (21 credits) recommended by the School of Education is offered regularly each semester. A student who wants to pursue this cluster obtains a Minor in this field and could apply for its respective Certification.

Minor Concentration / Special Certification: Community Health

Universidad del Este is the only post-secondary education institution in Puerto Rico that offers a professional Certificate in Community Health for those teachers (in-service and pre-service),

administrators, counselors, social workers, community leaders, and any other education related human resource. The cluster of five courses (15 credits) recommended by the School of Education is offered in the eight weeks part of term modality. A student who wants to pursue this cluster obtains a Minor in this field.

Minor Concentration / Special Certification: Earth/Terrestrial Sciences

Universidad del Este is the only post-secondary education institution in Puerto Rico that offers the specialty of Teaching of Earth/ Terrestrial Sciences for those teachers, in-service and pre-service, who wants to develop additional competencies in this field. The thirty (30) credits clusters of courses recommended by the School of Education are offered in the eight weeks part of term modality. A student who wants to pursue this cluster obtains a Minor in this field and could apply for its respective Certification.

Admission's Requirements to Educational Programs

These are in addition to the general admissions requirement to enter at UNE.

- High School grade point average of 2.5
- Interview with the Program's Admission's Committee
- Scientific Education mayors have two additional requirements:
 - College Board results of 400 or above in Mathematics
 - 2.5 grade point average at the high school level in Sciences and Mathematics courses

Bachelor's Degrees

Bachelor in Arts in Education Major in Early Childhood Education

124 Credits	Credits
General Education	48
Educational Component	33
Major Courses	37
Electives	6

General Education Component 48

QYLE 110	Formative Integral Development	3
SPAN 115	Reading, Writing and Oral Communication in Spanish I	3
SPAN 275	Advanced Writing in Spanish	3
ENGL 115	College Reading and Writing	3
ENGL 307	Professional Writing	3
MATH 116	Foundations of Mathematical Reasoning	3
BIOL 252	Life on Planet Earth: origins, characteristics...	3
UNRE 101	Concepts and Principles of Research	3
SOSC 113	Analysis of the Historical and Cultural Processes	3
SOSC 242	Political and socio-economic principles of Globalization	3
HUMA 230	Appreciation of the Arts and Music	3
PHED 105	Physical Aptitude and General Wellness	3
	Biological Sciences I & II	3
HIST 255	Analysis of the Puertorrican Historical Process	3
HIST 273	History of United States of America	3
HUMA 224	Contributions of the Great World Civilizations	3
EDUC 230	Education for Peace	3

Professional Educational Component 33

EDUC 171	Human Growth and Development I	3
EDUC 172	Human Growth and Development II	3
EDUC 202	Device and Materials for Teaching and Learning	3
EDUC 305	Sociological Foundations of Education	3
EDUC 409	Planning and Evaluation of the Learning Process	3
EDUC 410	Teaching of Mathematics at Primary level (K-3)	3
EDUC 411	Teaching of Science at Primary level (K-3)	3
EDUC 412	Teaching of Social Studies at Primary level (K-3)	3
EDUC 411	Teaching of English as a Second Language at Primary level (K-3)	3
EDUC 420	Philosophical Foundations of Education	3
EDUC 436	Pedagogical Integration	3

Major Courses 37

ECED 173	Introduction to the Early Childhood Education	3
ECED 210	Observation, Planning and Pedagogical Evaluation	3
ECED 308	Management of the Early Childhood Education Environment	3
ECED 309	Infant and Toddler Curriculum	3
ECED 310	Perceptual Motor- Development, Learning and the Brain	3
ECED 311	Cognitive and Logic – Mathematical Development	3
ECED 322	Health, Nutrition and Preventive Medicine	3
ECED 329	Education for Children with Exceptional Needs and Abilities	3
ECED 402	Creative Expression in Early Childhood	3
ECED 403	Curriculum Development in Pre-school and Primary Education	3
ECED 405	Development of Language and Literacy	3
ECED 439	Clinical Experience I	0
ECED 440	Clinical Experience 2	0
ECED 441	Clinical Experience 3	0
ECED 442	Practicum/Seminar in Early Childhood Education	1
ECED 443	Practicum in Early Childhood Education	3

Electives **6**

*The English, Spanish, and Math courses will be assigned according to the student's proficiency level.

The professional and the major courses must be approved with a minimum grade of B.

The student should maintain a 2.50 grade average in his/her program at all times.

The general and the major point average required for graduation is 2.50.

**Bachelor in Science in Health Education
Major in School Health**

121 Credits
General Education

Credits
48

Educational Component		27
Professional Component	21	
Major Courses		19
Electives		6

General Education Component **48**

QYLE 110	Formative Integral Development	3
SPAN 115	Reading, Writing and Oral Communication in Spanish I	3
SPAN 275	Advanced Writing in Spanish	3
ENGL 115	College Reading and Writing	3
ENGL 307	Professional Writing	3
MATH 116	Foundations of Mathematical Reasoning	3
BIOL 252	Life on Planet Earth: origins, characteristics...	3
UNRE 101	Concepts and Principles of Research	3
SOSC 113	Analysis of the Historical and Cultural Processes	3
SOSC 242	Political and socio-economic principles of Globalization	3
HUMA 230	Appreciation of the Arts and Music	3
PHED 105	Physical Aptitude and General Wellness	3
	Biological Sciences I & II	
HIST 255	Analysis of the Puertorrican Historical Process	3
HIST 273	History of United States of America	3
HUMA 224	Contributions of the Great World Civilizations	3
EDUC 230	Education for Peace	3

Educational Courses **27**

EDUC 135	Foundations of Education	3
EDUC 171-172	Human Growth and Development I & II	6
EDUC 202	Device and Materials for Teaching and Learning	3
EDUC 204	Nature and Needs of Exceptional Children	3
EDUC 221	Language Arts in the Elementary Level	
or		
EDUC 400	Language Arts in Secondary School Level	3
EDUC 406	Seminar in Classroom Research	3
EDUC 409	Planning and Evaluation of Teaching-Learning Process	3
EDUC 436	Pedagogical Integration	3

Professional Courses **21**

PUHE 101	Introduction to Public Health	3
PUHE 201	Biostatistics	3
PUHE 203	Introduction to Epidemiology	3
PUHE 210	Biological Aspects of Human Diseases	3
HEED 201	Environmental Health Education	3
HEED 301	Life and Health Styles	3

MATH 118	Foundations of Algebra	3
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Major Courses		19
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HEED 310	Human Sexuality and Health Education	3
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HEED 312	Health Education and Personal Care	3
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HEED 314	Health Education and Personal Safety	3
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HEED 316	Education for the Prevention of Tobacco, Alcohol and Drugs	3
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HEED 405	Clinical Experiences 1	0
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HEED 406	Clinical Experiences 2	0
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HEED 407	Clinical Experiences 3	0
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HEED 408	Curriculum and Methodology in the Teaching of Health Education	3
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HEED 409	Seminar in School Health Education	1
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HEED 410	Practicum in School Health Education	3
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Electives		6
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Note: PUHE courses are ascribed to the School of Health Sciences.

*The English, Spanish, and Math courses will be assigned according to the student's proficiency level.

The professional and the major courses must be approved with a minimum grade of B.

The student should maintain a 2.50 grade average in his/her program at all times.

The general and the major point average required for graduation is 2.50.

Bachelor of Science in Science Education
Major in Science Education in Elementary Level (grades 4-6)

125 Credits		Credits
General Education		48
Educational Component		27
Professional Component	12	
Major Courses		32
Electives		6

General Education Component **48**

QYLE 110	Formative Integral Development	3
SPAN 115	Reading, Writing and Oral Communication in Spanish I	3
SPAN 275	Advanced Writing in Spanish	3
ENGL 115	College Reading and Writing	3
ENGL 307	Professional Writing	3
MATH 116	Foundations of Mathematical Reasoning	3
BIOL 252	Life on Planet Earth: origins, characteristics...	3
UNRE 101	Concepts and Principles of Research	3
SOSC 113	Analysis of the Historical and Cultural Processes	3
SOSC 242	Political and socio-economic principles of Globalization	3
HUMA 230	Appreciation of the Arts and Music	3
PHED 105	Physical Aptitude and General Wellness	3
	Biological Sciences I & II	
HIST 255	Analysis of the Puertorrican Historical Process	3
HIST 273	History of United States of America	3
HUMA 224	Contributions of the Great World Civilizations	3
EDUC 230	Education for Peace	3

Educational Courses **27**

EDUC 135	Foundations of Education	3
EDUC 171-172	Human Growth and Development I & 2	6
EDUC 202	Device and Materials for Teaching and Learning	
EDUC 204	Nature and Needs of Exceptional Children	3
EDUC 406	Seminar in Classroom Research	3
EDUC 409	Planning and Evaluation of Teaching-Learning Process	3
HEED 301	Life and Health Styles	3
EDUC 436	Pedagogical Integration	3

Professional Courses **12**

SCED 203	History, Philosophy and Sociology of Science: Educational Implications	3
SCED 215	Development of the Conceptual Frameworks and Knowledge	3

	Construction in the Biological and Environmental Sciences at Elementary and Middle Levels	
SCED 216	Development of the Conceptual Frameworks and Knowledge Construction in the Physics, Earth and Chemistry Sciences at Elementary and Middle Levels	3
SCED 310	Models, Strategies, Resources and Scientific Research in Science Education at Elementary and Middle Levels	3
Major Courses		32
CHEM 121	Basic Concepts in Chemistry	3
PHSC 101-102	Introduction to the Study of Physical Sciences I & II	6
MAED 201	Mathematics in the Elementary School	3
EASC 123	Basic Concepts of Earth Sciences	4
EDUC 215	Social Studies in the Elementary School	3
EDUC 221	The Language Arts in the Elementary School	3
EDUC 222	English as a Second Language at the Elementary School Level	3
EDUC 226	Arts and Recreation at the Elementary School Level	3
SCED 416	Clinical Experiences 1	0
SCED 417	Clinical Experiences 2	0
SCED 418	Clinical Experiences 3	0
SCED 419	Seminar In Science Education	1
SCED 420	Science Education Practicum in Elementary School Level	3
Electives		6

*The English, Spanish, and Math courses will be assigned according to the student's proficiency level.

The professional and the major courses must be approved with a minimum grade of B.

The student should maintain a 2.50 grade average in his/her program at all times.

The general and the major point average required for graduation is 2.50.

Bachelor of Science in Science Education
Major in Science Education for Middle Level (grades 7-9)

135 Credits		Credits
General Education		48
Educational Component		27
Professional Component	12	
Major Courses		42
Electives		6

General Education Component **48**

QYLE 110	Formative Integral Development	3
SPAN 115	Reading, Writing and Oral Communication in Spanish I	3
SPAN 275	Advanced Writing in Spanish	3
ENGL 115	College Reading and Writing	3
ENGL 307	Professional Writing	3
MATH 116	Foundations of Mathematical Reasoning	3
BIOL 252	Life on Planet Earth: origins, characteristics...	3
UNRE 101	Concepts and Principles of Research	3
SOSC 113	Analysis of the Historical and Cultural Processes	3
SOSC 242	Political and socio-economic principles of Globalization	3
HUMA 230	Appreciation of the Arts and Music	3
PHED 105	Physical Aptitude and General Wellness	3
	Biological Sciences I & II	
HIST 255	Analysis of the Puertorrican Historical Process	3
HIST 273	History of United States of America	3
HUMA 224	Contributions of the Great World Civilizations	3
EDUC 230	Education for Peace	3

Educational Courses **27**

EDUC 135	Foundation of Education	3
EDUC 171	Human Growth and Development I	3
EDUC 172	Human Growth and Development II	3
EDUC 202	Device and Materials for Teaching and Learning	3
EDUC 204	Nature and Needs of Exceptional Children	3
EDUC 406	Seminar in Classroom Research	3
EDUC 409	Planning and Evaluation of Teaching-Learning Process	3
HEED 301	Life and Health Styles	3
EDUC 436	Pedagogical Integration	3

Professional Courses **12**

SCED 203	History, Philosophy and Sociology of Science: Educational Implications	3
SCED 215	Development of the Conceptual	3

	Frameworks and Knowledge Construction in the Biological and Environmental Sciences at Elementary and Middle Levels	
SCED 216	Development of the Conceptual Frameworks and Knowledge Construction in the Physics, Earth and Chemistry Sciences at Elementary and Middle Levels	3
SCED 310	Models, Strategies, Resources and Scientific Research in Science Education at Elementary and Middle Levels	3
Major Courses		42
BIOL 203-204	General Biology I&II	8
CHEM 203-204	General Chemistry I&II	8
PHSC 203-204	General Physical Sciences I&II	8
EASC 123	Basic Concepts of Earth Sciences	4
MATH 118	Foundations of Intermediate Algebra	3
MATH 130	Integrated Algebra and Trigonometry I (Pre-Calculus I)	4
EDUC 400	Language Arts in the Middle Level	3
SCED 421	Clinical Experiences 1	0
SCED 422	Clinical Experiences 2	0
SCED 423	Clinical Experiences 3	0
SCED 424	Seminar Science Education	1
SCED 425	Science Education Practicum in Middle School Level	3

Electives **6**

*The English, Spanish, and Math courses will be assigned according to the student's proficiency level.

The professional and the major courses must be approved with a minimum grade of B.

The student should maintain a 2.50 grade average in his/her program at all times.

The general and the major point average required for graduation is 2.50.

Bachelor of Science in Science Education
Major in Earth/Terrestrial Sciences

129 Credits		Credits
General Education		48
Educational Component		27
Professional Component	12	
Major Courses		39
Electives		3

General Education Component **48**

QYLE 110	Formative Integral Development	3
SPAN 115	Reading, Writing and Oral Communication in Spanish 1	3
SPAN 275	Advanced Writing in Spanish	3
ENGL 115	College Reading and Writing	3
ENGL 307	Professional Writing	3
MATH 116	Foundations of Mathematical Reasoning	3
BIOL 252	Life on Planet Earth: origins, characteristics...	3
UNRE 101	Concepts and Principles of Research	3
SOSC 113	Analysis of the Historical and Cultural Processes	3
SOSC 242	Political and socio-economic principles of Globalization	3
HUMA 230	Appreciation of the Arts and Music	3
PHED 105	Physical Aptitude and General Wellness	3
	Biological Sciences I & II	
HIST 255	Analysis of the Puertorrican Historical Process	3
HIST 273	History of United States of America	3
HUMA 224	Contributions of the Great World Civilizations	3
EDUC 230	Education for Peace	3

Educational Courses **27**

EDUC 135	Foundation of Education	3
EDUC 171	Human Growth and Development I	3
EDUC 172	Human Growth and Development II	3
EDUC 202	Device and Materials for Teaching and Learning	3
EDUC 204	Nature and Needs of Exceptional Children	3
EDUC 406	Seminar in Classroom Research	3
EDUC 409	Planning and Evaluation of Teaching-Learning Process	3
HEED 301	Life and Health Styles	3
EDUC 436	Pedagogical Integration	3

Professional Courses **12**

SCED 203	History, Philosophy and Sociology of Science: Educational Implications	3
SCED 215	Development of the Conceptual	3

	Frameworks and Knowledge Construction in the Biological and Environmental Sciences at Elementary and Middle Levels	
SCED 216	Development of the Conceptual Frameworks and Knowledge Construction in the Physics, Earth and Chemistry Sciences at Elementary and Middle Levels	3
SCED 310		Models,
	Strategies, Resources and	
		3
	Scientific Research in Science Education at Elementary and Middle Levels	
Major Courses		34
EASC 123	Basic Concepts in Earth Sciences	4
EASC 126	Fundamentals of Atmospheric and Space Sciences	4
EASC 226	History and Evolution of Life	3
EASC 230	Ecological Aspects of Puerto Rico	3
EASC 241	Introduction to Oceanography	3
EASC 300	Rocks and Minerals	4
EASC 311	Geomorphology	3
EASC 315	Carbonate Geology	3
EASC 406	General Geology of Puerto Rico	3
EASC 420	Clinical Experiences 1	0
EASC 421	Clinical Experiences 2	0
EASC 422	Pre practicum	1
EASC 423	Seminar	1
EASC 424	Practicum	3
Electives		3

*The English, Spanish, and Math courses will be assigned according to the student's proficiency level.

The professional and the major courses must be approved with a minimum grade of B.

The student should maintain a 2.50 grade average in his/her program at all times.

The general and the major point average required for graduation is 2.50.

Bachelor of Science in Physical Education
Major in Physical Education in Elementary Level (K-6)

123 Credits		Credits
General Education		48
Educational Component		24
Professional Component	11	
Major Courses		37
Electives		3
General Education Component		48
QYLE 110	Formative Integral Development	3
SPAN 115	Reading, Writing and Oral Communication in Spanish 1	3
SPAN 275	Advanced Writing in Spanish	3
ENGL 115	College Reading and Writing	3
ENGL 307	Professional Writing	3
MATH 116	Foundations of Mathematical Reasoning	3
BIOL 252	Life on Planet Earth: origins, characteristics...	3
UNRE 101	Concepts and Principles of Research	3
SOSC 113	Analysis of the Historical and Cultural Processes	3
SOSC 242	Political and socio-economic principles of Globalization	3
HUMA 230	Appreciation of the Arts and Music	3
PHED 105	Physical Aptitude and General Wellness	3
	Biological Sciences I & II	
HIST 255	Analysis of the Puertorrican Historical Process	3
HIST 273	History of United States of America	3
HUMA 224	Contributions of the Great World Civilizations	3
EDUC 230	Education for Peace	3
Education Courses		24
EDUC 135	Foundation of Education	3
EDUC 171-172	Human Growth and Development I & II	6
EDUC 202	Device and Materials for Teaching and Learning	3
EDUC 204	Nature and Needs of Exceptional Children	3
EDUC 406	Seminar in Classroom Research	3
EDUC 409	Planning and Evaluation of Teaching-Learning Process	3
EDUC 436	Pedagogical Integration	3
Professional Courses		11
BIOL 103	Anatomy & Physiology I	4
BIOL 104	Anatomy & Physiology II	4
MATH 118	Foundations of Algebra	3
Major Courses		37

PHED 100	History and Philosophy of Physical Education	3
PHED 211	Theory, Skills and Teaching of Individual Sports	3
PHED 213	Foundations of Kinesiology and Physical Education	3
PHED 217	Physical Education for Special Populations	3
PHED 221	Theory, Skills and Teaching of Group Sports	3
PHED 232	Physical Education for Elementary Level	3
PHED 240	Health, Safety and Wellness of Physical Education	3
PHED 311	Curriculum and Methodology of Physical Education (K-6)	3
PHED 331	Evaluation and Measurement in Physical Education	3
PHED 340	Management and Supervision of Physical Education Program	3
PHED 350	Exercise Physiology for the Adolescents and Children	3
PHED 401	Clinical Experiences 1	0
PHED 402	Clinical Experiences 2	0
PHED 403	Clinical Experiences 3	0
PHED 408	Seminar in Physical Education	1
PHED 410	Physical Education Practicum in Elementary Level	3

Electives **3**

*The English, Spanish, and Math courses will be assigned according to the student's proficiency level.

The professional and the major courses must be approved with a minimum grade of B.

The student should maintain a 2.50 grade average in his/her program at all times.

The general and the major point average required for graduation is 2.50.

Bachelor of Science in Physical Education
Major in Physical Education for Secondary Level (7-12)

123 Credits		Credits
General Education		48
Educational Component		24
Professional Component	11	
Major Courses		37
Electives		3

General Education Component **48**

QYLE 110	Formative Integral Development	3
SPAN 115	Reading, Writing and Oral Communication in Spanish 1	3
SPAN 275	Advanced Writing in Spanish	3
ENGL 115	College Reading and Writing	3
ENGL 307	Professional Writing	3
MATH 116	Foundations of Mathematical Reasoning	3
BIOL 252	Life on Planet Earth: origins, characteristics...	3
UNRE 101	Concepts and Principles of Research	3
SOSC 113	Analysis of the Historical and Cultural Processes	3
SOSC 242	Political and socio-economic principles of Globalization	3
HUMA 230	Appreciation of the Arts and Music	3
PHED 105	Physical Aptitude and General Wellness	3
	Biological Sciences I & II	
HIST 255	Analysis of the Puertorrican Historical Process	3
HIST 273	History of United States of America	3
HUMA 224	Contributions of the Great World Civilizations	3
EDUC 230	Education for Peace	3

Education Courses **24**

EDUC 135	Foundation of Education	3
EDUC 171-172	Human Growth and Development I & II	6
EDUC 202	Device and Materials for Teaching and Learning	3
EDUC 204	Nature and Needs of Exceptional Children	3
EDUC 406	Seminar in Classroom Research	3
EDUC 409	Planning and Evaluation of Teaching-Learning Process	3
EDUC 436	Pedagogical Integration	3

Professional Courses **11**

BIOL 103	Anatomy & Physiology I	4
BIOL 104	Anatomy & Physiology II	4
MATH 118	Foundations of Algebra	3

Major Courses **37**

PHED 100	History and Philosophy of Physical Education	3
PHED 211	Theory, Skills and Teaching of Individual Sports	3
PHED 213	Foundations of Kinesiology and Physical Education	3
PHED 217	Physical Education for Special Populations	3
PHED 221	Theory, Skills and Teaching of Group Sports	3
PHED 240	Health, Safety and Wellness of Physical Education	3
PHED 300	Physical Education for Secondary Level	3
PHED 321	Curriculum and Methodology of Physical Education (7-12)	3
PHED 331	Evaluation and Measurement in Physical Education	3
PHED 340	Management and Supervision of Physical Education Program	3
PHED 350	Exercise Physiology for the Adolescents and Children	3
PHED 406	Clinical Experiences 1	0
PHED 407	Clinical Experiences 2	0
PHED 408	Clinical Experiences 3	0
PHED 409	Seminar in Physical Education	1
PHED 411	Physical Education Practicum at the Secondary Level	3

Electives

3

*The English, Spanish, and Math courses will be assigned according to the student's proficiency level.

The professional and the major courses must be approved with a minimum grade of B.

The student should maintain a 2.50 grade average in his/her program at all times.

The general and the major point average required for graduation is 2.50.

Minors / Professional Certificates

Teaching of Infant and Toddlers (twelve credits)

ECED 330	Design and management of physical and socio-emotional environments in infant and toddlers	3
ECED 331	Integration and participation of family in infants and toddlers care centers	3
ECED 332	Development of language and early literacy in infant and toddlers	3
ECED 333	Establishment and management of educational centers for infants, toddlers and pre- schoolers	3

Kinder thru Third Grade (K-3) (twelve credits)

EDUC 410	Teaching of Mathematics at Primary level (K-3)	3
EDUC 411	Teaching of Science at Primary level (K-3)	3
EDUC 412	Teaching of Social Studies at Primary level (K-3)	3
EDUC 411	Teaching of English as a Second Language at Primary level (K-3)	3

School Violence Deviation (twelve credits)

EDUC 470	Foundations of School Social Deviation	3
EDUC 471	Legal Aspects of School Social Deviation	3
EDUC 472	Models of Prevention in School Violence and Safety	3
EDUC 473	Psychological Aspects of the School Social Deviation	3

School Health (twelve credits)

PUHE 101	Introduction to Public Health	3
HEED 201	Biostatistics	3
HEED 310	Health Education and Human Sexuality	3
HEED 316	Education for the Prevention of Alcohol, Tobacco and Drugs	3

Community Health (fifteen credits)

HEED 350	Morbidity and Mortality in Puerto Rico	3
HEED 352	Strategies for Health Promotion	3
HEED 354	Community-Based and Volunteer Organization Work	3
HEED 356	Disease Prevention	3
HEED 360	Sorrows, Death and Mourning	3

School Social Work (twenty-one credits)

EDUC 171-172	Human Growth and Development I & II	6
EDUC 204	Nature and Needs of Exceptional Children	3
EDUC 300	Psychological Foundations of Education	3
EDUC 305	Sociological Foundations of Education	3
ECED 329	Education for Children with Exceptional Needs and Abilities	3
EDUC 420	Philosophical Foundations of Education	3

Earth / Terrestrial Sciences

(thirty credits)

EASC 123	Basic Concepts in Earth Sciences	4
EASC 126	Fundamentals of Atmospheric and Space Sciences	4
EASC 226	History and Evolution of Life	3
EASC 230	Ecological Aspects of Puerto Rico	3
EASC 241	Introduction to Oceanography	3
EASC 300	Rocks and Minerals	4
EASC 311	Geomorphology	3
EASC 315	Carbonate Geology	3
EASC 406	General Geology of Puerto Rico	3

Course Descriptions

Educational Professional Component and Special courses (coded EDUC)

EDUC 171 Human Growth and Development I **3 Credits**

Theoretical and empirical foundations of human development and growth from conception through adolescence. Analysis is conducted from a multidisciplinary perspective. Emphasis is given to the changes that occur in each of the stages of transition from childhood to adolescence and their implications for the educational process. One semester, three hours per week.

EDUC 172 Human Growth and Development II **3 Credits**

Theoretical and empirical foundations of human development and growth from adolescence through adulthood. Analysis is conducted from a multidisciplinary perspective. Emphasis is given to the changes that occur in each of the stages of transition from adolescence to adulthood and their implications for the educational process. One semester, three hours per week.

EDUC 202 Device and Materials for Teaching and Learning **3 Credits**

Emphasis is placed in the systematic planning, preparation and use of media, and the evaluation of educational materials. Encourages the integration of creativeness to the existing educational technology, and the consideration of the needs, interests, developmental stage, and the scope and sequence of the curriculum. One semester, three hours per week. Prerequisites: Gatekeeper courses at each academic program.

EDUC 204 Nature and Needs of Exceptional Children **3 Credits**

Basic introductory course in the physiological, social, historic, political and philosophical foundations of an education for learners with exceptional needs and strengths (K-12). In addition, covers procedures and instruments for assessment and authentic evaluation and programs, models, projects and approaches for teaching and curricular development. Emphasis is placed in the role and responsibility of all the professionals involved in the organization of experiences that will contribute to the holistic development of these learners, mainly those in high risk of not being adequately educated. One semester, three hours per week. For all programs except Early Childhood Education. Prerequisites: Gatekeeper courses at each academic program.

EDUC 215 **Social Sciences at the Elementary School Level**
3 Credits

Conceptual development of the social studies in the elementary school. Emphasis is placed in the development of competencies for the teaching of social studies in the elementary school. One semester, three hours per week. Prerequisites: SOSC 113.

EDUC 221 **The Language Arts in the Elementary School**
3 Credits

A study, analysis, and comparison of the technical and practical bases of the language arts within a context of the natural sciences in the elementary school level. Examines the strategies and methods for the language pedagogy from the standpoint of the sciences. Emphasis is placed in the relationship between language and thought. Promotes the development of fundamental competencies in the teaching of language from a techno-scientific perspective. One semester, three hours per week. Prerequisite: SPAN 215; 275.

EDUC 222 **English as a Second Language at the Elementary School Level**
3 Credits

A study of the basic principles and techniques in the teaching of English as a second language in the elementary school level. Emphasis is placed in the English curriculum at this level. One semester, three hours per week. Prerequisites: ENGL 115; 307.

EDUC 226 **Arts and Recreation at the Elementary School level**
3 Credits

A study of the relationship between aspects or elements of the arts and recreation, and their importance in the development of appropriate activities in the elementary school student. A theoretical-practical approach is used in order to develop in the future teacher an understanding and a mastery of creative elements and sports. Emphasis is placed in the planning of varied artistic, and recreational techniques for the teaching learning-process. One semester, three hours per week.

EDUC 305 **Sociological Foundations of Education**
3 Credits

Analyzes sociological foundations and their relation to the educational process. Examines social problems that affect educational development with particular interest, in education in Puerto Rico. Interaction between culture and education, social change and education, social groups, school and the community is also studied. One semester, three hours per week.
Prerequisites: SOSC 113

EDUC 400 **The Language Arts at the Intermediate School Level**
3 Credits

An analysis of the components of the language arts in the intermediate school level: oral expression, reading and writing, in the context of the pedagogy of language as applied to the scientific context. It includes the description of the process of communication. Promotes the development of skills of expression, comprehension and reflection in speaking, reading and writing of Spanish as a vernacular. An analysis of the theories and methodologies of teaching Spanish as a vernacular as it applies to the scientific text is done. One semester, three hours per week. Prerequisite: SPAN 115; 275.

EDUC 406 **Seminar in Classroom Research**
3 Credits

The theoretical background for classroom research is surveyed through bibliographical and electronic searches. Analyses and differentiates between the processes of educational investigation and classroom research. Emphasis is placed in outcomes assessment and classroom assessment techniques, and other strategies, such as cooperative and collaborative learning, reflexive journals and other techniques. One semester, three hours per week. SCED 203; 215; 216.

EDUC 409 **Planning and Evaluation of Teaching-Learning Process**
3 Credits

Deals with the principles and foundations of evaluation and measurement, means and techniques for quantitative, as well as, qualitative evaluation. Includes application, interpretation and analyzes of results within the learning process. One semester, three hours per week. EDUC 171, 172; be a third year student. Program's gatekeeper course.

EDUC 410 **Teaching of Mathematics at Primary Level (K-3)**
3 Credits

Study of the philosophy, principles, foundations and methodology in teaching mathematics in the primary level (K-3). Analysis and discussion of curriculum in mathematics based in the standards of the National Council of Teachers in Mathematics (NCTM). Emphasis in the comprehension, interpretation, and domain of the mathematics' content at the primary levels. Planning and integration of strategies, materials, technology and assessment in teaching and learning processes in mathematics. Pre-requisite: MATH 116; ECED 173.

EDUC 411 **Teaching of Science at Primary Level (K-3)**
3 Credits

Development of the basic concepts on the biological, physical, terrestrial and space sciences. Study and analysis of concepts about the nature of sciences developing different strategies, methods and techniques inherent to teaching at the primary level. Design and discussion of activities focused in the methods of: reflection, discovery and knowledge construction. Prerequisites: BIOL 252; ECED 173.

EDUC 412 **Teaching of Social Studies at the Primary Level (K-3)**
3 Credits

Analysis of the Social Studies in the primary level (K-3) like means of formation of an integral citizen within a democratic society. Reflection, skills of critic-creative thought and construction of knowledge within the context of the civic action and puertorrican culture. Study of the Curricular Guide, the corresponding standards, texts and references, as well as other resources. Awareness, application and assessment of techniques, methodologies and approaches in the education of the social studies.

Prerequisites: SOSC 113; ECED 173; EDUC 305

EDUC 413 Teaching English as a Second Language at the Primary Level (K-3)
3 Credits

Study and analysis of the curricular guide and the standards for the education of English as a second language in the primary level (K-3). Evaluation and praxis of the methodologies, techniques and approaches for the linguistic education of the English in this level. Emphasis in the grammar and oral practice. Reflection, skills of critic-creative thought and construction of knowledge from the domain of the linguistics skills. Awareness, application and assessment of techniques, methodologies and approaches in the education of the English like second language. Prerequisites: ENGL 115, 307.

EDUC 420 Philosophical Foundations of Education
3 Credits

Offers an interdisciplinary perspective of historical philosophical, cultural and social foundations, taking as point of departure fundamental debates and problems in education, which have directed changes throughout time. Educational philosophies are compared and analyzed. Implications and applicability of philosophical theories on problems and controversies of present education are viewed. Philosophical principles that guide the educational system in Puerto Rico, in terms of philosophy and policy are assessed. One semester, three hours per week. Pre-requisite: Gatekeeper course of each program.

EDUC 436 Pedagogical Seminar
3 Credits

Professional seminar blending all professional and academic knowledge students has acquired during their teacher preparation. Involved discussion and analysis of trends, methods and innovations related to field of education. One semester, three hours per week. Pre-requisites: Be a fourth year student.

EDUC 470 Foundations of School Social Deviation
3 Credits

Study of the different strategies and techniques to prevent School Social Deviations. Discussion of the causes and roots of this complex problem and its impact in school environment. Analysis of the social economics, family relations, teaching styles at educational organizations, social cultural and school building. Reflection and discussion of School Social Deviations cases studies that

origins in the community and has impact in the school setting. One eight-week part of term, three hours per week. Pre-requisite: School's authorization.

EDUC 471 Legal Aspects of School Social Deviation
3 Credits

Study of the legal aspects that applies to School Social Deviations. Study of the foundations and concepts of School Social Deviations from the latest school legal perspective. Analysis and discussions of the United States and the Commonwealth of Puerto Rico's Constitutions, federal and local legislation, regulations, formal memoranda and Department's of Education norms. Application of the critical thinking process in the use of School Safety manuals. Analysis and discussion of the federal and local legislation applicable to the studied themes. One eight-week part of term, three hours per week. Pre-requisite: School's authorization.

EDUC 472 Models of Prevention in School Violence and Safety
3 Credits

Study of the different school violence Prevention models in order to provide school and community physical Safety. Analysis and discussion of the early intervention and application of the school violence models Critical discussion's impact of each model in the educational institutions concerning with the administrative processes, curriculum development, student; services (counseling, orientation, psychotherapy), Safety protocols, and physical security. Discussion of school's Safety Prevention models in the following areas: assessment, planning, crisis management, evaluation, physical security, models and safety protocols to attend a crisis, and evaluation of the school Prevention and Safety models. Analysis and application of each model in school and university scenarios. One eight-week part of term, three hours per week. Pre-requisite: School's authorization.

EDUC 473 Psychological Aspects of the School Social Deviation
3 Credits

Knowledge on diverse paradigms about School Social Deviations from a biological, psychological, social and cultural approach. Analysis of the public policies applicable in the school system with comparison of the School Social Deviations in other countries. Study of the social control methods and the psychological impact at individual and collective level in order to manage this type of behavior. Includes the latest prevention and intervention program's foundations for educational institutions. Reflection and application in the puertorrican school system. One eight-week part of term, three hours per week. Pre-requisite: School's authorization.

EDUC 517 Supervision of Instruction in Student Teaching
3 Credits

Study theories, models and trends of the instructional process and its practical applications. Importance of the evaluations and supervision processes in student teaching. One semester, three hours per week. For teachers who want to perform as preceptor / tutor teacher. Pre-requisite: School's authorization

**Early Childhood Education
(coded ECED)****ECED 173 Introduction to Early Childhood Education
3 Credits**

The course offers an overview of the field of early childhood education. Aspects such as: history, legislation, public policy, philosophy, programs, curricula and the early childhood profession are analyzed. A proper understanding of the reasons, rationale, importance, and objectives of early childhood education in contemporary society and in the next decades is addressed. One semester, three hours per week. Prerequisite: Official admission and enrollment.

**ECED 207 Theories of Child Development and Learning
3 Credits**

The purpose of the course is to expose students to the theories, which represent the main standpoints of progressive education. Implications of child development and learning processes on teaching approaches are examined. One semester, three hours per week. Prerequisites: ECED 173; EDUC 171

**ECED 210 Observation, Planning and Educational Evaluation
3 Credits**

Introduces scientific methodologies and techniques for conducting observations, recording and planning. Importance is given to the interrelation between scientific observation and the appropriate selection of educational methodologies with which to address, interests and needs of participants in their diverse learning processes in preschool and primary level. One semester, three hours per week. Prerequisites: ECED 173; EDUC 171-172

**ECED 308 Management of the Early Childhood Education Environment
3 Credits**

Provides a strong foundation about design, management and interpersonal relationship in the learning environment. Interaction between environment and significant learning is addressed. One semester, three hours per week. Prerequisites: ECED 173; EDUC 171-172.

**ECED 309 Infant and Toddler Curriculum
3 Credits**

Develops awareness of the importance of the first three years of life in the development of a child's potential and in terms of the individual's learning processes. Designing, planning and implementing educational practices, based on developmental theories, which will enable early childhood educators to provide optimal learning environments for infants and toddlers, is stressed. One semester three hours per week. ECED 173; EDUC 171-172

**ECED 310 Perceptual Motor- Development, Learning and the Brain
3 Credits**

Theories on the development of the human brain are studied. Current research related to this field is examined. Educational implications of these theories on the processes of child development and learning, as well as, their impact on modern pedagogy are analyzed. One semester, three hours per week. ECED 173; EDUC 171-172

ECED 311 **Cognitive and Logic – Mathematical Development**
3 Credits

The purpose is to equip future professionals to understand the cognitive development - structures and processes - of preschool and primary children, including logic-mathematical development. Enables these professionals to facilitate development through planning appropriate curricula. One semester, three hours per week. ECED 173; 210, 308; EDUC 171-172

EDUC 322 **Health, Nutrition and Preventive Medicine**
3 Credits

Theoretical and practical approach in the discussion of factors related to the improvement and conservation of collective and personal health. Analysis of environment health and its impact on the adult, preschool, child and primary is conducted. Personal health habits and the relationship of the human body to health, nutrition, disease and preventive medicine are discussed. Management of aspects of health, nutrition, security and preventive medicine in the preschool and environment are studied. One semester, two hours per week. Prerequisites: ECED 173; EDUC 171-172; BIOL 252

ECED 329 **Education for Children with Exceptional Needs and Abilities**
3 Credits

Psychological, social, historical and philosophical foundations of an early childhood education geared at satisfying areas that need to be strengthened in children with exceptional needs and capabilities are studied. The following aspects are analyzed: nature and learning needs of preschoolers and primaries with exceptional needs and capabilities; procedures, techniques and instruments for diagnosis and intervention with this population; educational programs, models and teaching approaches; curricular development for an education of this nature. One semester, three hours per week. ECED 173; EDUC 171-172

ECED 330 **Design and management of physical and socio-emotional environments in infants and toddlers**
3 Credits

Study and analysis of the physical and socio-emotional environments in the infants and toddlers development centers. Design aspects that impact the socio emotional development of this population, familiarity functions and this level teacher. Experiences to apply knowledge and skills. Includes the importance of the environment in the comprehensive development of the childness and the creation of inclusive scenarios. Pre-requisite: ECED 173; EDUC 171; ECED 309.

ECED 331 **Development of language and early literacy in infant and toddlers**
3 Credits

Development of the language and the communications skills in infant and toddlers. Discussion and analysis about the importance of an enriched linguistic environment for the development of the language and early experiences with the reading-writing domain. Planning and demonstration of diverse activities with emphasis in the linguistic development at this level.

Pre-requisite: ECED 173; EDUC 171; ECED 309.

ECED 332 **Integration and participation of family in infants and toddlers**
3 Credits **care centers**

Awareness to future teachers about the importance of the family in the educational scenario of the children. Self-reflection about the diversity concept in the families (their beliefs acceptance degree, multiculturalism, gender, respect, socio-economical level, among others). Design, administration and analysis of research instruments for care centers and the infant toddler development. Pre-requisite: ECED 173; EDUC 171; ECED 309.

ECED 333 **Establishment and management of educational centers for**
3 Credits **infants, toddlers and preschoolers**

Planning, organization, direction, control and evaluation of early childhood care centers and its development for infants, toddlers and pre-schoolers. Reflection, analysis and praxis about the necessary processes and documentation for the center's functioning. Preparation of a proposal for the establishment of a early childhood care center and its development for infants, toddlers and pre-schoolers. Pre-requisite: ECED 173; EDUC 171; ECED 309.

ECED 402 **Creative Expression in Early Childhood**
3 Credits

Students are exposed to experiences in creativity in order to develop an awareness of the need of aesthetic expression in the preschool and primary curriculum. Workshops include movement activities, plastic arts, music and children's games. One semester, three hours per week. Pre-requisite: ECED 173; EDUC 171; ECED 309.

ECED 403 **Curriculum Development in Preschool and Primary Education**
3 Credits

Presents diverse curricular models for early childhood education. Emphasis is given to the analysis of different curricular designs, which take growth and development as point of departure, from birth to age eight. Reviews curricular approaches geared at infants. One semester, three hours per week. Pre-requisite: ECED 173, 409; EDUC 171-172.

ECED 405 **Development of Language and Literacy**
3 Credits

Studies oral and written language development from birth to age of eight. Theories and recent research are presented. Curricular models that promote language development with emphasis on

the whole language approach and emergent literacy are studied. Whole language approach is compared with other models and approaches used in Puerto Rico. Integration of children's literature into the curriculum: survey, evaluation, selection of books for children, strategies for selection and use of literacy genres is also studied. One semester, three hours per week. Pre-requisite: ECED 173, 409; EDUC 171-172.

ECED 439 Clinical Experiences: Early Childhood and Primary Education 1
0 Credit

Part 1 introductory teaching experiences under a supervised scenario for the early childhood and primary levels future educator. Application of theories, methods and strategies to improve the learning environment at the classroom. One semester, three hours per week minimum; be a third year student.

ECED 440 Clinical Experiences: Early Childhood and Primary Education 2
0 Credit

Part 2 introductory teaching experiences under a supervised scenario for the early childhood and primary levels future educator. Application of theories, methods and strategies to improve the learning environment at the classroom. One semester, three hours per week minimum; be a third year student; ECED 439.

ECED 441 Pre-practicum in Early Childhood and Primary Education
0 Credit

Pre-practicum of the early childhood and primary levels future educator. Observation in the real setting and direct interaction with students. Analysis of the appropriate practices for the education of the individual at this years and the selection of those that be adequate, according to the individual needs of the student. Evaluations and periodic meetings with a school cooperative director-teacher and the university supervisor. One semester, three hours per week minimum. Pre-requisite: be a fourth year student; ECED 441.

ECED 442 Practice Seminar in Early Childhood and Primary Education
1 Credit

Discussion, analysis and evaluation of the responsibilities and situations arising in Early Childhood Education and Primary levels student teaching practice. Designed to enrich and complement the day-to-day practicum experience. One semester, three hours per week. Pre-requisite: be a fourth year student; Concurrent with ECED 443.

ECED 443 Practicum in Early Childhood and Primary Education
3 Credits

Final requirement in the early childhood and primary teacher education program. It is the field experience in which the candidate assumes the duties and responsibilities a teacher performs in a preschool and primary environment. Offers students the opportunity to promote physical, emotional, social and intellectual development of children. Students work under the supervision of

a regular teacher from an accredited school and a college supervisor. One semester, twenty hours per week minimum. Prerequisite: ECED. 442

Health Education (Coded HEED)

HEED 201 Environmental Health Education 3 Credits

Analysis of the basic principles of environmental education and its relationship to health and the welfare of human beings. Emphasis is placed in the analysis of the transformation of the natural and social environment in recent times. Evaluation of the effect of life styles and their effect on holistic, individual and collective health is done. Deals with various intervention models in health education with the purpose of identifying educational strategies to be used in favor of environmental health. Incorporates a field experiences geared at the application of one of the intervention models. One semester, three hours per week. Prerequisites: PUHE 101; BIOL 252

HEED 301 Life and Health Styles 3 Credits

Deals with the life styles and the influences of social, historic and cultural backgrounds surrounding the growth of the individual. All behavior categories that arise from childhood and adolescence are examined together with options provided by health education that aid in the development of life styles that promote holistic health. One semester, three hours per week. Prerequisite: PUHE 101

HEED 310 Human Sexuality and Health Education 3 Credits

Studies the principles and concepts concerning health education and human sexuality with particular emphasis in the biological, psychological and social aspects of sexuality, such as: heterogeneous sexual behavior, high-risk sexual behaviors and safe sex among others. An analysis from the social and cultural perspective of the Puerto Rican culture is made. One semester, three hours per week. Prerequisite: PUHE 101.

HEED 312 Health Education and Personal Care 3 Credits

Studies the foundations and basic concepts of nutrition, physical exercise, sleep and rest. Emphasis is placed in the biological, psychological and social aspects of nutrition and physical activity. All topics are discussed within the social, historic and cultural reality of the Puerto Rican culture. Deals with dysfunctional behaviors within two (2) behavior categories: eating disorders and physical activity, and applies in health protection, prevention and promotion. One semester, three hours per week. Prerequisites: PUHE 101, HEED 301.

HEED 314 **Health Education and Personal Safety**
3 Credits

Examines the principles and basic concepts of personal health and safety from the perspectives of two categories of harmful behaviors: intentional and unintentional. Concepts such as: protective gear, safety belts, protective child car seats, among other topics, will be discussed. Emphasis is placed in the prevention of accidents in natural disasters. Concepts of protection and promotion of health and the prevention of accidents is included. One semester, three hours per week.

Prerequisite: PUHE 101; HEED 301

HEED 316 **Education for the Prevention of Tobacco, Alcohol and Drug Use**
3 Credits

Studies the risk factors involved in behaviors associated with the use of tobacco, drugs, alcohol and other substances that cause physical and mental harm. Prevention strategies to cope with harmful behaviors within the student population, such as, parent involvement; community integration and peer support is stressed. Includes analysis of legislation, data and statistical information and evaluation of prevention programs available in government and the private sector. One semester, three hours per week. Prerequisite: PUHE 101; HEED 310.

HEED 330 **Occupational Health I**
3 Credits

Study of the roles of health education educators, the medical personnel, production, engineering and regulatory agencies in occupational health issues. Provides a historical background of an occupational health and analyzes the impact of federal and state legislature in the health protection of the working populations, including occupational hazards and its effects on health. Three credits, one semester, three hours per week. Prerequisite: HEED 301

HEED 331 **Occupational Health II**
3 Credits

Application of the process of detection and control of occupational risks for the solution of occupational health problems. Emphasis is placed in the health problems and in the administrative aspects of occupational health programs in work sites. Development of an occupational health plan from a survey. Three credits, one semester, three hours per week. Prerequisite: HEED 330

HEED 333 **Occupational Safety**
3 Credits

Introduction to the field of occupational safety as it applies to labor environments in PR and USA as well as, federal and state regulations. The concepts of occupational risks, control of catastrophes, accident prevention, personal/occupational safety gear, among others, are discussed. Emphasis is placed in case studies. One semester, three hours per week.

HEED 335 **Health Education and Organizational Behavior**
3 Credits

Applies the skills acquired in counseling to problems that arise as a result of workplace performance. Emphasis is placed in the need to train personnel in interpersonal relationships, stress and other social problems that may affect employee productivity. Identification of the factors that affect human behavior is made. Studies organizational behavior, modification of individual behavior and labor problems related to the behavior of individuals (labor violence, harassment and abuse of controlled substances and drugs). Includes all pertinent legislatures on employee assistance programs. One semester, three hours per week.

HEED 337 **Health Education and Industrial Hygiene**
3 Credits

Analysis of workplace environment within an industrial hygiene context. Studies workers' risks and hazards. Familiarizes the student with evaluations used to detect chemical, physical and biological exposures in the workplace. Basic aspects in the prevention, identification, evaluation and control of environmental factors or stressors in the workplace is done. One semester, three hours per week. Pre-requisites: HEED 331.

HEED 339 **Health and Safety Programs**
3 Credits

Basic concepts in planning and evaluation of programs in occupational health and safety. Includes approaches to reduce medical costs, absenteeism, employee turnover, occupational morbidity and mortality, safety gear management, applicability of labor legislature and workers disability. Techniques in social and managerial management will be applied. One semester, three hours per week Prerequisite: HEED 331.

HEED 341 **Technical Reports in Occupational Health**
3 Credits

Analyzes the fundamental techniques used to write reports about the evaluation of occupational health and safety environment on a work site. Focuses on the conservation of occupational records for OSHA 2000, exposure to pathogens in blood, occupational records and exposure to risks. Studies the methodology for the investigation of occupational accidents and the use given to written reports to maintain and improve the occupational health and safety of workers. One semester, three hours per week. Prerequisite: HEED 331.

HEED 350 **Morbidity and Mortality in Puerto Rico**
3 Credits

Studies the occurrence and existence of the principal causes for morbidity and mortality in Puerto Rico, such as, chronic illnesses: cardiovascular, cerebral-vascular, cancer, diabetes and AIDS. Focuses on accidents, violent behaviors and other risk behaviors that are sources of morbidity and mortality in P.R. Analyzes morbidity and mortality as it relates to life styles. One semester, three hours per week.
Prerequisite: PUHE 203.

HEED 352 **Strategies for Health Promotion**
3 Credits

Defines the concept of health promotion from a biological and social perspective and examines it within a health-illness continuum. Conceptualizes and designs possible intervention strategies to use in health promotion. One semester, three hours per week.

HEED 354 **Community-Based and Volunteer Organization Work**
3 Credits

Studies the roles of the community-health educator in community-based, as well as, in volunteer organizations. Examines the patterns of organizational and hierarchical structures, and types of communities and services rendered by these organizations. Similarities and differences among these organizations are analyzed. One semester, three hours per week.

HEED 356 **Disease Prevention**
3 Credits

Conceptualizes the three (3) levels of disease prevention: primary, secondary and tertiary. Different educational strategies are applied to different stages of a disease. One semester, three hours per week.

HEED 360 **Sorrows, Death and Mourning**
3 Credits

Studies classical and contemporary literature, as well as, various philosophical, historical and religious beliefs regarding the processes of sorrow, death and mourning. Focuses on therapeutic modalities that allow for the acceptance of death as a real condition, not only in its perception, but also in interpretation and in the ability to handle the process. One semester, three hours per week.

HEED 404 **Planning and Evaluation of Health Education Programs**
3 Credits

Discussion and application of all the steps required in the process of designing educational health programs from the profile development, needs assessment, planning and implementation of the program. Examines and applies different models, methods, strategies and techniques to evaluate health education programs. Designs an evaluation plan. One semester, three hours per week.
Pre-requisites: 15 credits in concentration

HEED 405 **Methods in Health Education**
3 Credits

Examines methodologies and strategies for educational intervention in health education. Deals with approaches to the individual, such as: development of critical thinking, crisis intervention, interview, case studies, out reach, face-to face instruction, learning from experience and distance education. Collective work in support groups, peer group, self-help groups, marketing and social communication, focal groups, negotiation, coaching, constructive confrontation, simulations, team

work, fairs, meetings, pressure groups, training in skill performance, consortiums and coalitions. One semester, three hours per week. Prerequisite: HEED 404

HEED 405 Clinical Experiences in School Health Education 1
0 Credit

Part 1 introductory teaching experiences under a supervised scenario for the school health education future educator. Application of theories, methods and strategies to improve the learning environment at the classroom. One semester, three hours per week. Prerequisite: be a third year student.

HEED 406 Clinical Experiences in School Health Education 2
0 Credit

Part 2 introductory teaching experiences under a supervised scenario for the school health education future educator. Application of theories, methods and strategies to improve the learning environment at the classroom. One semester, three hours per week. Prerequisite: be a third year student; HEED 405.

HEED 407 Pre-practicum in School Health Education
0 Credit

Pre-practicum of the school health education future educator. Observation in the real setting and direct interaction with students. Analysis of the appropriate practices for the education of the individual at this years and the selection of those that be adequate, according to the individual needs of the student. Evaluations and periodic meetings with a school cooperative director-teacher and the university supervisor. One semester, three hours per week. Prerequisite: be a fourth year student; HEED 406.

HEED 408 Curriculums and Methodology in the Teaching of Health
3 Credits Education

Incorporates the concepts, skills and attitudes to be developed in the course of health education classes. Health education students will be encouraged to promote safe life styles among their students. The existing health education curriculum will be analyzed. One semester, three hours per week. Prerequisites: 15 credits in concentration.

HEED 409 Practice Seminar in School Health Education
1 Credit

Discussion, analysis and evaluation of the responsibilities and situations arising in School Health student teaching practice. Designed to enrich and complement the day-to-day practicum experience. One semester, three hours per week. Prerequisite: be a fourth year student. Concurrent with HEED 410.

HEED 410 Practicum in School Health Education
3 Credits

Application of knowledge and skills acquired in the school health education curriculum. An institutional faculty member together with a certified school health education teacher supervises the field practicum. Emphasis is placed in the performance of the student teacher to assess the acquisition of all the competencies required in the profession. One semester, three hours per week.

Prerequisites: Educ 135, 171-172, 202, 204 y 321 and HEED 408.

HEED 416 Seminar in Public Health Research
3 Credits

Emphasis is placed in qualitative and quantitative research in health education as it examines the different instruments available for data collection. Analyzes the bio-statistical methodologies and their application in the interpretation of findings. One semester, three hours per week.

Prerequisites: 15 credits in concentration.

HEED 420 Practicum in Occupational Health
3 Credits

Application of the knowledge and skills acquired in the occupational health and safety curriculum. The field practicum is supervised by an institutional faculty member, together with a certified occupational health and safety education professional at the work site. Emphasis is placed in the performance of the occupational health and safety student-educator to assess the acquisition of the competencies required in the profession. **Prerequisites: 15 credits in concentration**

HEED 430 Practicum in Community Health Education
3 Credits

Application of the knowledge and skills acquired in the community health curriculum. The field practicum is supervised by an institutional faculty member together with a certified community health professional at the work site. Emphasis is placed in the performance of the community health student-educator to assess the acquisition of the competencies required in the profession. One semester, three hours per week. **Prerequisites: 15 credits in concentration.**

Physical Education
(Coded PHED)

PHED 100 History and Philosophy of Physical Education
3 Credits

Analysis and evaluation of the diverse historical and philosophical backgrounds of physical education. Discussion of its origin and evolution. Emphasis in the philosophical models of the education of the physical movement and its changes to sports competencies philosophical models.

Some clinical visits. One semester, three hours per week. Pre-requisite: Official admission and enrollment.

PHED 213 Kinesiology and Physical Education Foundations
3 Credits

Study of the human body and its systemic anatomy. Includes joints movement, muscular skeleton actions and body mechanics with emphasis in the basics principles of the exercise physiology. Some practical sessions. One semester, three hours per week. Pre-requisites: PHED 100; BIOL 103-104.

PHED 217 Adapted Physical Education
3 Credits

Teaching modification of physical education to fit the particular needs of special students. Emphasis in the programs designs for students with special needs. One semester, three hours per week. Pre-requisites: PHED 100; EDUC 204.

PHED 211 Theory, Skills and Teaching of Individual sports
3 Credits

Basic principles and execution techniques of the individual sports such as: track and field, tennis, swimming and gymnastics. Mechanical analysis of the skills in each sport. Discussion of the principles and basic concepts of individual sports and in the design and implementation of teaching-learning experiences. Study of the recommended modification for elementary level. Includes health and safety aspects. One semester, three hours per week. Pre-requisites: PHED 100.

PHED 221 Theories, Skills and Teaching of Group Sports
3 Credits

Basic principles and execution techniques of the group sports such as: basketball, volleyball, soccer and baseball. Mechanical analysis of the skills in these sports. Discussion of the principles and basic concepts of collective sports and in the design and implementation of teaching-learning experiences. Study of the recommended modification for elementary level. Includes health and safety aspects. One semester, three hours per week. Pre-requisites: PHED 100.

PHED 240 Health, Safety and Well-Being in Physical Education
3 Credits

Analysis of the children and youth health and well being models. Application of these models to the instructional design of the physical education. Design and execution of the physical aptitude for the elementary styles, stress management, drugs and alcohol use and abuse and the exercise. Use of "American College of Sports Medicine" (ACSM), American Red Cross and "National Association of Athletic Trainers" (NATA) standards. One semester, three hours per week. Pre-requisites: PHED 100; 213; BIOL 103; 104.

PHED 311 Methodologies and Curriculum in Physical Education (K-6)
3 Credits

Curricular content and design for grades K-6. Design and curricular guides planning using appropriate practices. Emphasis in annual and daily planning; motor skills, rubrics, using learning and teaching styles. Conflict solving, discipline and group controls techniques. Require practice sessions and field experiences. One semester, three contact hours. Pre-requisites: PHED 100.

PHED 321 Methodologies and Curriculum in Physical Education (7-12)
3 Credits

Curricular content and design for grades 7-12. Design and curricular guides planning using appropriate practices. Emphasis in annual and daily planning; motor skills, rubrics, using learning and teaching styles. Conflict solving, discipline and group controls techniques. Require practice sessions and field experiences. One semester, three contact hours. Pre-requisites: PHED 100.

PHED 331 Evaluation and Measurement in Physical Education
3 Credits

Curricular content and design for grades 7-12. Design and curricular guides planning using appropriate practices. Emphasis in annual and daily planning; motor skills, rubrics, using learning and teaching styles. Conflict solving, discipline and group controls techniques. Require practice sessions and field experiences. One semester, three contact hours. Pre-requisites: PHED 100.

PHED 340 Management and Supervision of the Physical Education
3 Credits

Analysis of the physical education models in management and supervision. Emphasis in budget, acquisition and equipment maintenance, recruitment and retention of the human resources, physical facilities analysis, and safety features using safety standards. Design of programmatic activities, like Casual Day, intramural and interschool tournaments, health fairs, among others. One semester, three contact hours. Pre-requisites: PHED 100.

PHED 350 Exercise Physiology for Children and Youth
3 Credits

Focus on the physiological changes developed in children and youth by means of the exercise. Explain the physiological differences between children and youth periods. Design of an exercise routine which takes in consideration the physiological evolution of these periods. Analysis of the media and government effects over the physical education. Contribution of the physical education academic programs in the health of the children and youth. One semester, three contact hours. Pre-requisites: PHED 100; 213; BIOL 103, 104.

PHED 401 Clinical Experiences in Physical Education Elementary 1
0 Credit

Part 1 introductory teaching experiences under a supervised scenario for the physical education at elementary level future educator. Application of theories, methods and strategies to improve the learning environment at the classroom. One semester, three contact hours. Prerequisites: be a third year student.

PHED 402 Clinical Experiences in Physical Education Elementary 2
0 Credit

Part 2 introductory teaching experiences under a supervised scenario for the physical education at elementary level future educator. Application of theories, methods and strategies to improve the learning environment at the classroom. One semester, three contact hours. Prerequisites: be a third year student. PHED 401.

PHED 403 Pre-practicum in Physical Education Elementary
0 Credit

Pre-practicum of the physical education at elementary level future educator. Observation in the real setting and direct interaction with students. Analysis of the appropriate practices for the education of the individual at this years and the selection of those that be adequate, according to the individual needs of the student. Evaluations and periodic meetings with a school cooperative director-teacher and the university supervisor. One semester, three contact hours. Prerequisites: be a fourth year student. PHED 402.

PHED 404 Clinical Experiences in Physical Education: Secondary 1
0 Credit

Part 1 introductory teaching experiences under a supervised scenario for the physical education at secondary level future educator. Application of theories, methods and strategies to improve the learning environment at the classroom. One semester, three contact hours. Prerequisites: be a third year student.

HEED 405 Clinical Experiences in Physical Education: Secondary 2
0 Credit

Part 2 introductory teaching experiences under a supervised scenario for the physical education at secondary level future educator. Application of theories, methods and strategies to improve the learning environment at the classroom. One semester, three contact hours. Prerequisites: be a third year student; PHED 404.

PHED 406 Pre-practicum in Physical Education: Secondary
0 Credit

Pre-practicum of the physical education at secondary level future educator. Observation in the real setting and direct interaction with students. Analysis of the appropriate practices for the education of the individual at this years and the selection of those that be adequate, according to the individual needs of the student. Evaluations and periodic meetings with a school cooperative

director-teacher and the university supervisor. One semester, three contact hours. Prerequisites: be a fourth year student; PHED 405.

PHED 408 **Practice Seminar in Physical Education Elementary**
1 Credit

Discussion, analysis and evaluation of the responsibilities and situations arising in physical education student teaching practice at the Elementary Level. Designed to enrich and complement the practicum experience. One semester, three hours per week. One semester, three contact hours. Prerequisites: be a fourth year student; Concurrent with PHED 410.

PHED 409 **Practice Seminar in Physical Education: Secondary**
1 Credit

Discussion, analysis and evaluation of the responsibilities and situations arising in physical education student teaching practice at the Secondary Level. Designed to enrich and complement the practicum experience. One semester, three hours per week. One semester, three contact hours. Prerequisites: be a fourth year student. Concurrent with PHED 411.

PHED 410 **Physical Education Practicum in Elementary Level (K-6)**
3 Credits

Application of the developed competencies during the previous academic preparation. Creativity and innovation in the teaching learning processes experiences in accordance with the students' needs and interests. This is in direct consultation with the preceptor. Includes hours of seminar and hours of practice. One semester, 21 contact hours.

PHED 411 **Physical Education Practicum in Secondary Level (7-12)**
3 Credits

Application of the developed competencies during the previous academic preparation. Creativity and innovation in the teaching learning processes experiences in accordance with the students' needs and interests. This is in direct consultation with the preceptor. Includes hours of seminar and hours of practice. One semester, 21 contact hours.

Science Education
Earth Science
(Coded EASC)

EASC 123 **Basic Concepts in Earth Sciences**
4 Credits

A study of the basic concepts of Earth and Space Sciences. Examines topics and processes in the following disciplines: geology, coastal geology, rocks, minerals, and interplanetary and space science. Learners as proposed by the constructivist vision place emphasis in the reconstruction of

concepts. Basic concepts of physics (Radioactivity and Half Life) are integrated in the course. Laboratory sessions include identification of rocks and minerals. Field trips are required for the application and development of concepts. One semester, four hours of lecture and three hours laboratory per week. Official admission and enrollment.

EASC 126 **Fundamentals of Atmospheric and Space Sciences**
3 Credits

Introduction to the theory and dynamics of our solar system and of Earth's atmospheric principles. The earth/moon system, eclipses, climate changes, waves and tides, evolution of the solar system, and the interactions between the atmosphere and biosphere are studied and analyzed from a physical point of view. Basic concepts of Physics (Translation and Rotation) are integrated in the course. One semester, four hours of lecture per week.

EASC 210 **History and Evolution of Life**
3 Credits

This course introduces, develops and studies from a critical perspective the fundamental concepts of Earth's evolutionary history from geological and paleontological perspectives. Analysis is given to past global climates and its repercussion throughout Earth's history biological evolution. Laboratory sessions include the development of classification skills through the identification of fossil invertebrates. Field trips are required. One semester, three hours of lecture and two hours of laboratory per week.

EASC 220 **Ecological Aspects of Puerto Rico**
3 Credits

An introduction to the general principles of ecology. Evaluation of different ecological systems with particular attention to mangroves, forests, reefs and caverns of Puerto Rico. Interaction analyses between the geological environment, human impact and ecosystem will be developed. Field trips are required for the application, concept development, and identification of persistent misconceptions. One semester, three hours of lecture per week

EASC 241 **Introduction to Oceanography**
3 Credits

Development of the following principles of the Earth's oceans: chemical composition, biological interactions and geological processes. Application of concepts in the study of Puerto Rico's coastal environments and morphological changes. Basic concepts of Chemistry (Solutions) and Physics (Thermal Properties of Matter) are integrated in the course. Field trips are required for the application and development of concepts.

One semester, three hours of lecture per week. Pre-requisite: EASC 123.

EASC 300 **Rocks and Minerals**
4 Credits

This course analyses the processes and environments of formation of rocks and minerals. Major mineral groups (silicates and non-silicates) and rock groups (igneous, sedimentary and metamorphic) are discussed. Development of knowledge through the study of the interaction between chemical composition, temperature, pressure and physical environment. Basic concepts of Chemistry (Atom, Ions, Matter, Chemical Bonds, Molecular Geometry and Crystallization) and basic concepts in Physics (Wave Motions, Sound, Light Properties, Newton's Laws, Thermal Properties and Wave Properties of Matter) are integrated in the course. Laboratory sessions include the development of classification skills through the identification of rocks and minerals and field trips are required. One semester, four hours of lecture and three hour laboratory per week. Pre-requisite: EASC 123.

EASC 311 **Geomorphology**
3 Credits

This course analyses the physical and chemical environmental factors that affect the landscape. Compression of to fluvial, coastal, desert, glacial, lacustrine, and soil environments in terms of their interaction with climate. Basic concepts of Chemistry (Oxi-Redox Reactions, pH, Acids and Bases, and Dissolutions) and Physics (Newton's Laws and Vectors) are integrated in the course. Laboratory sessions include identification of landscape morphologies and field trips for concept application. One semester, three hours of lecture and two hour laboratory per week. Pre-requisite: EASC 123.

EASC 315 **Carbonate Geology**
3 Credits

This course analyses the chemical and geological environments carbonate settings. Emphasis is given to carbonate deposition and diagenesis, carbonate environments, and the interaction between carbonate, carbon dioxide and climate. Basic concepts of Chemistry (pH, Acids and Bases, and Dissolutions) are integrated in the course. Laboratory sessions include classification of carbonate rocks, identification of carbonate environments, and field trips for concept application. One semester, three hours of lecture and two hour laboratory per week. Pre-requisite: EASC 123; 300.

EASC 406 **General Geology of Puerto Rico**
3 Credits

This course analyses and evaluates the fundamental knowledge of Puerto Rico's geologic history. Emphasis is given to geomorphology, coastal geology, biogeography, microclimate, and tectonics. Field trips are required to visit key geological sites around Puerto Rico. In addition, the effects of past global climates and its repercussion in the geological evolution of Puerto Rico are studied. Field trips are required to clarify misconceptions and reconstruction of knowledge. One semester, three hours of lecture. Pre-requisite: EASC 123; 241, 300 AND 311.

EASC 420 **Clinical Experiences 1**
0 Credit

Introductory teaching experiences under a supervised scenario for the earth sciences future educator. Application of theories, methods and strategies to improve the learning environment at the classroom. One semester, three hours per week. Pre-requisite: be a third year student.

EASC 421 Clinical Experiences 2
0 Credit

A continuation of the introductory teaching experiences under a supervised scenario for the earth sciences future educator. Application of theories, methods and strategies to improve the learning environment at the classroom. One semester, three hours per week. Pre-requisite: be a third year student; EASC 420.

EASC 422 Pre-practicum
0 Credit

Pre-practicum of the earth sciences future educator. Observation in the real setting and direct interaction with students. Analysis of the appropriate practices for the education of the individual at this years and the selection of those that be adequate, according to the individual needs of the student. Evaluations and periodic meetings with a school cooperative director-teacher and the university supervisor. One semester, three hours per week. Pre-requisite: be a fourth year student; EASC 422.

EASC 423 Practice Seminar
1 Credit

Discussion, analysis and evaluation of the responsibilities and situations arising in earth sciences student teaching practice. Designed to enrich and complement the day-to-day practicum experience. One semester, three hours per week. One semester, three hours per week. Pre-requisite: be a fourth year student; concurrent with EASC 424.

EASC 424 Practicum
3 Credits

Final requirement in the Earth Science teacher education program. It is the field experience in which the candidate assumes the duties and responsibilities a teacher performs in an educational environment. Offers students the opportunity to promote physical, emotional, social and intellectual development of children. Students work under the supervision of a regular teacher from an accredited school and a college supervisor. One semester, twenty hours per week.

Science Education

Elementary and Middle Levels

SCED 203 History, Philosophy and Sociology of Science: Educational

3 Credits**Implications**

Analysis of the basic elements about the history of science, and its philosophical and sociological fundamentals, which marks the scientific endeavors in the humankind; analysis of its implications in the science education. Relevant topics: scientific methods, nature of science, technology and society. One semester, three hours per week.

SCED 215**3 Credits**

**Development of the Conceptual Frameworks and Knowledge
Construction in the Biological and Environmental Sciences at the
Elementary and Middle Levels**

Basic studies of the theoretical frame that sustains the development of the conceptual framework in the biological and environmental sciences. Educational applications to help in the development and assessment of scientific concepts. Study and use of the biological and environmental science standards for curriculum excellence, and the pertinent curricular guides, of the Department of Education of Puerto Rico. Includes early teaching practice with science education laboratory experiences. One semester, three hours per week, two hours of laboratory weekly. Prerequisites: SCED 203

SCED 216**3 Credits**

**Development of the Conceptual Frameworks and Knowledge
Construction in the Physic, Earth and Environmental Sciences at
Elementary and Middle Levels**

Basic studies of the theoretical frame that sustains the development of the conceptual frameworks in the biological and environmental sciences. Educational applications to help in the development and assessment of scientific concepts. Study and use of the biological and environmental science standards for curriculum excellence, and the pertinent curricular guides, of the Department of Education of Puerto Rico. Includes early teaching practice with science education laboratory experiences. One semester, three hours per week, two hours of laboratory weekly. Prerequisites: SCED 215.

SCED 310**3 Credits**

**Models, Strategies, Resources and Scientific Research in
Science Education at Elementary and Middle Levels**

Study and analysis of teaching-learning models, of instructional and curricular design which encourage the development in the natural sciences and the endeavors which facilitates the scientific research at the elementary and Middle school levels. Emphasis in the application of these models in the development of science curricula. Test to develop simple classroom assessment projects. Competencies development for analyze and diagnosis of curricular needs. Includes early teaching practice with science education laboratory experiences. One semester, three hours per week, two hours of laboratory weekly. Prerequisites: SCED 203,215,216.

SCED 416**0 Credit****Clinical Experiences 1**

Introductory teaching experiences under a supervised scenario for the science education at elementary level future educator. Application of theories, methods and strategies to improve the

learning environment at the classroom. One semester, three hours per week. Pre-requisite: be a third year student.

SCED 417 Clinical Experiences 2
0 Credit

A continuation of the introductory teaching experiences under a supervised scenario for the science education at elementary level future educator. Application of theories, methods and strategies to improve the learning environment at the classroom. One semester, three hours per week. Pre-requisite: be a third year student; SCED 416.

SCED 418 Pre-practicum
0 Credit

Pre-practicum of the science education at elementary level future educator. Observation in the real setting and direct interaction with students. Analysis of the appropriate practices for the education of the individual at this years and the selection of those that be adequate, according to the individual needs of the student. Evaluations and periodic meetings with a school cooperative director-teacher and the university supervisor. One semester, three hours per week. Pre-requisite: be a fourth year student; SCED 417.

SCED 419 Practice Seminar
1 Credit

Discussion, analysis and evaluation of the responsibilities and situations arising in science education student teaching practice at the Elementary Level. Designed to enrich and complement the practicum experience. One semester, three hours per week. Concurrent with SCED 420.

SCED 420 Science Education Practicum at the Elementary School Level
3 Credits

Science education in the elementary school level will employ the educational techniques that promote the development of scientific concepts. In addition, they will demonstrate skills in the selection and creation of materials for instruction, diagnosis and assessment of the cognitive development of the students. Includes the study and use of biological and environmental science standards for curriculum excellence, and the pertinent curricular guides, of the Department of Education of Puerto Rico. One semester, a minimum of 21 hours weekly.

Prerequisites: 15 credits in the concentration and 15 credits in education courses.

SCED 421 Clinical Experiences 1
0 Credit

Introductory teaching experiences under a supervised scenario for the science education at middle level future educator. Application of theories, methods and strategies to improve the learning environment at the classroom. One semester, three hours per week. Pre-requisite: be a third year student.

SCED 422 Clinical Experiences 2
0 Credit

A continuation of the introductory teaching experiences under a supervised scenario for the science education at middle level future educator. Application of theories, methods and strategies to improve the learning environment at the classroom. One semester, three hours per week. Pre-requisite: be a third year student; SCED 421.

SCED 423 Pre-practicum
0 Credit

Pre-practicum of the science education at middle level future educator. Observation in the real setting and direct interaction with students. Analysis of the appropriate practices for the education of the individual at this years and the selection of those that be adequate, according to the individual needs of the student. Evaluations and periodic meetings with a school cooperative director-teacher and the university supervisor. One semester, three hours per week. Pre-requisite: be a fourth year student; SCED 422.

SCED 424 Practice Seminar
1 Credit

Discussion, analysis and evaluation of the responsibilities and situations arising in science education student teaching practice at the Middle Level. Designed to enrich and complement the practicum experience. One semester, three hours per week. One semester, a minimum of 21 hours weekly.

SCED 425 Science Education Practicum at the Middle School Level
3 Credits

Science education in the Middle school level will employ the educational techniques that promote the development of scientific concepts. In addition, they will demonstrate skills in the selection and creation of materials for instruction, diagnosis and assessment of the cognitive development of the students. Includes the study and use of the professional standards for science and mathematics, of the Department of Education of Puerto Rico. One semester, a minimum of 21 hours weekly.

Other Special Courses

Teaching of Mathematics

MAED 201 Mathematics at the Elementary School Level
3 Credits

Introduction to the theory of sets. A study of the basic operations (addition, subtraction, Multiplication and division) using cardinals, fractions, decimals and whole number. Representation of the basic operations using manipulative that promote a transition from the concrete to the

semiabstract and up to the abstract phases of learning, and as a means to construct learning by the student. Evaluation of problem-solving strategies and application to real life situations. Differentiates between ratio and proportion. Discusses the different cases of percentage as they apply to real life situations. One semester, 3 hours per week.

General Education Menu

EDUC 230 Education for Peace **3 Credits**

Study of the processes and methodologies of teaching for a culture of peace from the individual to the collective. Analysis of the criticism, the responsibility, the comprehension and the positive management of the conflicts; as well as, to promote the values of respect, tolerance, dialogue, negotiation and the exchange. It examines the four axes of the education for the peace: to learn to know, to learn to do, to learn to live together and to learn to be. The course will be will carry out by means of the use of semantics maps, cases studies, problem solving, distance communication, thematic discussions and portfolios.

Undergraduate Research

UNRE 101 Introduction to Educational Research **3 Credits**

Study of basic scientific methods used for inquiry, research, and planning. It includes the techniques used in the observation, analysis and presentation of data, obtained from tests, interviews, and questionnaires. Discussion of the role of theoretical research in education. Practice in formulation of problems and hypotheses, samplings, measurement and scale construction. Students are supervised in the design and completion of simple research projects. One semester, three hours per week.

BIOL 252 Life in Planet Earth: Origins, Characteristics and Conditions **3 Credits**

Analysis of the development of life, matter and Universe from an evolution perspective. Emphasis to the study of the biological processes. Study of the diverse forms of energy, its management and its relation with the environment. Study of the scientific methodologies from an historical critical perspective. Contextualization of the thematic and its application to Puerto Rico. Appreciation of the diverse forms of life. Emphasis in the skills of analysis and evaluation. Responsible management for the Internet and the diverse programs of computation as research tools. Use of strategies, such as, monographic papers, investigations, field experiences and collaborative works.

EASC 120 Terrestrial Sciences: Concepts and Applications **3 Credits**

Study of the basic concepts of the Terrestrial Sciences and of the Space. Analysis of processes by means of the study of themes in the following disciplines: geology, coastal geology, rocks, mineral and sciences of the space and interplanetary. Development and appreciation of the environment as a product of the evolution through the time. Sessions of laboratory for the application of concepts as radioactivity and half-life in the identification and classification of rocks and minerals. Field trips for the application are required and development of concepts. The technology for the preparation of collective and individual reports with relation to themes of the course is utilized.

PHIL 205
3 Credits

Philosophical and Sociological Foundations of Science

Critical analysis of the principles of knowledge and human nature from a socio-cultural perspective. Study of the evolution of the scientific endeavor from a historical-critical dimension. Evaluation of the diverse positions with regard to what is scientific knowledge and the science and society relation. The course develops through critical analysis of readings, search of thematic in Internet, presentations, development of monographs or trials and study of cases.

UNIVERSIDAD DEL ESTE

School of Health Sciences

Undergraduate Catalog

2006-2008

School of Health Sciences

The School of Health Sciences is ascribed to the Office of the Vice-Chancellor for Academic Affairs. It offers undergraduate programs such as; professional certificates, associate and bachelor's degrees. Continuing education activities are also given with the proper credits or certificates.

The academic programs answer to the socioeconomic reality and complement the theory with the practice. This is possible by means of the integration of the professional community, industry, the government sector, and the community in general, by means of strategic alliances and collaboration agreements. The use of the advanced technology is one of principal teaching tools that support the academic and the service to the student's activities.

The School of Health Sciences of Universidad del Este offers and collaborates with the community in the development of an environment that will foster an ambiance for study in harmony with the Institutional vision and mission. The continuous education to different professional sectors and sponsoring of professional development activities complete this ambiance of studies. The School of Health Sciences is a community of learning and dynamics in search of the highest educational ideal.

Mission

The School of Health Sciences of the Universidad del Este is a regional, national and international resource for education, undergraduate research and continuing education in health related professions.

Our commitment is to improve the health and quality of life of Puerto Ricans and the international community by means of an education of excellence that promotes the academic, social and ethical development of the students.

In accordance with the Institution's mission, the School of Health Sciences provides a quality education through a highly qualified faculty, competent in their professional field with vast teaching and clinical experience. Within this learning environment the student is the center of the teaching-learning process and of the services that are offered, thus promoting his or her whole development.

The School is committed to fulfill its mission through the following goals and objectives:

Goals

- Promote health through a commitment to the national and international community.
- Promote high quality, academic programs in health related professions that respond to the needs of society, and that broaden the personal and professional opportunities, as well as the social growth of the students.
- Promote the understanding and acceptance of cultural diversity inherent in society.
- Promote an administrative system that facilitates and supports student services and the teaching staff.

- Support faculty development in agreement with the philosophy of quality and the educational community.

Objectives

- Develop continuing education activities.
- Organize activities for the dissemination of health information to the different sectors of the community.
- Promote undergraduate, scientific, social and epidemiological research.
- Strengthen the academic offerings through the development of programs.
- Maintain the specialized, up-to-date equipment .
- Continue to develop the international dimension in the areas of health.
- Support the acceptance of cultural, social and international differences within the educational community.
- Develop the administrative structure that supports student services and the teaching staff.
- Develop strategies to increase student retention and assist those students who are at risk of leaving school.
- Promote faculty development.
- Recruit and retain faculty members with the academic degree and specialization necessary for each of the disciplines of the School.

Faculty

Brito Ortiz, Eduardo, RT, BHSA, MPH, University of Puerto Rico,
Assistant Professor
Radiology, Health Services Management.

Córdova Acosta, Ynés, RT, BHSA, MPH, University of Puerto Rico,
Assistant Professor
Radiology, Health Service Management

Fernández Mora, Rosa M., RT, BHSE, RDMS, MPH, University of Puerto Rico,
Associate Professor
Sonography, Radiology, Epidemiology

Nazario Pagán, Denise, RT, MPH, University of Puerto Rico,
Assistant Professor
Radiology, Epidemiology

Perez Agosto, Angeles, BS, RDMS, Universidad Del Este
Instructor
Medical Sonography

Torres Ayala, Aleida, RN, MSN, CNM
Instructor
Nursing

Torres Negrón, Ivette, BS, MS, Ph.D. University of Puerto Rico
Assistant Professor
Pharmacy Technician

Torres Tirado, Ada Lily, MA, Bridgeport University, (MRSD and RRA),
Assistant Professor
Health Information Technology

Yulfo Huffman, Jessica, BSPH. University of Puerto Rico
Instructor
Pharmacy Technician

Administrative Staff

Cordova Acosta, Ynes, RT, BHSA, MPH, University of Puerto Rico,
Interim Dean

Fernández Mora, Rosa M., RT, BHSE, RDMS, MPH, University of Puerto Rico,
Interim Associate Dean

Torres Ayala, Aleida, RN, MSN, CNM, University of Puerto Rico
Instructor
Director Nursing Program

Pérez Agosto, Ángeles, BS, RDMS, Universidad Del Este
Instructor
Coordinator Medical Sonography Program

Nazario Pagán, Denise, RT, MPH, University of Puerto Rico,
Assistant Professor
Coordinator Radiology Program

Program Description

Health Information Technology

The Health Information Technologist is the health professional that helps in documenting and arrangement of the medical records in the codification of diagnosis of surgeries, sicknesses, and in the preparation of medical statistics. A graduate of this program has the capability to work in different health care facilities such as; hospitals, clinics and health insurance companies in Puerto Rico and the United States.

Radiologic Technology

The work of the Radiologic Technologist includes performing radiological images, helping the radiologist in fluoroscopic studies, special procedures and the process of radiographic pictures. The two majors prepare the students to produce images that will help the radiologist diagnosis of the pathological conditions of the patients. The radiologic technologist renders their services in hospital, clinics, as well as other medical and health care facilities.

Medical Sonography

The sonographer is the qualified technician that provides the services by means of using diagnostic ultrasound. This professional uses special equipment in order to transmit high frequency wave sounds to the patient's body and then recollect the reflected echo in order to get diagnostic images. The bachelor's degree program is unique in Puerto Rico and the Caribbean.

Pharmacy Technician

The pharmacy technician is the professional that helps the pharmacist to dispatch medication prescribed by the doctors, under the supervision of the authorized pharmacist. The auxiliary is qualified to work in the hospital pharmacy, community pharmacy, as well as any other licensed distributor of pharmaceutical products.

Nursing

The Bachelor in Nursing Sciences Program with major in Intensive Care and Emergency Room is designed to develop in the student the knowledge base and necessary skills to perform effectively and efficiently as a general nurse. He/she will also possess basic knowledge of nursing care offered to patients hospitalized in the areas of Intensive Care and Emergency Room. The program's graduates will possess an ample and critical understanding of nursing care at this level and will be trained to be responsible professionals in the delivery of the highest possible quality nursing care. The graduates will be able to operate as a general nurse in a variety of scenarios, particularly Intensive Care and Emergency Room, aside from contributing to strengthening and developing the general health environment.

Health Services Management

Management in health services has to do with planning, organizing as well as evaluating the services rendered by organizations in the health care industry. The students that graduate from this program will be qualified to occupy jobs in the primary or intermediate management levels in the public or the private sector.

Admission's Requirements to the Health Science Programs

These are in addition to the general admissions requirement at UNE.

- High School grade point average of 2.5 for Associate programs in:
 - Medical Sonography, Radiologic Technology, and Nursing
- High School grade point average of 2.3 for Associate programs in:
 - Pharmacy Technician and Health Information Technology
- High School grade point average of 2.5 for Bachelor programs in:
 - Digital Angiography and Mammography, Computerized Tomography with Magnetic Resonance, Medical Sonography, Nursing, and Health Management Services
- Attend an Orientation meeting with representatives of the School.

Associate Degrees in Science

Associate in Science in Health Information Technology

70 credits	Credits
General Education	24
Core Professional Courses	8
Major Courses	32
Practicum	6

General Education

24

*SPAN 115	Reading, Writing and Oral Comm. Spanish I	3
SPAN 116	Reading, Writing and Oral Comm. Spanish II	3
*ENGL 115	College Reading and Writing English I	3
ENGL 217	English for Allied Health Professions	3
QYLE 110	Attitudes Development and Univ. Adaptation	3
MATH 116	Fundamentals of Mathematical Reasoning	3
PSYC 228	Diversity Psychology	3
COMP 110	Introduction to Programs and Computer Applications	3

Core Professional Courses

8

HESC 125-126	Human Anatomy and Physiology for Health Professions I – II	8
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**Major Courses

32

HINT 111	Introduction to Health Systems + Lab.	3
HINT 113-114	Medical Terminology and Diseases Process I-II	8
HINT 115	Professional Pharmacology for Management of Health Information	2
HINT130	Management of Health Information Systems+ Lab	3
HINT 201	Billing Procedures for Health Care Insurances	2
HINT 231	Medical- legal Aspects in Health Information Systems	2
HINT 232	Management Aspects of Health Information Systems Aspects on Medical Records	2
HINT 241	Introductions to Classification and Nomenclature Systems + Lab	3
HINT 242	Advanced Classification and Nomenclature Systems	2
HINT 243	Classification Systems of Diseases	2
HINT 245	Quality Assessments in Health Services	3

Practicum

6

HINT 251-252	Clinical Practicum I-II	6
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* The English and Spanish courses will be offered according to the student's proficiency level.

**A minimum average of "C" is required for all major courses, except HINT 251-252 that should be passed with a "B".

The Health Information Technology Program is accredited by the Committee on Accreditation of Allied Health Education Programs (CAAHEP) of the American Medical Association (AMA) in cooperation with the Council on Education of the American Health Information Management Association (AHIMA).

Associate in Science in Radiologic Technology

70 credits		Credits
General Education		25
Core Professional Courses		14
Major Courses		27
Practicum		4
General Education		25
*SPAN 115	Reading, writing and oral comm.. in Spanish I	3
SPAN 116	Reading, writing and oral comm.. in Spanish II	3
*ENGL 115	College reading and writing in English I	3
ENGL 116	College reading and writing in English II	3
BIOL 203	General Biology I	4
*MATH 117	Basic mathematics for health sciences	3
QYLE 110	Attitudes Development and Univ. Adaptation	3
COMP 110	Introduction to computers and software	3
Core Professional Courses		14
HESC 125- 126	Human Anatomy and Physiology Health Profession	8
HESC 121	Patient Care and Emergency Procedures in Radiological Sciences	3
PSYC 212	Health Psychology	3
Major Courses		27
RADI 101	Introduction to Radiological Sciences and Professional Ethics	2
RADI 102	Introduction to Radiological Physics	3
RADI 103	Pathology and Medical Terminology	2
RADI 105	Radiographic Chemistry and Processing	2
RADI 107	Radiographic Positioning and Techniques I	2
RADI 108	Radiographic Positioning and Techniques II	2
RADI 109	Radiographic Positioning and Techniques III	2
RADI 200	Radiation Physics and Radiobiology	3
RADI 210	Quality Assurance in Radiology	2
RADI 213	Principles of Radiographic Exposures	3
RADI 243	Special procedures and Radiographic Film Critique	2
RADI 255	Introduction to Modalities in Radiological Sciences	2

Practicum			4
RADI 230	Clinical Education	I	1
RADI 231	Clinical Education	II	1
RADI 330	Clinical Education	III	1
RADI 330	Clinical Education	IV	1

*English, Spanish and mathematics courses will be assigned according to the student's proficiency level.

** All Biology, Mathematic, Major Courses must be approved with "C", with the exception of RADI 101 and all Clinical Education Courses which must be approved with "B" or higher

Certificate in Radiation Therapy Technology

Duration: One full natural year

Pre-requisite: Associate in Sciences Degree in Radiologic Technology

22 credits	Credits
General Education	0
Core Professional Courses	1
Major Courses	11
Practicum	10

Core Curriculum	1	
RADI 255	Introduction to Modalities in Radiological Sciences	1

Major Courses	11	
RADI 251	Pathology and Radiobiology	3
RADI 257	Clinical Radiotherapy and Techniques	3
RADI 259	Principles of Dosimetry	2
RADI 261-262	Radiological Physics III and IV	3

Practicum	10	
RADI 252-253	Clinical Education I and II	10

*Courses and practicum are offered at the Rio Piedras Oncologic Hospital, Dr. Isaac González Martínez.

Associate in Science in Medical Sonography

73 credits	Credits
General Education	22
Core Professional Courses	23
Major Courses	25

Practicum		3
General Education		22
*SPAN 115	Reading, Writing and Oral Comm. in Spanish	3
*ENGL 115-116 College	Reading and Writing I and II	6
QYLE 110	Attitudes Development and Univ. Adaptation	3
PSYC 225	Social Psychology	3
MATH 117	Basic Math for Health Sciences	3
MATH 118	Fundamentals of Intermediate Algebra	4
Core Professional Courses		23
HESC 125-126	Human Anatomy and Physiology for Health Profession	8
BIOL 231-232	Cross Sectional Anatomy I and II	6
PHSC 110	Compendium of General Physics	3
HESC 121	Patient Care and Emergency Procedures	3
HESC 200	Computers Image Creation and Analysis	3
**Major Courses		25
SONO 101	Introduction to Medical Sonography	3
SONO 234-235	Ultrasound Physics and Instrumentation	4
SONO 238	Abdomen Sonography with Lab.	3
SONO 240	Small Parts Sonography with Lab.	3
SONO 242	Gynecology Sonography with Lab.	3
SONO 250	Sonography in Obstetrics	3
SONO 252	Pathology and Medical Terminology	3
SONO 256	Seminar and Student Project in Medical Sonography	3
Practicum		3
SONO 247	Pre-Clinical Observation (Clinical Education I)	1
SONO 248-249**	Clinical Education II and III	2

*The English and Spanish courses will be assigned according to the student's proficiency level, each one have laboratory.

**All major courses, and the Biol and Math, must pass with a minimum of a "C". The Sono 101, Sono 248 and Sono 249 courses must pass with a minimum of B.

Post Graduate Certificate in Medical Sonography

Pre-requisite: A college level Academic Degree (Associate Degree, Bachelor's, Master's or Doctorate in the Health Profession).

37 Credits (All major and some core curriculum courses as established in the Associate in Sciences Degree including HESC 121, HESC 200 and BIOL 231-232.

Associate in Science in Pharmacy Technician

74 credits	Credits
General Education	21
Core Professional Courses	8
Major Courses	39
Practicum	6

General Education **21**

*SPAN 115	Reading, Writing and Oral Comm. in Spanish I	3
SPAN 116	Reading, Writing and Oral Comm. in Spanish II	3
*ENGL 115	College Reading and Writing in English I	3
ENGL 116	College Reading and Writing in English II	3
QYLE 110	Attitudes Development and Univ. Adaptation	3
MATH 117	Basic Math for Health Sciences	3
COMP 110	Introduction to computers and Software Applications	3

Core Professional Courses **8**

HESC 125-126	Human Anatomy and Physiology for Health Professions I - II	8
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Major Courses **39

PHAR 210	Pharmaceutical Calculations I	3
PHAR 211	Pharmaceutical Calculations II	3
PHAR 212	Pharmacy Administration	3
PHAR 217	Pharmaceutical Chemistry	3
PHAR 224	Pharmacology I	3
PHAR 225	Pharmacology II	3
PHAR 230	Pharmaceutical Technology I	4
PHAR 231	Pharmaceutical Technology II	4
PHAR 233	Posology	3
PHAR 250	Hospital Pharmacy	2
PHAR 251	Prescription Dispensing and Pharmaceutical Specialties I	3
PHAR 252	Prescription Dispensing and Pharmaceutical Specialties II	3
PHAR 255	Pharmaceutical Legislation	2

Practicum **6**

PHAR 256	Supervised Practice in Pharmacy I	3
PHAR 257	Supervised Practice in Pharmacy II	3

*The English and Spanish courses will be assigned according to the student's proficiency level.

**All major courses, including Hesc 125-126 and Math 117, must pass with a minimum of a "C".

Associate in Science in Nursing

70 credits	Credits
General Education Courses	24
Core Curriculum Courses	12
Major Courses	34

General Education Courses 24

QYLE 110	Attitudes development and Univ. Adaptation	3
*SPAN 115 – 116 +	Reading, writing and oral comm. in Spanish I - II	6
*ENGL 115 – 116 +	College reading and writing I - II	6
MATH 117	Basic mathematics for health sciences	3
COMP 110	Introduction to computers and software	3
PSYC 228	Psychology of Diverse Populations	3

Core Curriculum Courses 12

HESC 125-126 +	Anatomy and Physiology for Health Science Prof. I - II	8
HESC 207 +	Microbiology for Health Allied Sciences	4

Major Courses 34

NURS 101	Introduction to Nursing	2
NURS 102 +	Fundamentals of Nursing	5
NURS 103	Basic Principles of Pharmacology	3
NURS 104	Maternal-Child Nursing	5
NURS 201 +	Pediatric Nursing	5
NURS 202 +	Medical-Surgical Nursing I	5
NURS 203 +	Medical-Surgical Nursing II	5
NURS 204 +	Psychiatric Nursing	4

*The English and Spanish courses will be assigned according to the student's proficiency level.

**All major courses, including Hesc 125-126 and Math 117, must pass with a minimum of a "C".

+ Courses that requires Laboratory

Graduates will be eligible to sit for the local Nursing Board Exam in order to be able to work as an Associate Degree nurse in Puerto Rico.

Bachelor of Science Degrees

Bachelor of Science in Radiological Sciences Major in Digital Angiography and Mammography

120 credits	Credits
General Education	52
Core Professional Courses	24
Major Courses	38
Practicum	6

General Education 52

*SPAN 115-116	Reading, Writing and Oral Comm. in Spanish I-II	6
*ENGL 115-116	College Reading and Writing in English	6
BIOL 203	General Biology I	4
MATH 117	Basic mathematics for health sciences	3
OYLE 110	Attitudes Development and Univ. Adaptation	3
COMP 110	Introduction to programs and applications in computers	3
HIST 255	Analysis of historic Processes in PR	3
SOSC 112	Human Being and its Environment	3
SOSC 216	Contemporary Social Problems	3
MENU COURSES	(Six courses selected by students)	18

Core Professional Courses 24

HESC 125- 126+	Human Anatomy and Physiology for Health Professions I – II	8
HESC. 121	Patient Care and Emergency Procedures in Radiological Sciences	3
PSYC 212	Health Psychology	3
BIOL 231-232	Cross Sectional Anatomy I-II	6
MATH 118	Fundamentals of Intermediate Algebra	4

Major courses 38

RADI101	Introduction to radiological Sciences and Professional Ethics	2
RADI102	Introduction to Radiological Physics	3
RADI103	Pathology and Medical Terminology	2
RADI 105	Radiographic Chemistry and Processing	2
RADI107+	Radiographic Positioning and Techniques I	2
RADI 108+	Radiographic Positioning and Techniques II	2
RADI 109+	Radiographic Positioning and Techniques III	2
RADI 200	Radiation Physics and Radiobiology	3
RADI 210	Quality Assurance in Radiology	2
RADI 213+	Principles of Radiographic Exposures	3
RADI 243	Special procedures and Radiographic Film Critique	2
RADI 255	Introduction to Modalities in Radiological Sciences	2
RADI 301	Quality Control in Mammography	2
RADI 302	Breast Pathology	2
RADI 401	Digital Angiography and Cardiovascular Procedures	2
RADI 402	Cardiovascular Pathology	2
HESC 200	Computer Image Creation and Analysis	3

Practicum 6

RADI 230	Clinical Education	I	1
RADI 231	Clinical Education	II	1
RADI 330	Clinical Education	III	1
RADI 330	Clinical Education	IV	1
RADI 430	Clinical Education with seminars	V	1
RADI 431	Clinical Education with seminars	IX	1

*English, Spanish and mathematics courses will be assigned according to the student's proficiency level.

** All Biology, Mathematic, Major Courses must be approved with "C", with the exception of RADI 101 and all Clinical Education Courses which must be approved with "B" or higher
+ Courses that require laboratory

Bachelor of Science in Radiological Sciences Major in Computerized Tomography and Magnetic Resonance Imaging

125 credits	Credits
General Education	52
Core Professional Courses	24
Major Courses	37
Practicum	7

General Education **52**

*SPAN 115-116	Reading, Writing and Oral Comm. in Spanish I- II	6
*ENGL 115-116	College Reading and Writing in English	6
BIOL 203	General Biology I	4
MATH 117	Basic mathematics for Health Sciences	3
QYLE 110	Attitudes Development and Univ. Adaptation	3
COMP 110	Introduction to computers and software	3
HIST 255	Analysis of historic Processes in PR	3
SOSC 112	Human Being and its Environment	3
SOSC 216	Contemporary Social Problems	3
Menu Courses	(Six Courses selected by the student)	18

Core Professional Courses **24**

HESC 125- 126+	Human Anatomy and Physiology for Health Professions I-II	8
HESC 121	Patient Care and Emergency Procedures in Radiological Sciences	3
PSYC 212	Health Psychology	3
BIOL 231-232	Cross Sectional Anatomy I-II	6
MATH 118	Fundamentals of Intermediate Algebra	4

Major Courses 42

RADI 101	Introduction to Radiological Sciences and Professional Ethics	2
RADI 102	Introduction to Radiological Physics	3
RADI 103	Pathology and Medical Terminology	2
RADI 105	Radiographic Chemistry And Processing	2
RADI 107+	Radiographic Positioning And Techniques I	2
RADI 108+	Radiographic Positioning And Techniques II	2
RADI 109+	Radiographic Positioning And Techniques III	2
RADI 200	Radiation Physics And Radiobiology	3
RADI 210	Quality Assurance In Radiology	2
RADI 213+	Principles Of Radiographic Exposures	3
RADI 243	Special Procedures And Radiographic Film Critique	2
RADI 255	Introduction To Modalities In Radiological Sciences	2
RADI 311	Computerized Tomography Physics	2
RADI 312	Magnetic Resonance Physics	2
RADI 313	Compared Pathology I	2
RADI 314	Compared Pathology II	2
RADI 315	Imaging Protocols And Procedures In CT And MRI	4
HESC 200	Computer Image Creation And Analysis	3

Practicum 7

RADI 230	Clinical Education I	1
RADI 231	Clinical Education II	1
RADI 330	Clinical Education III	1
RADI 330	Clinical Education IV	1
RADI 440	Clinical Education with seminars VI	1
RADI 441	Clinical Education with seminars VII	1
RADI 442	Clinical Education with seminars VIII	1

*English, Spanish and mathematics courses will be assigned according to the student's proficiency level.

** All Biology, Mathematic, Major Courses must be approved with "C", with the exception of RADI 101 and all Clinical Education Courses which must be approve with "B" or higher

+ Courses that require Laboratory

Bachelor of Science in Public Health Major in Health Management Services

119 Credits

Credits

General Education	48
Core Professional Courses	29
Major Courses	30
Practicum	6
Electives	6

General Education 48

*SPAN 115-116	Reading, Writing and Oral Comm. in Spanish I-II	6
*ENGL 115-116	College Reading and Writing I and II	6
QYLE 110	Attitude Development and Univ. Adaptation	3
MATH 117	Basic Math for Health Sciences	3
HIST 255	Analysis of historic Processes in PR	3
BIOL 255	Environmental Sciences Biology	3
COMP 110	Introduction to computers and software	3
SOSC 112	Human Being and its environment	3
MENU COURSES	(Six courses selected by the student)	18

Core Professional Courses 29

ACCO 111	Elementary Accounting I	4
ECON 123	Elementary Principles and Problems of Economics	3
MANA 210	Management Theory	3
MANA 213	Personnel Administration	3
MANA 230	Organizational Behavior	3
PUHE 101	Introduction to Public Health and Health Education	3
PUHE 201	Biostatistics	3
PUHE 210	Biological Aspects of Human Diseases	4
PUHE 203	Introduction to Epidemiology	3

Major Courses 30

HESM 110	Health Management Services	3
HESM 210	Health Systems and Models	3
HESM 220	Services Planning and Evaluation	3
HESM 230	Basic Accounting for the Health Industry	3
HESM 310	Health Economics	3
HESM 320	Basic Finances in the Health Industry	3
HESM 330	Legal Aspects in the Health Industry	3
HESM 340	Budgeting for the Health Industry	3
HESM 410	Health Information Systems	3
HESM 420	Special Topics in Health Services	3

Practicum 6

HESM 430	Practicum/Seminar in the Health Services Management I	3
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HESM 431	Practicum/Seminar in the Health Services Management II	3
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Electives **6**

*The English and Spanish courses will be assigned according to the student's proficiency level.

**All major courses including Math, must pass with a minimum of a "C".

Bachelor of Science
Major in Medical Sonography (Vascular and Echocardiography Technology Specialties)

120 Credits	Credits
General Education	46
Core Professional Courses	22
Major Courses	45
Practicum	7

General Education **46**

*SPAN 115	Reading, Writing and Oral Comm. in Spanish	3
*ENGL 115-116	College Reading and Writing I and II	6
QYLE110	Attitudes Development and Univ. Adaptation	3
MATH 117	Basic Math for Health Sciences	3
MATH 118	Fundamentals of Intermediate Algebra	4
SOSC 113	Analysis of Cultural and Historic Processes	3
HIST 255	Analysis of Historical Processes of PR	3
SOCI 216	Contemporary Social Problems	3
MENU COURSES	(Six courses selected by the student)	18

Core Professional Courses **22**

HESC 125-126	Human Anatomy and Physiology for Health Professions I – II	8
BIOL 231-232	Cross Sectional Anatomy I and II	6
BIOL 335	Cardiovascular Anatomy and Physiology	2
PHSC 110	Compendium of General Physics	3
HESC121	Patient Care and Emergency Procedures	3

****Major Courses** **45**

SONO 101	Introduction to Medical Sonography	3
SONO 234-235	Ultrasound Physics and Instrumentation	4
SONO238	Abdomen Sonography with Lab.	3
SONO 240	Small Parts Sonography with Lab.	3
SONO 242	Gynecology Sonography with Lab.	3
SONO 250	Sonography in Obstetrics	3

SONO 252	Pathology and Medical Terminology	3
SONO 334	Vascular Physics and Instrumentation	3
SONO 336 - 337	Vascular Technology I and II with Lab.	6
SONO 338	Techniques and Protocols for Adult Echocardiography	2
SONO 340	Adult Echocardiography with Lab.	3
SONO 342	Cardiac Pathophysiology	3
SONO 401	Comparative Imaging	3
SONO 406	Advanced Seminar	3

Practicum 7

SONO 247	Pre-Clinical Observation (Clinical Education I)	1
SONO 248-249**	Clinical Education II and III	2
SONO 347 – 348**	Clinical Education in Vascular Technology I and II	2
SONO 349 - 350**	Clinical Education in Adult Echocardiography I – II	2

*The English and Spanish courses will be assigned according to the student's proficiency level, each one have laboratory.

**All major courses, and the Biol and Math, must pass with a minimum of a "C". The SONO 101, SONO 248, SONO 249, SONO 347, 348, 349 and 350 courses must pass with a minimum of B.

Bachelor of Science Major in Nursing with Intensive and Emergency Care

128 credits	Credits
General Education Courses	45
Core Curriculum Courses	20
Major Courses	63

General Education Courses 45

QYLE 110	Attitudes Development and Univ. Adaptation	3
*SPAN 115 -116	Reading, Writing and Oral Comm. in Spanish I - II	6
* ENGL 115	College Reading and Writing I	3
ENGL 217	English for Allied Health Professions	3
MATH 117	Basic Mathematics for Health Sciences	3
COMP 110	Introduction to Computers and Software	3
PSYC 228	Psychology of Diverse Populations	3
SOSC 112	The Human Social Environment	3
HIST 255	Analysis of PR Historical Processes	3
MENU COURSES	(Select 6 courses from the Categories listed)	18

Core Curriculum Courses 20

HESC 125-126+	Anatomy and Physiology for Health Science Prof. I-II	8
HESC 207+	Microbiology for Health Allied Sciences	4
CHEM 203- 204+	General Chemistry I -II	8

Major Courses **63**

NURS 101	Introduction to Nursing	2
NURS 102 +	Fundamentals of Nursing	5
NURS 103	Basic Principles of Pharmacology	3
NURS 104	Maternal-Child Nursing	5
NURS 201 +	Pediatric Nursing	5
NURS 202 +	Medical-Surgical Nursing I	5
NURS 203 +	Medical-Surgical Nursing II	5
NURS 204 +	Psychiatric Nursing	4
NURS 300	Physical Assessment	3
NURS 320	Community Nursing	4
NURS 380	Basic Principles of Research	3
NURS 400	Intensive Care Nursing	5
NURS 420	Emergency Care Nursing	5
NURS 440	Administration and Leadership in Nursing	3
NURS 480	Practicum	6

*The English and Spanish courses will be assigned according to the student's proficiency level.

**All major courses, including Hesc 125-126 and Math 117, must pass with a minimum of a "C".

+ Courses that requires Laboratory

Graduates will be eligible to sit for the local Nursing Board Exam in order to be able to work as a generalist nurse in Puerto Rico.

Course Descriptions

Radiology Technology

RADI 101 **Introduction to Radiological Sciences and Professional Ethics**
2 Credits

The course covers the role of the Radiologic technologist in the allied health fields. Concepts such as history of radiology, the x-ray tube, nomenclature, basic principles of radiation protection and principles of public health will be introduced. Also emphasized are professional ethics, medico-legal considerations and how the students can develop themselves as complete professionals in radiologic technology. One semester, 2 hours per week. Prerequisite: Radiologic Technologist students

RADI 102 **Introduction to Radiological Physics**
3 Credits

This course studies the basic principles of different areas of physics including, mechanics, heat, electricity, magnetism, as well as units of measurements in the English, metric and international systems. The analysis of the structure and composition of matter, as well as the basic concepts of ionized and non-ionized radiation are included. Principles of x-ray circuits and the history of radiological physics are also covered. The course is developed through the use of conferences, team work, and concept application. The responsible use of technology is encouraged. One semester, 3 hours per week.
Prerequisite: Math 117

RADI 103 **Medical Terminology and Pathology**
2 Credits

In this course the student will learn the technical vocabulary that he will need in the practice of his profession. The technical language of radiology will be taught to facilitate the effective collaboration of the radiologic technologist, his colleagues and the radiologist. Also covered are the prefixes, suffixes and roots of medical terminology, as well as the functions and analysis of those terms. The most frequent pathological conditions handled by the profession are emphasized. One semester, 2 hours per week. Prerequisites: BIOL 203

RADI 105 **Radiographic Chemistry and Processing**
2 Credits

This course studies and analyzes the complete procedure necessary to develop an x-ray film (manual and automatic). The student will develop the capacity to recognize artifacts, fog, foreign bodies, contamination of the solutions, etc. Types of film, cassettes, intensifying screens, etc., and how to use them are also covered in this course.
One semester, 2 hours per week Prerequisite: RADI 101, RADI 102

RADI 107 **Radiographic Techniques I**
2 Credits

In this course the theory and practice of the most frequent positions used for the superior and inferior extremities are given. After introducing body planes, lines, landmarks, anatomy and types of chassis and screens to be used, the instructor will show the student the routine and specialized positions of both extremities mentioned above. The student will be exposed to the correct interpretation of the radiographic studies request form, and its relation to the patient and the pathology. Laboratory exercises give practice in techniques learned during the practical demonstrations. One semester, 2 hours lecture, 2 hours laboratory. Prerequisites: RADI 101, 103

RADI 108 Radiographic Techniques II
2 Credits

This course will expose the student to all information relating to techniques and positions of the human trunk (abdomen and thorax). The emphasis is on adequate preparation of the patient, the importance of body positions and landmarks, routine and specialized radiographic positions, etc. The course will also cover specialized techniques to show radiographically the anatomic areas of interest and the pathological conditions present. Laboratory exercises give practice in the techniques learned during the practical demonstrations. One semester, 2 hours laboratory, 2 hours lecture. Prerequisite: RADI. 107

RADI 109 Radiographic Techniques III
2 Credits

This course will expose the student to all information relating to techniques and positions of the human skull and facial bones. The emphasis is on adequate preparation of the patient, the importance of body positions and landmarks, routine and specialized radiographic positions, etc. The course will also cover specialized techniques to show radiographically the anatomic areas of interest and the pathological conditions present. Laboratory exercises give practice in the techniques learned during the practical demonstrations. One semester, 2 hours laboratory, 2 hours lecture. Prerequisite: RADI 108

RADI 200 Radiological Physics & Radiobiology
3 Credits

This course covers the production, properties, uses and development of X-rays, ionizing radiation and their application in medicine. X-ray circuits and tubes are emphasized. The course also covers the use of X-rays in clinical diagnosis and treatment with respect to protection against unnecessary exposure to radiation of the technologist, radiologist and patient. Also included in the course are experiments and problems that deal with the detection and measurement of radiation, as well as methods of controlling the quality of the X-ray beam. One semesters, 3 hours of lecture per week. Prerequisite: RADI 213.

RADI 210 Quality Assurance in Radiology
2 Credits

This course stresses the importance of maintaining a quality assurance program in a radiology department (x-ray units and darkroom). Included in this course are quality control parameters, which could affect the general production and quality of an X-ray department. The concepts covered include: kilovolt, milliamperage, exposure time, production capacity of the equipment (output), etc. These concepts are discussed in terms of their effects on the quality of x-ray films. The quality of the darkroom, automatic processors, solutions and the analysis of the final product are also incorporated in this course. One semester, 2 hours per week. Prerequisite: Radi 200

RADI 213 **Principles of Radiographic Exposure**
3 Credits

This course introduces the student to the fundamentals of the theory and history of the production of x-ray tubes, heel effect, the production of X-rays, types of intensifying screens, cassettes and films, the influence of kilovoltage, milliamperage, distance, the inverse square law, etc. The course will emphasize the study of the correct control of the physical, human and radiographic factors that could affect radiographic imaging. Experiments and problems are offered in which the student will acquire those skills needed to obtain a high quality x-ray film. One semester, 3 hours of lecture per week. Prerequisites: RADI 101 – RADI 102

RADI 230 **Pre-Clinical Observation (Clinical Education I)**
1 Credit

This course is designed so that the student integrates and develops the cognitive aspects domains and motor skills in his assigned practical setting. This course is considered as one of clinic observation where the student observes the activities of images from the simple level procedures of the work until the accomplishment of several radiological exams of smaller complexity. The student will have the opportunity of assisting and be supervised by a licensed radiological technologist and to accomplish several tasks assigned to become familiarized with the procedures. One semester, fourteen hours per week. Prerequisite: RADI 101 – RADI 103.

RADI 231 **Clinical Education I**
1 Credit

During this course the student will be able to apply the cognitive and psychomotor theories established in the curriculum by clinical practice. All the techniques learned in this course will be directed to the truncal anatomical areas as well as technical positions practiced to ensure success in clinical practice. The students will develop their ability in areas such as surgery, portable radiography, special procedures, emergency procedures, routine radiography, etc. One semester, and a minimum of twenty hours per week.

Prerequisite: RADI 107, RADI 230

RADI 243 **Special Procedures and Radiographic Film Critique**
2 Credits

This course introduces the student to self-initiated didactic activities where he or she coordinates and plans an independent study, which is supervised and evaluated by the instructor. The student chooses a radiographic subject for investigation, which he develops and then orally presents. Concepts such as kilovoltage, milliamperage, time of exposure, body habitus, density, contrast,

tones, definition, resolution, positions, etc., are evaluated and demonstrated radiographically. One semester, 2 hours per week.

Prerequisites: RADI 109

RADI 255 **Imaging Equipment and Modalities**
2 Credits

This course introduces the student to the equipment routinely used to produce diagnostic images. The courses will also cover the principles of new methods of imaging in radiological sciences. Various recording media and techniques are discussed. One semester, 2 hours per week.
Prerequisites: RADI 101, HESC 121

RADI 301 **Breast Imaging and Quality Control**
2 Credits

Cognitive and practical study of the acquisition of high-quality diagnostic images of the mammary glands through technical skills, anatomical positioning and special procedures. Presentation of the anatomy and pathology of the mammary glands. Concepts as production of the image, analysis and evaluation of the breast, anatomical and pathological correlation, quality control and radiation protection in equipment and processing legislation. Programs of quality assurance and radiological safety are emphasized. One semester, 2 hours per week. Prerequisite: RADI 210

RADI 302 **Breast Pathology**
2 Credits

Description and study of the anatomy and pathology of the breast in relation with mammography and other radiological procedures. The clinical study of the etiology and development of breast disease is included. The discussion of American College of Radiology and American Cancer Society guidelines, screening and medical history techniques related the breast and breast imaging procedures is also included. The course is developed through the use of case studies, team work, literary review and research. The responsible use of technology is encouraged. One semester, 2 hours per week.

Prerequisites: BIOL 231

RADI 311 **Physics for Computerized Tomography**
2 Credits

Introduction to the physics and imaging instrumentation in the field of the Computerized Tomography CT. Emphasis in concepts such as: occupational exposure, sensors, pixels, collimation images delineation, function and application of the computer and the factors involved in the CT unit. One semester, 2 hours per week. Prerequisites: RADI 200 - 213

RADI 312 **Physics for Magnetic Resonance Imaging**
2 Credits

Introduction to the physics and imaging instrumentation in the field of Magnetic Resonance (MRI). Study of the interactions of the electromagnetic waves to generate a sign in MRI, magnetization, constant variation free inducement decay and effect of the force of the magnetic field on the MRI sign, among other are covered. One semester, 2 hours per week.
Prerequisites: RADI 311.

RADI 313 **Compared Pathology I**
2 Credits

Comparison and conversion of the images and pathologies obtained from CT and MRI Imaging techniques. A through study of the quality of the images, tones, contrasts, anatomical and pathological delineation, medical terms, human body system, effect of the body tissues and body habitus in the obtained images. Competencies in the identification of the imaging protocols to follow in the event of pathological findings. One semesters, 2 hours per week.
Prerequisites: RADI 231, 310, HESC 121 and BIOL 232

RADI 314 **Compared Pathology II**
2 Credits

Comparison and conversion of the images and pathologies obtained from CT and MRI Imaging techniques. A through study of the quality of the images, tones, contrasts, anatomical and pathological delineation, medical terms, human body system, effect of the body tissues and body habitus in the obtained images. Competencies in the identification of the imaging protocols to follow in the event of pathological findings. One semesters, 2 hours per week.
Prerequisites: RADI 231, 310, HESC 121 and RADI 313

RADI 315 **Protocols and Imaging Procedures in Computerized Tomography,
and Magnetic Resonance**
4 Credits

Discussion of the clinical protocols and basic procedures of Computed Tomography and Resonance Magnetic. Analyses the scanning techniques to best demonstrate anatomy and pathology. Study of the basic equipment, parameters to optimize image quality and technique to minimize artifacts. The course is developed through the use of conferences, team work concept application, case studies, site visits. The responsible use of technology is encouraged. One semester, 4 hours per week.

RADI 330 **Clinical Educational III**
1 Credit

This is a continuation course where the student will be able to apply the cognitive and psychomotor theories established in the curriculum by clinical practice. All the techniques learned in this course will be directed to craneal anatomical areas as well as technical positions practiced to ensure success in clinical practice. The students will develop their ability in areas such as surgery, portable

radiography, special procedures, emergency procedures, routine radiography, etc. One semester, and a minimum of twenty hours per week.

Prerequisite: RADI 101, 103, 107, 231

RADI 331 Clinical Education IV
1 Credit

This is a continuation course where the student will be able to apply the cognitive and psychomotor theories established in the curriculum by clinical practice. All the techniques learned in this course will be directed to all anatomical areas in which the contrast technique is applied. In addition, will practice different anatomical positions to ensure success in clinical practice. The students will develop their ability in areas such as surgery, portable radiography, special procedures, emergency procedures, routine radiography, etc. One semester, and a minimum of twenty hours per week.

Prerequisite: RADI 101, 103, 107, 330.

RADI 401 Digital Substraction Angiography and Cardiovascular
2 Credits Procedures

Development of the new technologies in the field of Digital Substraction Angiography and those procedures in cardiovascular system for diagnostic of diseases in the circulatory and cardiovascular system of the human body. Concepts such as: conventional and digital angiography and their imaging units, its anatomical and pathological correlation, specialized terms, contrast media, role of the radiological technologist as health professional and its relevancy to modern technology are emphasized. One semester, 2 hours per week.

Prerequisites: RADI 331, HESC. 121, BIOL 231

RADI 402 Cardiovascular Pathology
2 Credits

Description and study of cardiovascular, peripheral, neurovascular e interventional pathology in relation with radiological procedures. The clinical study of the etiology and development of disease is included. The discussion of screening and medical history techniques related to cardiovascular, peripheral, neurovascular diseases and interventional procedures. The course is developed through the use of case studies, team work, literary review, research and audiovisual aids. The responsible use of technology is encouraged. One semester, 2 hours per week. Prerequisites: BIOL 231, HESC 200.

RADI 430 Clinical Education with Seminar V
1 Credit

Evaluation of the student's skills acquisition in a practical setting. Competencies in-patient care management, utilization of the imaging mammography, angiography units and other in relation to cardiovascular imaging studies, utilization and function of the contrast media, and the establishment of the necessary quality controls. Attention is given to the student's needs ethics and new technological and clinical approaches. One semester, twenty-nine (29) hours per week of practice. Prerequisites: RADI 331

RADI 431 **Clinical Education with seminar IX**
1 Credit

The student will practice all the knowledge acquired in the classroom. The development of the skills needed to work in the area is expected. The student will learn the administration, use and function of contrast media in relation with radiological procedures. Attention will be given to the implementation of quality control, and the new clinical and technological developments. In addition to the 200 contact hours of practice, the course is developed through the use of case studies, literary review and research. The responsible use of technology is encouraged. One semester, 200 hundred hours per semester.

Prerequisite: RADI 430

RADI 440 **Clinical Education with Seminar VI**
1 Credit

Evaluation of the student's skills acquisition in a practical setting. Competencies in-patient care management, utilization of the imaging mammography, angiography units and other in relation to cardiovascular imaging studies, utilization and function of the contrast media, and the establishment of the necessary quality controls. Attention is given to the student's needs, ethics and new technological and clinical approaches. One semester, twenty-one (21) hours per week of practice. Prerequisites: RADI 301, 331

RADI 441 **Clinical Education with Seminar VII**
1 Credit

Continuation of the skills acquisition of the students in the practical setting. Apprenticeship and greater skills acquisition in the managing and patient care, as well as, the utilization of the units of Computerized Tomography (CT) and Magnetic Resonance (MRI). Utilization and functions of the means of contrast and necessary quality controls established for the high performance in his area. Attention will be given to the needs, ethical and new technological and clinical approaches related to the profession. One semester twenty-one hours per week.

Prerequisites: RADI 440

RADI 442 **Clinical Education with Seminar VIII**
1 Credit

Continuation of the skills acquisition of the students in the practical setting. Apprenticeship and greater skills acquisition in the managing and patient care, as well as, the utilization of the units of Computerized Tomography (CT) and Magnetic Resonance (MRI). Utilization and functions of the means of contrast and necessary quality controls established for the high performance in his area. Attention will be given to the needs, ethical and new technological and clinical approaches related to the profession. One semester twenty-one hours per week.

Prerequisite: RADI 441

Radiation Therapy

RADI 251 **Pathology and Radiobiology**
3 Credits

This course is designed for students in the radiotherapy specialty only. It introduces the student to such concepts as the cell, skin tumor pathology, radiation and normal tissues, tumors in the respiratory, genitourinary, gastrointestinal, nervous, and bone marrow systems. The student will have the opportunity to study the acute effects of radiation, carcinogenesis, as well as the pathology of soft tissue structures. One semester, 3 hours per week.

RADI 252 **Practicum I**
5 Credits

When the student takes this course, he should be able to apply the cognitive and psychomotor aspect established in the curriculum by practicing in the clinic. All the techniques learned in the courses offered will be practiced to ensure success in clinical practice. The student will develop his (her) abilities in areas such as teletherapy units, lineal accelerators, radioactive sealed sources, routine treatments, radiation protection, dosimeter calculations, emergency procedures, etc. One semester, thirty-five hours per week.

RADI 253 **Practicum II**
5 Credits

This is a continuation course where the student should be able to apply the cognitive and psychomotor aspect established in the curriculum by practicing in the clinic. All the techniques learned in the courses offered will be practiced to ensure success in clinical practice. The student will develop his (her) abilities in areas such as teletherapy units, lineal accelerators, radioactive sealed sources, routine treatments, radiation protection, dosimeter calculations, emergency procedures, etc. One semester, thirty-five hours per week.

RADI 257 **Clinical Radiotherapy and Techniques**
3 Credits

This course is designed for students in the radiology specialty only. The course will give students the opportunity to become familiar with cancer treatments, types of carcinomas, metastasis, etc. Students will be able to evaluate many patients with carcinoma conditions and then report orally about them. One semester, 3 hours per week.

RADI 259 **Principles of Radiation Therapy Dosimetry**
2 Credits

This course is designed for students in the radiology specialty only. In this course students will be able to use mathematical tables, programmable calculators, special rules and specifications, etc., to obtain real results from calculations. The students will calculate internal and external radiation doses, evaluate distance, radiation field size, treatment techniques and difficulties found in such

calculations. The student will develop skills in problem solving. Frequent calculations will be emphasized. One semester, 3 hours per week.

RADI 261 Radiological Physics II
2 Credits

This course is designed for students in the radiotherapy specialty only. The student will develop skills in nuclear physics, teletherapy and high energy units, absorption of radiation by matter, radiation measurements, radiation detection, curves and their clinical uses, interstitial and intracavity treatments, radiation protection, radiation fields, treatment techniques, the use of the phantom, the use of mathematical tables, etc. The practice of problem solving and the use of programmable calculators will be emphasized in on-site laboratory sessions. 2 semesters, 4 and a half hours per week.

RADI 262 Radiological Physics III
1 Credit

This course is designed for students in the radiotherapy specialty only. The student will develop skills in nuclear physics, teletherapy and high energy units, absorption of radiation by matter, radiation measurements, radiation detection, curves and their clinical uses, interstitial and intracavity treatments, radiation protection, radiation fields, treatment techniques, the use of the phantom, the use of mathematical tables, etc. The practice of problem solving and the use of programmable calculators will be emphasized in on-site laboratory sessions. 2 semesters, 4 and a half hours per week.

Health Sciences

HESC 101 Introduction to Health Services Administration
2 Credits

Introductory course of health management, which presents a broad scope overview of management as effective tool for enhancing productivity, human relations and health, related outcomes. Includes basic concepts such as: management history, theory of management, management in health services, the administrative process, organizational models, legal aspects and technologist's role as an allied health professional. One semester, 2 hours per week.

HESC 121 Patient Care and Emergency Procedures in Medical Imaging
3 Credits

This course has been designed as an introduction to specific principles in the field of nursing and all that is related to patient care and emergency procedures in medical imaging. Concepts such as emergency units, patient movement, and transfer, aseptic techniques during the administration of contrast media, recognition of allergenic reactions, vital signs, first aid cardiopulmonary

morphology, physiology, identification and bacterial afflictions, molds, viruses and their relationship to diseases. In addition, infection epidemiology, host defenses and immunological principles and the application of this knowledge in the prevention of disease are developed in this course. The laboratory component provides the student with skills related to aseptic techniques, disinfection, tincture, isolation and culture of microorganisms. Methods of bacterial growth control are also emphasized. One semester, three hours of lecture and 3 hours of laboratory per week.

Medical Sonography

SONO 101 Introduction to Medical Sonography **3 Credits**

The course introduces the Medical Sonography student with the roles and tasks of a Sonographer. It covers concepts such as: Origins of the Diagnostic Medical sonography, Abilities and Skills desirable in sonographer candidates, and career advantages. The course also introduces to the different sonographic specialties, the staff sonographer administrative duties, the basic instrument in all sonographic equipment and how it is used. One semester, 3 hours per week.

SONO 234 Ultrasound Physics and Instrumentation 1 **2 Credits**

Course designed to understand acoustic concepts such as oscillation, acoustical waves, reflection & refraction of sound waves. During the course the student learns all the processes produced from the interaction between sound waves and the different human tissues. One semester, 2 hours per week. Prerequisite: PHSC 110

SONO 235 Ultrasound Physics and Instrumentation **2 Credits**

The course presents different ways to operate the Diagnostic Ultrasound equipment. It includes Amplitude, Brightness and real-time modes. Along the course many concepts are discussed related to Doppler Physics and the Biological Effects of the Diagnostic Ultrasound. One semester, 2 hours per week. Prerequisite: SONO 234

SONO 238 Abdomen Sonography **3 Credits**

The course emphasizes the clinical procedure and interpretation in sonographic examinations of the abdomen. Includes the ultrasound evaluation of the Gallbladder (GB), Liver, Spleen, Kidneys, Adrenals, Pancreas, and other abdominal organs. Normal anatomy and pathology of the abdomen will be discussed, as seen in a sonogram. One semester, 2 hours of laboratory per week and 3 hours of lecture per week. Prerequisite: SONO 101

SONO 240 Small Parts Sonography **3 Credits**

The course emphasizes the clinical procedures used in diagnostic medical sonography of the small parts examinations. Includes the techniques and sonographic evaluation used to examine structures like the: Thyroid, Parathyroid, Carotid Vessels, Scrotum and Testicles, Breast, Prostate, Popliteal Area, and others glands. One semester, 2 hours of laboratory per week and 3 hours of lecture per week. Prerequisites: SONO 101, 238 and 242.

SONO 242 **Gynecology Sonography**
3 Credits

This course covers all the clinical examinations involved in diagnostic ultrasound gynecologic procedures. The student will be able to recognize normal pelvic anatomy and gynecologic pathology seen in a pelvic sonogram. Emphasis is given to different imaging techniques. One semester, 2 hours of laboratory per week and 3 hours of lecture per week. Prerequisites: SONO 238, 252.

SONO 247 **Clinical Education I**
1 Credit

This is the first of three clinical education's courses. In this course the student learns by observing the different sonographic procedures made along the clinical practice. The student will have the opportunity of seen different sonographic procedures, scanning techniques and instrumentation used for patient's evaluation. The course's purpose is exposing the student with all tasks performed by a professional sonographer in a clinical field. One semester. Prerequisite: Satisfactory grades in first semester major courses.

SONO 248 **Clinical Education II**
1 Credit

This second clinical experience demands an active role of the student. This phase of clinical education emphasizes in the performance of sonographic studies with direct supervision of a medical sonography professional. The student will have to participate in the performance of different sonographic procedures to evaluate patients by using the appropriate scanning techniques. One semester. Prerequisite: SONO 247

SONO 249 **Clinical Education III**
1 Credit

This clinical education course is designed to give the student time and opportunity to practice doing different sonograms with minimal supervision. The students must possess the skills needed to make abdominal and gynecological sonograms. The course will prepare them to develop the skills needed to practice these studies and learn how to do obstetrical and small parts examinations. One semester. Prerequisite: SONO 248

SONO 250 **Sonography in Obstetrics**
3 Credits

The course emphasizes the clinical procedures in diagnostic ultrasound obstetrics examinations. This course covers concepts such as: fetal growth and development, fetal measure, evaluation of fetal well-being and the scanning techniques used to evaluate pregnancy in Trimesters. One semester, 3 hours per week. Prerequisites: SONO 238, 252.

SONO 252 Pathology and Medical Terminology
3 Credits

This course is designed for the discussion of human physiology and pathology of the different body systems as seen sonographically. A discussion of the pertinent medical terminology, pathologic aspects and its association with patient clinical history and the sonographic features are also included.

One semester, 3 hours per week. Prerequisite: SONO 101

SONO 256 Seminar and Student Project in Medical Sonography
3 Credits

The course is designed to promote interest in clinical and bibliographic research among the program students. During the course are discussed journal articles and clinical cases performed by the students. Each student will be assigned with a research work which intends to extend its knowledge in all ultrasound areas in which he or she is involved during the clinical education. One semester, 3 hours per week. Prerequisite: SONO 238, 242, 250, 247, 248, 249 (CONCURRENTLY)

SONO 334 Vascular Physics and Instrumentation
3 Credits

This course emphasizes the Vascular Physics Principles and the use and function of the Doppler Instruments. Detailed evaluation of Doppler physics, including Color, Spectral, and Power Doppler principles will be covered, as the artifacts and image optimization methods associated with these techniques. The physics and laws that govern blood flow in the circulatory system will be also emphasized. One semester. 3 hours per week. Prerequisite: SONO 234-235.

SONO 336 Vascular Technology I
3 Credits

This course studies the circulatory system anatomy and pathophysiology as seen in a B-Mode, Doppler and physiologic studies techniques. Protocols commonly used to evaluate the Carotid System (Extra and Intracranial), venous, arteries (Upper and Lower extremities) and abdominal vasculature will be discussed. One Semester. 3 hours of lecture and 2 hours of Laboratory. Prerequisites: BIOL 335, SONO 334.

SONO 337 Vascular Technology II
3 Credits

Course directed to the uses of non-invasive vascular exams for the diagnosis of peripheral and abdominal venous diseases. Emphasis on the different modalities used to evaluate the leg and abdominal vessels. Examination protocols, patient history and physical findings and the validation test are discussed. Clinical experience and laboratory sessions are required. One Semester. 3 hours of lecture and 2 hours of Laboratory. Prerequisites: BIOL 335, SONO 334 and SONO 336.

SONO 338 Scanning Techniques and Protocols for Adult Echocardiography
2 Credits

Study of the ultrasound instrumentation principles, modes of operation, operator control options, scanning motion and planes used in adult cardiac scanning examination. It covers, subjects such as: patient history, preparation and physical signs, also, the Doppler versus Color Doppler protocols used to evaluate the adult heart. One semester. 2 hours lecture and one hour of laboratory. Prerequisites: SONO 334 and BIOL 335.

SONO 340 Adult Echocardiography
3 Credits

This course explains the adult cardiac anatomy, physiology and pathology. Scanning techniques and protocols using 2-D, M-Mode as well as Color and pulsed Doppler are also covered. Special attention will be given to most used cardiac measurements and calculations. One semester. 3 hours of lecture and 2 hours of Laboratory. Prerequisites: SONO 338.

SONO 342 Cardiac Pathophysiology
3 Credits

Study of cardiac pathologies, their physiological symptoms, outcomes, and their echosonographic appearance. Special attention will be given to the valves diseases, cardiomyopathies, coronary artery disease, neoplastic and inflammatory processes and other cardiac conditions. During the course other subjects are covered such as: cardiac trauma, prosthetic heart valves and congenital heart diseases. One semester, three hours lecture. Prerequisites: SONO 338 and SONO 340.

SONO 347 Vascular technology and Echocardiography
1 Credit Clinical Education I

Supervised off-campus clinical education to provide the student with the skills for vascular scanning and sonographic evaluation. Requires 180 hours of practice during the semester.

SONO 348 Vascular technology and Echocardiography
1 Credit Clinical Education II

Supervised off-campus clinical education to provide the student with the skills for vascular scanning and sonographic evaluation. Requires 180 hours of practice during the semester. Prerequisite: SONO 347.

SONO 349 **Vascular technology and Echocardiography**
1 Credit **Clinical Education III**

Supervised off-campus clinical education to provide the student with the skills for adult heart scanning and sonographic evaluation. Requires 180 hours of practice during the semester.

SONO 350 **Vascular technology and Echocardiography**
1 Credit **Clinical Education IV**

Supervised off-campus clinical education to provide the student with the skills for adult heart scanning and sonographic evaluation. Requires 180 hours of practice during the semester. SONO 349

SONO 401 **Comparative Imaging**
3 Credits

The course studies the uses and applications of the different diagnostic Imaging modalities. Emphasis will be given to the analysis of images in Computed Tomography, Magnetic Resonance Imaging, Radiological Technology and Nuclear Medicine as compared with Medical Sonography. The student will be able to recognize the indications and importance of each diagnostic study. Prerequisite: SONO 249, 334.

SONO 406 **Advance Seminar**
3 Credits

This is an advance-level course designed to develop critical thinking attitudes in our students towards the objective evaluation of sonographic studies performed on their clinical practice. Throughout evaluation of sonographic techniques, clinical history taken and background information about pathology on sonograms will be encouraged. Also, the course gives the opportunity to discuss breakthroughs in ultrasound as well as newer applications. One semester. One hour of laboratory. Prerequisite: SONO 349, 336.

BIOL 335 **Cardiovascular Anatomy and Physiology**
2 Credits

The course is an in-depth study of cardiovascular anatomy and physiology, with emphasis in venous and arterial hemodynamics. This course also includes discussion of the pathophysiological basis of cardiovascular disease. Prerequisites: BIOL 231-232.

Pharmacy

PHAR 210 **Pharmaceutical Calculations I**
3 Credits

In this course the aspects related to the solution of problems of pharmaceutical nature are discussed: foundations of measures and calculations, reasons and proportions, metric system, apotecary and avordepoids systems, domestic system, conversions between system and the interpretation of prescriptions. One semester, 3 hours per week. Pre-requisites: MATH 117

PHAR 211 Pharmaceutical Calculations II
3 Credits

In this course the following aspects related to the solution of problems of pharmaceutical nature are discussed: preparations of percentage, increase and reduction of formulas, concentration and dilution, pediatrics dosage, thermometry, parenteral preparations and calculations related to filling prescriptions. One semester, 3 hours per week. Prerequisite: Pharmaceutical Calculation I (PHAR 210)

PHAR 212 Pharmacy Administration
3 Credits

The course is designed to provide the student with the basic business management skills, the laws and regulations applicable to the operational aspects of a commercial drugstore. The relations with the suppliers, patients, management and other personnel of the community pharmacy are studied. The students through study cases evaluate facts for the purchase, management and maintenance of a drugstore. One semester, 3 hours of lecture per week.

PHAR 217 Pharmaceutical Chemistry
3 Credits

This course covers general concepts of chemistry like atomic structures, elements classification and the periodic table. Also emphasized concepts on inorganic and organic pharmaceutical chemistry, natural products and drugs nomenclature as adopted by the U.S.A. One semester, 3 hours per week.

PHAR 224 Pharmacology I
3 Credits

The course is a comprehensive study of drugs according to their function and classification. Special attention is placed on their effect on the human physiology with regard to the drug's pharmacokinetics and pharmacodynamics. This course also emphasizes the drugs indications, precautions and contraindications of clinical relevance. One semester, 3 hours of lecture per week. Prerequisites: HESC 125-126.

PHAR 225 Pharmacology II
3 Credits

This is a continuation course where drugs are studied according to their function and classification. Special attention is placed on their effect on the human physiology with regard to the drug's pharmacokinetics and pharmacodynamics. This course also emphasizes the drugs indications, precautions and contraindications of clinical relevance.

One semester, 3 hours of lecture per week. Prerequisites: HESC 125-126, PHAR 224.

PHAR 230 **Pharmaceutical Technology I**
4 Credits

This course presents the different types of drug delivery systems. The aspects related to the drug bioavailability, and route of administration for different dosage forms are discussed. Emphasis is given to their physicochemical properties, formulations, preparation methods, preservation packaging and storage. The students also evaluate aspects of how the patient should take proper care of the different formulation types. Laboratory practice is included for almost all the topics of the course. One semester, 3 hours of lecture and 3 hours of laboratory per week. Prerequisite: PHAR 210

PHAR 231 **Pharmaceutical Technology II**
4 Credits

This is a continuation course that presents the different types of drug delivery systems. The aspects related to the drug bioavailability, and route of administration for different dosage forms are discussed. Emphasis is given to their physicochemical properties, formulations, preparation methods, preservation packaging and storage. The students also evaluate aspects of how the patient should take proper care of the different types formulation types. Laboratory practice is included for almost all the topics of the course. One semester, 3 hours of lecture and 3 hours of laboratory per week.

Prerequisite: PHAR 230.

PHAR 233 **Posology**
3 Credits

Study of the activities related to the filling of facultative prescriptions. The student will apply concepts studied on dose, administration routes, drug concentration and interactions. Emphasis is given in the prescription interpretation, correct labeling and instructions to the patient. One semester. 3 hours lecture. Prerequisite: PHAR 210

PHAR 250 **Hospital Pharmacy**
2 Credits

The course is a comprehensive study of the pharmaceutical services provided by the pharmacy to the hospital departments in concern. The content includes analysis and evaluation of the drug distribution systems. It also emphasizes in-patients and outpatients dispensing procedures that govern the safe administration of drugs and biologicals. Computers in hospital pharmacy, intravenous additives system, hyperalimentation and other special topics are also evaluated. One semester, two hours of lecture per week. For third year students.

PHAR 251 **Prescription Dispensing and Pharmaceutical Specialties I**
3 Credits

This course includes the discussion of all the activities related to the prescription dispensing procedures. Topics included are prescription interpretation, product selection, prescription preparation, packaging and labeling. Instruction to the patient in regard to proper use of the medication, possible interactions and proper storage and disposition are discussed. Emphasis is given to the study of the different product specialties such as, generic drugs, trade names and over the counter drugs. One semester, 3 hours of lecture per week. Prerequisites: PHAR 210-211, 230-231, 224-225.

PHAR 252 Prescription Dispensing and Pharmaceutical Specialties II
3 Credits

This is a continuation course that includes the discussion of all the activities related to the prescription dispensing procedures. Topics included are prescription interpretation, product selection, prescription preparation, packaging and labeling. Instruction to the patient in regard to proper use of the medication, possible interactions and proper storage and disposition are discussed. Emphasis is given to the study of the different product specialties such as, generic drugs, trade names and over the counter drugs. One semester, 3 hours of lecture per week. Prerequisites: PHAR 210-211,224-225,230-231,251.

PHAR 255 Pharmaceutical Legislation
2 Credits

This course presents the laws related to the production, distribution of pharmaceutical products and other substances sold by the community drugstore under the Commonwealth of Puerto Rico and the United States Government. It also discusses the laws and regulations that affect the pharmacy profession. One semester, 2 hours of lecture per week.

PHAR 256 Supervised Practice in Pharmacy I
3 Credits

This course offers the student a hands-on experience in a real pharmacy work environment. The pharmacy practice will be performed in a community drugstore and/or a hospital pharmacy. The practice will be supervised by a licensed pharmacist of the institution in which the practice is performed, and by the supervising professor. Twenty hours of practice per week, for a minimum total number of 300 hours per semester (1,000 hours are strongly recommended). Prerequisite: PHAR 210-211,224-225,230-231.

PHAR 257 Supervised Practice in Pharmacy II
3 Credits

This is a continuation course that offers the student a hands-on experience in a real pharmacy work environment. The pharmacy practice will be performed in a community drugstore and/or a hospital pharmacy. The practice will be supervised by a licensed pharmacist of the institution in which the practice is performed, and by the supervising professor. Twenty hours of practice per week, for a minimum total number of 300 hours per semester (1,000 hours are strongly recommended). Prerequisite: PHAR 210-211, 224, 225, 230, 231, 251 and 256.

Health Information Technology

HINT 111 Introductions to Health Systems and Medical Record Content **3 Credits**

Introduction to the generic components, use and structure of health care data. This course emphasized the health information analysis and documentation requirements. Presents the different health care data sets, primary versus secondary records, type of assembling, and types of control systems used for incomplete medical records. Describes the organization, financing and delivery of health care services, and how flow the health information through the services. Study the academic preparation and functions of various allied health care professionals. Describe the role and benefits of the health information management professional's association, and their code of ethic. One semester, two hours of lecture and two hours of laboratory per week. Prerequisite: Acceptance into the HINT Program.

HINT 113 Medical Terminologies and Diseases Process I **4 Credits**

Study of medical technical vocabulary including prefixes, suffixes, roots of medical terms as well as definitions and analysis of such terms. Also, studies the nature and cause of most common diseases, its etiology, signs and symptoms, diagnostic and evaluation procedures, complications and treatment in system circulatory, digestive, respiratory and urinary. One semesters, 4 hours of lectures weekly. Prerequisite: HINT 111

HINT 114 Medical Terminologies and Diseases Process II **4 Credits**

Study of medical technical vocabulary including prefixes, suffixes, roots of medical terms as well as definitions and analysis of such terms. Also, studies the nature and cause of most common diseases, its etiology, signs and symptoms, diagnostic and evaluation procedures, complications and treatment in nervous system, endocrine system, reproductive systems (female and male), and lymphatic and immune systems. One semester, four of lecture weekly. HINT 113.

HINT 115 Pharmacology for Health Information Management **2 Credits Professionals**

And introduction to pharmacology to provide the health information technology student with a knowledge of basic pharmacologic terminology and concepts, drug categories, mechanisms of drug action, drug forms, routes of administration, and common generic and proprietary (trade) name medications. This knowledge base is then applied clinically in classroom exercises involving coding and healthcare record analysis. One semesters, two hours per week. Prerequisite: HINT 111.

HINT 130 Management of Health Information Systems

3 Credits

This course emphasizes the preparation of health statistics. It is the study of numeration and filing of medical records. Puts emphasis on internal control for the effective management of filing methods, index and registers. Discuss widely the concepts of retention and storage of records, also, the advantages and disadvantages of microfilms. Covers the production of data and either manual or automated. The statistics of health and hospital, such as: percentages and reasons for mobility, mortality, autopsy, patient consensus, and daily average consensus, day of service and patients, and percentage of occupancy. This includes the concept of quality control data of the system, origin and product and special forms to the executive, board of directors of the institution, P.R. Department of Health and other agencies. One (1) semester, 3 credits five hours weekly, 2 hours of lectures and 3 hours of laboratory.

Prerequisites: HINT 111

HINT 201 Billing Procedures for Healthcare Insurances**2 Credits**

This course introduces the student to the basic principles of billing procedures for healthcare insurance in hospitals and medical offices. The studies of politics involving invoicing of the main health insurances, which are, accept in Puerto Rico. Offers procedures, training and techniques to responsible personnel with relation to invoicing and revisions of billing of the different health care facilities. This course is designed to generate the billing services given to the patient's beneficiaries. One semester, 2 credits, 2 hours of lecture weekly. Prerequisite: HINT 111.

HINT 231 Medical-Legal Aspects on Health Information Systems**2 Credits**

Introduction to legal and ethical issues applied to health information. This course presents medical record as a legal document, including the controls and usage of the health information. Emphasizing in the requirements and legal principles in relation to: confidentiality, release of information, legislative process, court system, legal vocabulary, retention guidelines, patient rights/advocacy, and ethics and values. One semester, two hours per week.

Prerequisite: HINT 111 (concurrently).

HINT 232 Administrative Aspects on Health Information Systems**2 Credits**

This course introduces and reinforces the basic principles of management and supervision, in order to develop effective skills in leadership, motivation and team building techniques. This course covers the management of a health information department; management functions such as: planning, organizing, actuating and controlling. Also, will include the job descriptions, the fundamentals of budgeting, reengineering, and ergonomics-equipment. One semester, two hours per week.

Prerequisites: HINT 111 (concurrently).

3 Credits

During these courses the student will be apply the techniques and skills acquired in the health information management curriculum. The student will develop their abilities in areas such as: acute care-hospital inpatients, outpatient clinics, and ambulatory surgical centers; documentation requirements and the flow of health information at emergency service, ambulatory clinics services, and nursing station. Identify, at health information management departments, the reports and/or documentation that represents the content of the medical record from admission to discharge. Assembling medical records using the chart orders. Perform quantitative analysis, such as, accuracy, completeness, and timeliness using the deficiency form. Also, the students will assign basic diagnostic/procedure codes, using ICD-9-CM coding system, from selected patient records. One semester, two hundred (200) hours per semester of supervised clinical practice.
Prerequisites: HINT 113, HINT 130.

HINT 252 Clinical Practice II

3 Credits

This second part of application of the knowledge acquired in the curriculum of health information technology enables the students to obtain experiences within health care scenarios. Emphasis is placed in: calculating healthcare statistic; assign diagnostic/procedure code of more difficulty using ICD-9-CM and CPT from hospital records, and validates its. The students, also, will have the opportunity to apply the skills learned for tabulating data on the appropriateness and quality of patient care for quality improvement assessment and utilization review activities. Participates on functions related to release of information to authorize parties and its uses in legal proceeding. The students will develop an understanding of JCAHO standards for medical staff function in hospital settings including hospital committees. One semester, Two hundred (200) hours of supervised clinical practice.
Prerequisites: HINT 251, HINT 241.

Health Services Management

HESM 110 Health Services Management

3 Credits

Introduction to the fundamental concepts of management of health services facilities. Application of the administrative processes: organization, direction, control and evaluation. Emphasis is placed in public policies, health services management status, trends, organization, practices and issues relative to the delivery of health services in Puerto Rico and in the United States. One semester, 3 hours per week.

HESM 210 Health Systems & Models

3 Credits

A study of the systems, models, health policies and the infrastructure of health services in Puerto Rico and in the United States. Emphasis is placed in health reforms and its implication in the

delivery of health services to the general population. Includes a review of the historical development and the future of health services. One semester, 3 hours per week. Prerequisite: HESM 110

HESM 220 **Services Planning and Evaluation**
3 Credits

A study of the historical development of planning and evaluation of health services in Puerto Rico and in the United States with emphasis in its impact in organizations and in communities. Includes the theoretical foundations of planning strategies. Discusses and applies the techniques of evaluation to the health sector. One semester, 3 hours per week.
Prerequisite: HESM 110

HESM 230 **Basic Accounting for the Health Industry**
3 Credits

A study of the social, economic, and political developments that have influenced and determined the accounting practices in the health services industry. Reviews accounting procedures and discusses their applications in the health services industry. Actual and hypothetical health services accounting problems will be discussed. One semester, 3 hours per week. Prerequisites: ACCO 111, HESM 110, MATH 117.

HESM 310 **Economics of the Health Industry**
3 Credits

A study of the modern micro and macro economy applied to health services in the public and private sectors. Emphasis is placed in the situations and issues of health economics. Discusses the relationship between the market forces of need and demand of health services. One semester, 3 hours per week.
Prerequisites: ECON 123, MATH 117, HESM 110

HESM 320 **Basic Finance for the Health Industry**
3 Credits

A study of the financial practices of health services organizations. Also, includes the fundamental methods and techniques for financial administration in the health services industry, including fund distribution, capital management, determination and assignment of costs service rates. Case studies and applications are provided. One semester, 3 hours per week.

HESM 330 **Legal Aspects in the Health Industry**
3 Credits

A study of the existing legislation in health services in Puerto Rico and in the United States. Emphasis is placed in the norms that have a bearing in the health services industry. Application experiences through case studies in aspects such as: malpractice, patient rights, informed consent, doctor-patient relationship, accidents, collective bargaining and ethical and legal issues. One semester, 3 hours per week.

Prerequisites: HESM 110, MANA 213, 230

HESM 340 **Budgeting for the Health Industry**
3 Credits

A study of budget models, including the corresponding programmatic plans, and budget distribution. Emphasis is placed in goals, objectives and measurable results. The course provides for the application of budget models and techniques to health services settings. One semester, 3 hours per week. Prerequisites: MATH 117, HESM 220.

HESM 410 **Health Information Systems**
3 Credits

General introduction to the theory of information systems. The course provides for the application and use of software packages specifically designed for the health services industry for use in micro computers and in mainframes, and for data collection, services utilization, billing, census, and others. One semester, 3 hours per week.

Prerequisites: COMP 110, HESM 230, 310, 320.

HESM 420 **Special Topics in Health Services**
3 Credits

Analysis and discussion of current issues and trends in the health services industry. Emphasis is placed in critical reading and analysis of case studies. One semester, 3 hours per week.

Prerequisites: HESM 110, 220, 340 Concurrent with HESM 430

HESM 430 **Practicum/Seminar in the Health Services Management I**
3 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. One semester, 3 hours per week of Seminar. Prerequisites: Concurrent with HESM 420, Approval required.

HESM 431 **Practicum/Seminar in the Health Services Management II**
3 Credits

In this course the students apply the principles of personnel supervision and learn how to manage the problems associated with it in a department of a Health Care institution. It also emphasis in many issues of legal protection to the patient and to the institution that provide the health care services. In this course the student will practice in many departments of the health care institution. The practicum will be supervised by an institutional faculty member together with a certified health care administrator. The seminar sessions will place special attention to topics, issues and aspects

related to health services administration. A research project on a related topic is required. One semester, 3 hours per week of Seminar. Prerequisites: HESM 430.

Nursing

NURS 101 **Introduction to Nursing** **2 Credits**

This is an introductory course to the discipline of Nursing. The historical evolution of nursing and different theories of nursing is discussed. The contribution of distinguished personalities in Nursing from Puerto Rico and the United States are discussed as well. The conceptual framework of the nursing program, as well as, laws and legislation applicable to the nursing profession and their implications to the clinical practice are presented. Ethical and moral aspects of the profession are also discussed. The course requires a two (2) hour lecture a week.

NURS 102 **Fundamentals of Nursing** **5 Credits**

This course is designed to develop the knowledge base and the basic nursing skills to enable the learner to perform satisfactorily during the course and also in future clinical experiences. The fundamentals of nursing care and basic skills are discussed so that the learner can lead the client towards the satisfaction of his basic needs such as hygiene, physical and psychological comfortless, safety, prevention and control of infections. The course includes three (3) lecture hours and six (6) hours clinical experience a week where the learner is able to put in practice his knowledge base and skills in a variety of settings.

NURS 103 **Basic Principles of Pharmacology** **3 Credits**

The learner is provided with the knowledge base and basic skills of medication administration. General concepts of pharmacology, pharmacokinetics and pharmacodynamics as well as different measurement systems such as the metric, apothecary and home system are discussed. The use basic math skills such as proportions, ratios in dosage calculation are discussed in the administration of medications through different routes. The course includes two (2) lecture hours a week and two (2) hours of skills lab a week where the student will be required to demonstrate and perform procedures with anatomical models. Prerequisites: MATH 117.

NURS 104 **Maternal-Child Nursing** **5 Credits**

This course focuses on the theoretical concepts of the nursing process in the satisfaction of the women's basic needs, before, during and after pregnancy. Emphasis on concepts of preconception care and the normalcy of pregnancy is discussed and its implication to a healthy pregnancy outcome. Factors that affect maternal-child well-being as well as immediate newborn care are also

discussed. The course includes a three (3) lecture hours and six (6) hours of clinical practice a week in primary, secondary and tertiary health care settings. Prerequisites: NURS 101, 102.

NURS 201 **Pediatric Nursing**
5 Credits

This course offers the learner the knowledge base regarding growth and development theories, the family issues and ethical/legal aspects of pediatric nursing care. It provides the learner with the necessary skills to provide nursing care in the identification of situations that affect the health of the infant, child and adolescent and how these may affect growth and development and the family homeostasis. The course includes a three (3) lecture hours and six (6) hours of clinical practice a week in primary, secondary and tertiary health care settings. Prerequisites: NURS 101-104.

NURS 202 **Medical-Surgical Nursing I**
5 Credits

The course is based on the inherent principles of nursing care for individuals, family and community in their different stages of growth and development where emphasis is placed upon the basic needs that are interfered in the adult and elderly. The learner is presented with the physiological and pathological changes that occur holistically in the different systems. The interfered health needs that are discussed in this first part of the course include: fluid and electrolyte balance, peri-operative disorders, oxygenation, cardiovascular, hematological, immunological, nutritional and gastrointestinal elimination. Emphasis is also placed in the use of the nursing process to assess, plan, implement and evaluate the nursing care provided. The course includes three (3) lecture hours and six (6) hours of clinical practice a week in primary, secondary and tertiary health care settings. Prerequisites: NURS 101, 104.

NURS 203 **Medical-Surgical Nursing II**
5 Credits

The course is based on the inherent principles of patient care for individuals, family and community in their different stages of growth and development where emphasis is placed upon the basic needs that are interfered in the adult and elderly. The learner is presented with the physiological and pathological changes that occur holistically in the different systems. The interfered health needs that are discussed in this second part of the course include: genito-urinary elimination, reproductive and gynecological including sexually transmitted diseases (STDs), integumentary, musculoskeletal, neurological, sensory and perceptual, endocrine and metabolic and management during emergency and disaster situations. Emphasis is also placed in the use of the nursing process to assess, plan, implement and evaluate nursing care provided to individuals, family and community presenting common and recurrent alterations in their health. The course includes three (3) lecture hours and six (6) hours of clinical practice a week in primary, secondary and tertiary health care settings. Prerequisites: NURS 202.

NURS 204 **Psychiatric Nursing**
4 Credits

This course discusses the basic and fundamental concepts and theories regarding mental health including importance of promoting mental health and factors that may affect mental wellbeing. Medical-legal aspects of mental health care are also discussed. Emphasis is placed on the nursing process to identify alterations in the mental health of individuals, family and community. It focuses on the alterations in mental health such as stress and crisis intervention, anxiety, somatiform, cognitive, affective, schizophrenic, auto-destructive, and eating disorders. Suicide, sexual behavior disorders, infant and adolescent mental disorders and patient reactions to terminal diseases and death are also discussed. Emphasis is placed on the importance on the therapeutic communication skills necessary to satisfy the altered basic needs identified. The course includes two (2) lecture hours and six (6) hours of clinical practice a week in diverse mental health care settings. Prerequisites: NURS 202.

NURS 300 **Physical Assessment**
3 Credits

This course is designed to prepare students with the basic knowledge and skills necessary for the gathering and analysis of data for the health assessment. Emphasis is placed on the application of the nursing process during the physical examination. The role of the nurse during the health assessment as well as the essential pathophysiological mechanisms of diverse health problems is discussed with emphasis in the identification of abnormal findings. The course prepares the students to evaluate and analyze findings from the comprehensive health assessment in order to establish a nursing diagnosis. The course requires two (2) hours of lecture and two (2) hours of skills laboratory a week. Prerequisites: HESC 125-126, NURS 201, NURS 204.

NURS 320 **Community Nursing**
4 Credits

This course is designed to present the students with the concepts, skills and attitudes of community nursing necessary for the health promotion and disease prevention of individuals, family and community throughout their different stages of growth and development. Emphasis is placed on the role of patient education, counseling and patient advocate. Ethical, moral aspects and factors that influence or cause health deviations in the community are discussed based on the use of the nursing process. Concepts of epidemiology and biostatistics to identify health deviations in community groups are also discussed. The different levels of nursing care are discussed with emphasis on primary care concepts with the purpose of helping the student recognize the importance of public health in the promotion and maintenance self-care activities in individuals, family and community. . The course includes two (2) lecture hours and six (6) hours of clinical practice a week in community health care settings. Prerequisites: NURS 300.

NURS 380 **Basic Principles of Research**
3 Credits

This course is designed for the student to be able to analyze the process of scientific research and its use in the practice of nursing. The course begins with the discussion of the historical evolution of research. The use of the scientific method with emphasis in problem-solving skills is emphasized. Application of computer literacy skills is emphasized in data analysis as part of the research process. Ethical, moral and legal considerations of the patient and the investigator are

also discussed. The role of the nurse in research and the impact of research in nursing are discussed as well. Students will be required to perform critical analysis of research extracts done in nursing emphasizing critical thinking and knowledge based skills. The course requires three (3) lecture hours a week.

NURS 400 Intensive Care Nursing
5 Credits

This course aims to facilitate students with the basic knowledge, skills and competencies necessary to provide nursing care to critically ill patients in the clinical environment/s within which they are nursed. The course prepares the student to function in critical care units or in any clinical setting that meets the environmental nursing standards for critical care nursing. The history of intensive or critical care nursing, ethical and legal issues, patient education as well as the role of the intensive care nurse within the 21st century technology are discussed. Considerations regarding special populations are also discussed. Emphasis is placed on critical health deviations such as cardiovascular, pulmonary, neurological, renal, gastrointestinal and endocrine alterations. Multi-system alterations such as trauma, shock, burns and transplantations are discussed as well. The course includes three (3) lecture hours and six (6) hours of clinical practice a week in diverse intensive care settings. Prerequisites: NURS 300.

NURS 420 Emergency Care Nursing
5 Credits

This course is designed to prepare students with the knowledge, skills and attitudes necessary to perform as a generalist nurse in the emergency care units. Students are prepared to provide direct patient care to clients across the life span in an emergency setting. Concepts such as triage, immediate patient assessment and care, wound management, pain management, end of life emergency care and emergency operations preparedness are discussed. Major trauma emergencies such as motor-vehicle accidents, head trauma, spinal trauma, and thoracic trauma, gastrointestinal, renal and genitourinary traumas are also discussed. Special populations emergency care (obstetrical, pediatric and elderly) are discussed as well as medical and surgical emergencies that include respiratory, cardiovascular, shock, neurological, infectious, environmental toxicological, gynecologic, ENT and ocular emergencies. Other significant concepts presented in this course include child abuse and neglect, sexual assault, intimate partner violence, substance abuse and behavioral health emergencies. The course includes three (3) lecture hours and six (6) hours of clinical practice a week in diverse emergency care settings. Prerequisites: NURS 300.

NURS 440 Administration and Leadership in Nursing
3 Credits

In this course the student acquires knowledge regarding the administrative and supervision role of the professional nurse. Concepts regarding the development of the leader and manager role as well as legal and ethical issues are discussed. The student is presented with different administrative theories and styles including knowledge pertaining to healthcare organization and structure, the importance of communication and motivation, conflict management and the management of stress at the organizational level. Emphasis is also given to concepts regarding the selection, development and evaluation of staff, management of personnel needs and problems,

problem solving and decision making, staffing and scheduling, care delivery strategies and managing costs and budgets. Institutional risk management and quality assurance programs are also discussed. The course requires three (3) lecture hours a week. Prerequisites: NURS 400, 420.

NURS 480 Practicum
6 Credits

This course is designed for the student to be able to integrate the acquired knowledge throughout his/her academic preparation. The student will be required to perform as a leader and change agent in the management of nursing care provided to clients in diverse nursing situations. The student will be able to choose the learning experiences they understand will enhance their professional development. The use of the nursing process, clinical judgment and problem-solving skills are emphasized in the provision of nursing care to individuals, family and community as well as an evidence-based practice. The theory component of the course will include discussion of the experiences, difficulties, problem-solving methods used, obtained outcomes and areas that require follow-up. This course requires two (2) lecture hours a week and twelve (12) hours of clinical practice. Prerequisites: NURS 400, 420.

Public Health

PUHE 101 Introductions to Public Health and Health Education
3 Credits

Introduction to the different conceptions about health, as well as, the basic principles of public health and education. Analysis of the relationships that exist among the 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. One semester, 3 hours per week.

PUHE 201 Introduction to Biostatistics
3 Credits

Basic concepts and principles of statistics applied to life and health. Emphasis in the basic techniques used in scientific research, primarily in areas of health education and public health. Analysis of the major statistical concepts such as: the scientific method and the statistics method and others. One semester, 3 hours per week.

PUHE 203 Introductions to Epidemiology
3 Credits

Studies the occurrence, distribution and causes of diseases in communities using the epidemiologic method. The epidemiologic, as well as, the scientific method are applied to the

health-illness process and its causes, particularly transmissible, chronic, mental diseases and high-risk behaviors. One semester, 3 hours per week. Prerequisite: PUHE 201

PUHE 210 Biological Aspects of Human Diseases
4 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. One semester, 3 hours per week and 3 laboratory hours weekly. Prerequisites: PUHE 101

UNIVERSIDAD DEL ESTE

SCHOOL OF SOCIAL AND HUMAN SCIENCES

UNDERGRADUATE CATALOG

2006-2008

SCHOOL OF SOCIAL AND HUMAN SCIENCES

Vision

The School of Social and Human Sciences is a learning community committed to the continuous development and application of the highest quality of education.

Mission

The School of Social and Human Sciences' mission promotes the integral development of an individual that is capable of functioning successfully in his/her environment. The school is committed to foster responsibility with the human morals and ethics, as well as a comprehensive attitude towards diversity and respect of human dignity, without losing the Puerto Rican cultural perspective and the importance of the language in the Hispanic world. The school favors the growth and enrichment of the linguistic, literary, and aesthetic aspects of Spanish and English, as well as other languages. This leads to increasing the student's affective, intellectual, and spiritual faculties.

The School encourages strengthening, enriching, and continuing the academic development of the faculty and student body, as well as, research and assessment. The school also promotes the integration of information skills and the proper use of technology. The School has a flexible admission policy that involves diverse modalities. The curriculum is focused on improving the critical and creative thinking skills, in addition to stimulating the enhancement of the teaching and learning process. The School of Social and Human Sciences prepares the student to confront the opportunities and challenges of the changing world, and to respond to the social, cultural, political, and economical circumstances of society.

Goals

- ◆ Structure the academic and administrative components in accordance to the institutional mission.
- ◆ Offer a multidisciplinary curriculum that guarantees the quality of its offerings and is geared towards the professional development of the student.
- ◆ Initiate and develop academic offerings.
- ◆ Promote the professional development of the faculty and students in order to contribute to the attainment of the School's mission.
- ◆ Promote research and investigation within and among the student body and faculty.
- ◆ Promote the development of the student through the use of a variety of teaching strategies, support services, research experiences, co-curricular activities, and experiences in the workplace.

- ◆ Develop and improve decision-making skills, problem-solving skills, oral and written expression, team work, and leadership skills.
- ◆ Promote the development of an infrastructure that enables the School to maintain quality controls, establish Advising Committees, and identify sources of human and fiscal resources.
- ◆ Foster the development of national and international alliances and collaborative agreements.

Faculty

Acosta Hernández, Griselles, MSW, University of Puerto Rico
Full Professor
Social Work

Andino González, Pedro, Juris Doctor, Interamerican University of Puerto Rico
Associate Professor
Criminology, Paralegal, and Social Sciences

Arana Curet, María, MA, New York University
Associate Professor
Spanish

Báez Arroyo, María I., Ph.D, University of Puerto Rico
Assistant Professor
Spanish

Camuñas Madera, Ricardo Roberto, Ph D., Universidad de Valladolid, Spain
Associate Professor
History and Humanities

Concepción Vilches, Astrid, Ed.D and J.D., University of Puerto Rico and Interamerican University
Full Professor
Education and Criminology

Encarnación Rivera, Ángel Manuel, Ph.D. and Juris Doctor, University of Puerto Rico
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Criminology and Spanish

Gely-Beauclair, Gilda Gisela, Ph.D., University of Illinois
Associate Professor
Spanish

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Assistant Professor

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English

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English

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Assistant Professor
Spanish

Pagán Morales, Manuel, MA, Interamerican University
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Spanish

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English

Piñeiro Ocasio, Iris, MA, Seminario Evangélico de Puerto Rico
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Program Description

Criminal Justice

The Criminal Justice System is primarily committed to the agencies that deal with social control, such as, The Justice Department, Corrections, Police Department, and the Court System. Although these departments work independently, they share a common interest, which is to control crime while upholding justice.

The study of Criminal Justice is related to the nature and scope of crime, as well as, the reactions to those who infringe on the law. The curriculum includes the study of crime and the factors that lead to delinquency. Human behavior is emphasized in aspects of public policy and the role that citizens play in the democratic and judicial processes. Professionals in this field develop positive attitudes that allow them to be productive citizens in society. Graduates from this program will have the ability to work in the public or private sector. They will be provided with the most recent and innovative knowledge within the field of criminology, sustained by courses that discuss the Penal Code, Evidence, Juvenile Delinquency, Administration of Public Security, and the Correctional System, among others. Students will be equipped with oral and written skills necessary for the field of criminology, as well as, terminology and technical tools within the area that increase competence as a professional in this field.

Criminology

The curriculum in criminology emphasizes the most recent and innovative elements in the field. It focuses on human behavior in the matter of public policy and on the role the citizen plays in the democratic processes of this country. Positive professional attitudes are encouraged that will allow the professional to become a better human being and a productive member of society.

The tasks performed by this professional are directed towards the knowledge and application of the criminal sciences; to serve as a liaison between the citizen and the agencies that offer services; compile evidence; interview people; investigate records; have knowledge of vehicular regulations; and perform administrative duties.

Paralegal

Paralegals (legal assistants) are professionals whose duties are related to the field of Law and who work in close collaboration with lawyers and legal service institutions. These professionals fill an urgent need in the legal services that are offered in Puerto Rico. Their most important role will be to offer all the administrative support that lawyers need in order to practice law quickly and efficiently by researching laws and prior cases, investigating facts and evidence, write legal documents and briefs, coordinate communications, and keep records of all documents.

Their knowledge of the fundamental principles of law, the techniques used in legal research, and the compilation of evidence will allow them to perform their duties in a more efficient manner. These professionals can occupy positions at an operational level in any state or federal government agency, and also in a private enterprise. They will have the skills and knowledge that will enable them to establish an office of paralegal services, offering paralegal services to lawyers and public or private agencies.

Social Work

The professional in the Social Work Program promotes social change, problem solving in human relationships and the empowerment of people to enhance well-being. Utilizing theories of human behavior and social systems, social work intervenes at the points where people interact with their environments. Principles of human rights and social justice are fundamental to social work.

The social work professional offers a variety of services to individuals, families, groups, and communities. Among the professional services performed by social workers are service interviews, referrals, gathering and evaluating information, and documentation of services provided. In addition the social worker may use other intervention systems related to their professional endeavors. Graduates are offered a variety of experiences in the various fields of Social Work so they may be apt to provide those services upon graduating. Graduates from the Social Work Program may seek professional licensing provided by the Board of Examiners of the Social Workers of Puerto Rico.

Gerontology

The program has the goal of developing professionals in the field of social work with a major of gerontology. This program will train the social work professional with the skills and knowledge needed to provide social services to the elder population in this stage of life. The program aims to facilitate the models of intervention, adaptation of the physical limitations, social environment and family changes that all elderly experience as well as behavioral changes that may occur.

Municipal Government

This program is geared towards individuals who are interested in working as a public servant, as well as towards those already in public service, who are interested in continuing to develop in this field. The professional in this field may assume leadership roles in different government agencies. The following specialties will be offered within Municipal Government: Human Resources; Labor Relations; Administration and Planning of Municipal Public Polices; Municipal Development;

Demography in the Development of Municipal Projects; Evaluation and Investigation of Municipal Programs; Federal Funding Systems in the Municipal Government, and Fiscal Municipal operations.

A Seminar on Special Topics will touch on topics of either general or particular interest for the municipalities, as deemed necessary. During the last semester, the student broadens his/her knowledge by participating in a supervised practicum in a government agency.

Psychology

A graduate with a major in psychology will have had the opportunity to develop professionally in the scientific study of human behavior. The graduate will be a professional with vast knowledge and skills that will allow him/her to conduct research on human behavior. The curriculum emphasizes prevention and mental health care services. The program develops responsible leaders who will foster community education geared towards finding a solution for social problems.

Admission's Requirements to the various programs of the School:

These are in addition to the general admissions requirement at UNE.

- High School grade point average of 2.0 for Associate programs in:
 - Social Work, Criminology, and Criminal Justice
- High School grade point average of 2.0 for Bachelor programs in:
 - Criminal Justice, Paralegal Studies, and Public Affairs
- High School grade point average of 2.5 for Bachelor programs in:
 - Social Work, Psychology, and Gerontology
- Attend an Orientation meeting with representatives of the School.

Associate Degrees in Arts

Associate of Arts in Public Affairs

Courses are offered in 8 week sessions

60 Credits	Credits
General Education	21
Core Curriculum Courses	15
Major Courses	24

General Education 21

COMP 110	Introduction to Computers and Software	3
*ENGL 118	English for the workplace I	3
ENGL 119	English for the workplace II	3
*MATH 116	Fundamentals of Mathematical Reasoning	3
QYLE 110	Development of Values, Morals, and Adaptation to University Life	3
*SPAN 115	Reading, Writing, and Oral Communication in Spanish I	3
SPAN 116	Reading, Writing, and Oral Communication in Spanish II	3

Core Curriculum Courses 15

SOCI 213	Social Problems of Puerto Rico	3
ECON 253	Economy of Puerto Rico	3
SOSC 250	Statistics in Social Sciences	3
SOSC 335	Ethics, Morality, and Society	3
POSC 253	Political System of Puerto Rico	3

Major Courses 24

PAAF 150	Principles of Public Administration	3
PAAF 160	Psychosocial Basis of Organizational Behavior	3
PAAF 210	Administration of Human Resources in Public Service	3
PAAF 260	Introduction to Planning and Municipality Administration	3
PAAF 308	Demography in Labor Relations and Collective Bargaining in Public Service	3
PAAF 310	Labor Relations and Collective Bargaining In Public Service	3
PAAF 315	Evaluative Investigation of Municipal Programs	3
PAAF 320	Public Policy and the Process of Municipal Government	3

** The English, Spanish, and Math courses will be assigned according to the results of the College Board Entrance Exam or CREE Placement Test. A grade of "C" or above is required of all major courses.*

Associate of Arts in Criminal Justice with emphasis on Police

63 Credits	Credits
General Education	24
Core Curriculum Courses	9
Major Courses	24
Electives	6

General Education **24**

COMP 110	Introduction to Computers and Software	3
*ENGL 115	College Reading and Writing I	3
ENGL 246	Conversational English	3
*MATH 116	Fundamental Mathematical Reasoning	3
QYLE 110	Development of Values, Attitude, and Adaptation to University Life	3
SOSC 112	The Human Being and His Environment	3
*SPAN 115	Reading, Writing, and Oral Communication in Spanish I	3
SPAN 275	Advanced Writing in Spanish	3

Core Curriculum Courses **9**

CRIM 200	General Principles of Penal Law and Crimes Against Individuals and Property	3
CRIM 210	Criminal Procedures and Evidence	3
CRIM 220	Ethics and Human Relations	3

Major Courses **24**

CRIM 103	Introduction the Criminal Justice	3
CRIM 201	Criminal Investigation	3
CRIM 204	Special Penal Laws	3
CRIM 205	Police Organization, Administration, and Supervision	3
CRIM 216	Ethics and Civil Rights	3
CRIM 218	Police and Community Relations	3
CRIM 240	Report Writing	3
CRIM 340	Juvenile Delinquency	3

Electives **6**

** The English, Spanish, and Math courses will be assigned according to the results of the College Board Entrance Exam or the CREE Placement Test. A grade of "C" or above is required of all major courses.*

Associate of Arts in Criminal Justice with emphasis on Corrections

71 Credits	Credits
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General Education	27
Core Curriculum Courses	18
Major Courses	23
Electives	3

General Education 27

BIOL 106	Compendium of Human Biology	3
COMP 110	Introduction to Computers and Software	3
*ENGL 115	College Reading and Writing I	3
ENGL 246	Conversational English	3
*MATH 116	Fundamental Mathematical Reasoning	3
QYLE 110	Development of Values, Attitude, and Adaptation to University Life	3
SOSC 112	The Human Being and His Environment	3
*SPAN 115	Reading, Writing, and Oral Communication in Spanish I	3
SPAN 275	Advanced Writing in Spanish	3

Core Curriculum Courses 18

CRIM 103	Introduction to Criminal Justice	3
CRIM 200	General Principles of Penal Law and Crimes Against Individuals and Property	3
CRIM 210	Criminal Procedures and Evidence	3
CRIM 220	Ethics and Human Relations	3
PSYC 250	Psychopathology	3
SOCI 225	Sociology of Deviant Behavior	3

Major Courses 23

CRIM 230	Constitutional and Correctional Law	3
CRIM 232	Correctional Administrative System	3
CRIM 234	Management and Supervision of Inmates	3
CRIM 236	Probation, Bail, and Community Treatment	3
CRIM 238	Development and Treatment of Inmates Within the Correctional System	3
CRIM 240	Report Writing	3
CRIM 340	Juvenile Delinquency	3
MDED 101	Emergency Medical Treatment	2

Electives 3

* The English, Spanish, and Math courses will be assigned according to the results of the College Board Entrance Exam or the CREE Placement Test. A grade of "C" or above is required of all major courses.

Associate of Arts in Criminology

69 Credits	Credits
General Education	30

Core Curriculum Courses	6
Major Courses	33

General Education	30
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COMP 110	Introduction to Computers and Software	3
*ENGL 115	College Reading and Writing I	3
ENGL 246	Conversational English	3
HIST 255	Analysis of the Historical Processes of Puerto Rico	3
*MATH 116	Fundamentals of Mathematical Reasoning	3
OYLE 110	Development of Values, Morals, and Adaptation to University Life	3
SOCI 216	Contemporary Social Problems	3
SOSC 112	The Human Being and His Social Environment	3
*SPAN 115	Reading, Writing, and Oral Communication in Spanish I	3
SPAN 275	Advanced Writing in Spanish	3

Core Curriculum Courses	6
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PSYC 123	Introduction to the Study of Psychology	3
SOCI 203	Elementary Principles of Sociology	3

Major Courses	33
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CRIM 103	Introduction to Criminal Justice	3
CRIM 107	Foundations of Criminology	3
CRIM 203	General Principles of Penal Law and Crimes Against Individuals and Property	3
CRIM 204	Special Penal Laws	3
CRIM 206	Criminal Procedure	3
CRIM 208	Evidence, Case Preparation, and Testimony	3
CRIM 320	Criminal Investigation	3
CRIM 325	Criminalistics	3
CRIM 335	Ethical Aspects of Justice	3
CRIM 336	Use and Abuse of Substances	3
CRIM 340	Juvenile Delinquency	3

Elective	None
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Practicum	None
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*The English, Spanish and Math courses will be assigned according to the student's score on the College Board Entrance Exam or the CREE placement Test. A grade of "C" or above is required of all major courses.

Associate of Arts in Social Work

72 Credits	Credits
General Education	30
Core Curriculum Courses	15
Major Courses	16

Practicum		8
Electives		3
General Education		30
COMP 110	Introduction to Computers and Software	3
*ENGL 115	College Reading and Writing I	3
ENGL 246	Conversational English	3
HIST 255	Analysis of the Historical Processes of Puerto Rico	3
*MATH 116	Fundamentals of Mathematical Reasoning	3
OYLE 110	Development of Values, Morals, and Adaptation to University Life	3
SOSC 112	The Human Being and His Social Environment	3
SOSC 230	Political and Economic Systems	3
*SPAN 115	Reading, Writing, and Oral Communication in Spanish I	3
SPAN 275	Advanced Writing in Spanish	3
Core Curriculum Courses		15
PSYC 121	General Psychology I	3
PSYC 122	General Psychology II	3
SOCI 203	Principles of Sociology	3
SOCI 216	Contemporary Social Problems	3
SOWO 255	Interview and Communication in Social Work	3
Major Courses		16
SOWO 201	Basic Elements of Group Work	2
SOWO 203	Basic Elements of Working with the Community	2
SOWO 218	Process of Help and Intervention in Social Work	3
SOWO 260	Introduction to Social Problems	3
SOWO 350	Social Work with Individuals and Families	3
SOWO 380	Social Work: The Child, Adolescent, and the Family	3
Electives		3
Practicum		8
SOWO 243-244	Field Instruction and Seminar I-II	8

* The English, Spanish, and Math courses will be assigned according to the results of the College Board Entrance Exam or CREE Placement Test. A grade of "C" or above is required of all major courses. A minimum of "B" is required of SOWO 243-244 Practicum courses.

Bachelor's Degrees in Arts

Bachelor of Arts in Social Work

128 Credits	Credits
General Education	51
Core Professional Course	27
Major Courses	39
Electives	8

Practicum		3
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General Education		51
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COMP 110	Introduction to Computers and Software	3
*ENGL 115	College Reading and Writing I	3
ENGL 246	Conversational English	3
HIST 255	Analysis of the Historical Processes of Puerto Rico	3
*MATH 116	Fundamentals of Mathematical Reasoning	3
QYLE 110	Development of Values, Attitudes, and Adaptation to University Life	3
SOSC 112	The Human Being and His Social Environment	3
SOSC 230	Economic and Political Systems	3
SOSC 242	Political and Socioeconomic Principles of Globalization	3
*SPAN 115	Reading, Writing, and Oral Communication in Spanish I	3
Menu Courses	6 Courses Selected from the Menu	18

Core Professional Courses		27
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PSYC 121	General Psychology I	3
PSYC 122	General Psychology II	3
PSYC 350	Psychopathology	3
SOCI 203	Elementary Principles of Sociology	3
SOCI 216	Contemporary Social Problems	3
SOCI 330	Sociology of Marriage and Family	3
SOSC 250	Statistics in Social Sciences	3
SOSC 258	Research Techniques in Social Sciences	3
SOSC 336	Substance Abuse and Legal Issues	3

Major Courses		39
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SOWO 255	Interviews and Communication in Social Work	3
SOWO 260	Introduction to Social Work	3
SOWO 265	Social Policy and Social Services	3
SOWO 350	Social Work with Individuals and Families	3
SOWO 360	Administration and Supervision of Social Services Agencies	3
SOWO 373	Social Work with Special Populations	3
SOWO 380	Social Work: The Child, Adolescent, and Family	3
SOWO 385	Social Work in the Industrial Setting	3
SOWO 387	Social Work and the Socio-Medical Milieu	3
SOWO 391	Crisis Intervention	3
SOWO 393	Recording Case Studies in Social Work	3
SOWO 450	Social Work with Groups and Communities	3
SOWO 491	Legal and Ethical Aspects of Social Work	3

Electives		3
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Practicum		8
SOWO 480	Practicum and Seminar I	4
SOWO 481	Practicum and Seminar II	4

1. **The English, Spanish, and Math courses will be assigned according to the results of the College Board Entrance Exam or the CREE Placement Test.*
2. *A minimum average of "B" is required for all major courses.*
3. *SOWO 480 and SOWO 481 must be passed with a "B" or above.*
4. *Students transferring from other Universities must comply with the residency requirement at UNE.*

Bachelor of Arts in Social Work Major in Gerontology

122 Credits	Credits
General Education	51
Core Professional Course	24
Major Courses	36
Electives	8
Practicum	3

General Education	51	
COMP 110	Introduction to Computers and Software	3
*ENGL 115	College Reading and Writing I	3
ENGL 246	Conversational English	3
HIST 255	Analyses of the Historical Processes of Puerto Rico	3
*MATH 116	Fundamentals of Mathematical Reasoning	3
QYLE 110	Development of Values, Attitudes, and Adaptation to University Life	3
SOSC 112	The Human Being and His Social Environment	3
SOSC 230	Economic and Political Systems	3
SOSC 242	Political and Socioeconomic Principles of Globalization	3
*SPAN 115	Reading, Writing, and Oral Communication in Spanish I	3
SPAN 275	Advanced Writing in Spanish	3
Menu Courses	6 Courses Selected from the Menu	18

Core Professional Courses	24	
PSYC 121	General Psychology I	3
PSYC 122	General Psychology II	3
SOCI 203	Elementary Principles of Sociology	3
SOCS 213	Social Problems of Puerto Rico	3
SOSC 250	Statistics in Social Sciences	3
SOSC 255	Interviews and Communication in Social Work	3
SOSC 258	Research Techniques in Social Sciences	3
SOSC 278	Recording and Analysis of Case Studies	3

Major Courses		36
GERO 111	Introduction to Gerontology	3
GERO 222	Biophysiological Aspects of Aging	3
GERO 226	Non Traditional Modalities for the Well-Being of the Elderly	3
GERO 300	Psychosocial Approaches with the Elderly	3
GERO 302	Ethical and Legal Dilemmas in the Intervention with the Elderly	3
SOWO 260	Introduction to Social Work	3
SOWO 265	Social Policy and Social Services	3
SOWO 350	Social Work with Individuals and Families	3
SOWO 360	Administration and Supervision of Social Service Agencies	3
SOWO 373	Social Work with Special Populations	3
SOWO 380	Social Work: The Child, Adolescent, and Family	3
SOWO 450	Social Work with Groups and Communities	3
Electives		3
Practicum		8
GERO 480-481	Practicum and Seminar I and II	8

1. **The English, Spanish, and Math courses will be assigned according to the results of the College Board or CREE Placement Test.*
2. *A minimum average of "B" is required for all major courses.*
3. *GERO 480 and SOWO 481 must be passed with a "B" or above.*
4. *Students transferring from other Universities must comply with the residency requirement at UNE.*

Bachelor's Degrees in Social Sciences

Bachelor of Social Sciences Major in Criminal Justice

126 Credits	Credits
General Education	51
Core Curriculum Courses	24
Major Courses	42
Practicum	3
Electives	6

General Education **51**

COMP 110	Introduction to Computers and Software	3
*ENGL 115	College Reading and Writing I	3
ENGL 246	Conversational English	3
HIST 255	Analysis of the Historical Processes of Puerto Rico	3
*MATH 116	Fundamentals of Mathematical Reasoning	3
QYLE 110	Development of Values, Attitudes, and Adaptation to University Life	3
SOSC 112	The Human Being and His Social Environment	3
SOSC 230	Economic and Political Systems	3
SOSC 242	Political and Socioeconomic Principles of Globalization	3
*SPAN 115	Reading, Writing, and Oral Communication in Spanish I	3
SPAN 275	Advanced Writing in Spanish	3
Menu Courses	6 Courses Selected from the Menu	18

Core Professional Courses **24**

ECON 123	Elementary Principles and Problems of Economics	3
PALE 105	Constitutional Principles	3
PSYC 121	General Psychology I	3
PSYC 122	General Psychology II	3
SOCI 203	Elementary Principles of Sociology	3
SOCI 216	Contemporary Social Problems	3
SOSC 250	Statistics in Social Sciences	3
SOSC 258	Research Techniques in Social Sciences	3

Major Courses **42**

CRIM 103	Introduction to Criminal Justice	3
CRIM 107	Fundamentals of Criminology	3
CRIM 203	General Principles of Penal Law and Crimes Against Individuals and Property	3
CRIM 204	Special Penal Laws	3
CRIM 206	Criminal Procedure	3
CRIM 207	Justice System	3

CRIM 320	Criminal Investigation	3
CRIM 331	Organization, Administration, Supervision and Police Reports	3
CRIM 335	Ethical Aspects of Justice	3
CRIM 336	Substance Use and Abuse	3
CRIM 340	Juvenile Delinquency	3
CRIM 415	Evidence	3
CRIM 425	Criminalistics	3
CRIM 430	Correctional System of Puerto Rico	3

Practicum **3**

CRIM 475	Supervised Practicum	3
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Elective **6**

1. *The English, Spanish, and Math courses will be assigned according to the results of the College Board Entrance Exam or CREE Placement Test.
2. A minimum average of "C" is required for all major courses.
3. CRIM 475 must be passed with a "B" or above. CRIM 103, 203, 204, 206, 320, 335, 340, 415, and 425 must be approved before taking the Practicum course.
4. Students transferring from other Universities must comply with the residency requirement at UNE.

**Bachelor of Social Sciences
Major in Paralegal Studies**

123 Credits	Credits
General Education	51
Core Curriculum Courses	21
Major Courses	42
Practicum	3
Electives	6

General Education **51**

COMP 110	Introduction to Computers and Software	3
*ENGL 115	College Reading and Writing I	3
ENGL 246	Conversational English	3
HIST 255	Analysis of the Historical Processes of Puerto Rico	3
*MATH 116	Fundamentals of Mathematical Reasoning	3
QYLE 110	Development of Values, Attitudes, and Adaptation to University Life	3
SOSC 112	The Human Being and His Social Environment	3
SOSC 230	Economic and Political Systems	3
SOSC 242	Political and Socioeconomic Principles of Globalization	3

*SPAN 115	Reading, Writing, and Oral Communication in Spanish I	3
SPAN 275	Advanced Writing in Spanish	3
Menu Courses	6 Courses Selected from the Menu	18

Core Professional Courses **21**

ECON 123	Elementary Principles and Problems of Economics	3
PALE 105	Constitutional Principles	3
PSYC 121	General Psychology I	3
PSYC 122	General Psychology II	3
SOCI 203	Elementary Principles of Sociology	3
SOCI 216	Contemporary Social Problems	3
SOSC 250	Statistics in Social Sciences	3

Major Courses **42**

CRIM 203	General Principles of Penal Law and Crimes Against Individuals and Property	3
CRIM 206	Criminal Procedure	3
CRIM 340	Juvenile Delinquency	3
CRIM 415	Evidence	3
PALE 101	Fundamentals of Puerto Rico Law	3
PALE 103	Legal Investigations	3
PALE 107	Fundamentals of Civil Procedure	3
PALE 205	Introductions to Private Law I	3
PALE 206	Introductions to Private Law II	3
PALE 301	Aspects of Notary Law and Registration Law	3
PALE 307	Principles of Administrative Law	3
PALE 309	Juridical Information	3
PALE 311	Professional Responsibility	1
PALE 313	Investigations and Editing of Documents	3
PALE 403	Administration of the Legal Office	2

Practicum **3**

PALE 425	Practicum	3
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Elective **6**

1. **The English, Spanish, and Math courses will be assigned according to the results of the College Board Entrance Exam or CREE Placement Test.*
2. *A minimum average of "C" is required for all major courses.*
3. *PALE 425 (Practicum) must be passed with a "B" or above. PALE 103, 107, 205, 206, 301, 313, 403, CRIM 203, 400, and 415 must be approved before taking the Practicum course.*
4. *Students transferring from other Universities must comply with the residency requirement at UNE.*

**Bachelor of Social Sciences
Major in Psychology**

119 Credits	Credits
General Education	48
Core Curriculum Courses	15
Major Courses	44
Practicum	6
Electives	6

General Education 48

COMP 110	Introduction to Computers and Software	3
*ENGL 115	College Reading and Writing I	3
ENGL 116	College Reading and Writing II	3
HIST 255	Analysis of the Historical Processes of Puerto Rico	3
*MATH 116	Fundamentals of Mathematical Reasoning	3
QYLE 110	Development of Values, Attitudes, and Adaptation to University Life	3
SOSC 112	The Human Being and His Social Environment	3
SOSC 242	Political and Socioeconomic Principles of Globalization	3
*SPAN 115	Reading, Writing, and Oral Communication in Spanish I	3
SPAN 116	Reading, Writing, and Oral Communication in Spanish II	3
Menu Courses	6 Courses Selected from the Menu	18

Core Professional Courses 15

PSYC 121	General Psychology I	3
PSYC 122	General Psychology II	3
SOCI 203	Elementary Principles of Sociology	3
SOCI 213	Social Problems of Puerto Rico	3
SOSC 250	Statistics in Social Sciences	3

Major Courses 44

BIOL 103	Anatomy and Physiology I	4
BIOL 104	Anatomy and Physiology II	4
PSYC 210	Human Sexuality	3
PSYC 225	Social Psychology	3
PSYC 226	Evolutional Psychology	3
PSYC 321	Personality Theories	3
PSYC 322	Theories and Techniques in Psychotherapy	3
PSYC 327	Psychology of the Elderly	3

PSYC 343	Theories of Learning and Motivation	3
PSYC 350	Psychopathology	3
PSYC 400	Psychological Measurement	3
PSYC 402	Methodology and Research	3
PSYC 423	Physiological Psychology	3
PSYC 435	Statistics in Psychology	3
Practicum		6
PSYC 450	Practicum and Seminar	3
PSYC 451	Practicum and Seminar	3
Elective		6

1. **The English, Spanish, and Math courses will be assigned according to the results of the College Board Entrance Exam or CREE Placement Test.*
2. *A minimum average of "C" is required for all major courses.*
3. *PSYC 450 -451 must be passed with a "B" or above. PSYC 121, 122, 225, 226, 321, 322, 340, 400, and 423 must be approved before taking the Practicum course.*
4. *Students transferring from other Universities must comply with the residency requirement at UNE.*

Bachelor's Degree in Public Affairs

Bachelor in Public Affairs Major in Municipal Government

117 Credits	Credits
General Education	54
Core Curriculum Courses	21
Major Courses	33
Practicum	3
Electives	6

General Education 54

COMP 110	Introduction to Computers and Software	3
*ENGL 118	English for the Workplace I	3
ENGL 119	English for the Workplace II	3
HIST 274	History of United States	3
*MATH 116	Fundamentals of Mathematical Reasoning	3
QYLE 110	Development of Values, Attitudes, and Adaptation to University Life	3
SOCI 216	Contemporary Social Problems	3
SOSC 112	The Human Being and His Social Environment	3
SOSC 230	Economic and Political Systems	3
SOSC 113	Analysis of Cultural and Historical Processes	3
*SPAN 115	Reading, Writing, and Oral Communication in Spanish I	3
SPAN 116	Reading, Writing, and Oral Communication in Spanish II	3
Menu Courses	6 Courses Selected from the Menu	18

Core Professional Courses 21

ECON 253	Economy of Puerto Rico	3
MANA 217	International Relations	3
POSC 253	Political System of Puerto Rico	3
SOCI 213	Social Problems of Puerto Rico	3
SOCI 335	Ethics, Morality, and Society	3
SOSC 250	Statistics in Social Sciences	3
SOSC 258	Research Techniques in Social Sciences	3

Major Courses 33

PAAF 150	Principles of Public Administration	3
PAAF 160	Psychosocial Basis of Organizational Behavior	3
PAAF 210	Administration of Human Resources in Public Service	3
PAAF 260	Introduction to Planning and Municipality Administration	3
PAAF 308	Demography in Labor Relations and Collective Bargaining in Public Service	3
PAAF 310	Labor Relations and Collective Bargaining In Public Service	3
PAAF 315	Evaluative Investigation of Municipal Programs	3
PAAF 320	Public Policy and the Process of Municipal Government	3
PAAF 412	Federal Funds System in Municipal Government	3
PAAF 415	Municipal Fiscal Operations	3

PUAF 420	Seminar on Special Topics or Issues	3
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Practicum		3
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PUAF 450	Supervised Practice in a Public Agency or Professional Portfolio	
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Electives		6
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1. **The English, Spanish, and Math courses will be assigned according to the results of the College Board Entrance Exam or the CREE Placement Test.*
2. *A minimum average of "C" is required for all major courses.*
3. *Students transferring from other Universities must comply with the residency requirement at UNE.*

Professional Certificates

Professional Certificates in Public Affairs

Municipal Administration

Courses are offered in 8-week sessions

15 Credits

Credits

PUAF 150	Principles of Public Administration	3
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PUAF 160	Psychosocial Basis of Organizational Behavior	3
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PUAF 210	Administration of Human Resources in Public Service	3
PUAF 260	Introduction to Planning and Municipality Administration	3
PUAF 310	Labor Relations and Collective Bargaining In Public Service	3

Professional Certificates in Public Affairs

Municipal Fiscal Policies

Courses are offered in 8 week sessions

15 Credits

		Credits
PUAF 308	Demography in Labor Relations and Collective Bargaining in Public Service	3
PUAF 315	Evaluative Investigation of Municipal Programs	3
PUAF 320	Public Policy and the Process of Municipal Government	3
PUAF 412	Federal Funds System in Municipal Government	3
PUAF 415	Municipal Fiscal Operations	3

Course Descriptions

English

ENGL 100 Basic Reading and Writing **3 Credits**

This course emphasizes basic reading and writing skills. Reading skills to be mastered are: fluency, comprehension, recall, and text analysis. Writing skills will include: sentence development, organization, grammar, punctuation, spelling, and process writing. It is designed to develop the student's ability to express thought in a coherent and effective written form and to develop the ability to read critically. This course includes a laboratory component. This course has been designed for students who scored less than 430 on the College Board Entrance Exam or less than 70 percent on the Placement Test.

ENGL 115 College Reading and Writing I **3 Credits**

Emphasis in strengthening of basic reading comprehension and writing skills. An integrated language arts approach will be used; therefore, specific grammatical skills will also be developed along with oral communication and listening skills. The ability to organize one's thoughts, to express them simply and clearly, and to observe the standard and conventions of language usage will be developed. Short research projects will be developed through the integration of technology (individual, pair, or group work). Includes lab experiences.

ENGL 116 College Reading and Writing II **3 Credits**

Strengthening of the student's reading comprehension and composition skills. Emphasis on strategies for generating ideas for writing, planning, and organizing material, intended to prepare students for the demand of college writing, focusing on reading critically and incorporating source material in student's own writing. Research projects will be developed through the responsible use of technology by pair or group work. Includes lab experiences.

ENGL 118 English for the Workplace I **3 Credits**

English for the workplace will provide students with a general introduction of business English for business purposes. It provides learners with an opportunity to practice relevant language and communication skills in a variety of business situations. Skills such as written and oral communication will be developed through work with various topics, such as formal research report, preparing professional meetings, organizing ideas, using technology, principles of written communication, constructing sentences, planning of effective communication, and formatting letters. Reconstruction of real life activities will be used in a constructivist approach to learning. The integration of technology will be used to facilitate the presentations of the activities.

ENGL 119 English for the Workplace II

3 Credits

This is English for the Workplace II, the second part of the course. The aim of this course is to intensify the developing of oral and writing skills. The course is based on speaking exercises of workplace oriented topics and informative and persuasive presentations using technological resources. Technical writing will be emphasized. Professional portfolio will be developed; since conducting a job search and preparing employment communications is an important goal students will conduct job interviews, and professional presentations. Reports and media communications will be emphasized to equip them with the necessary tools to develop new releases and newsletters.

ENGL 217 English for Allied Health Professions 3 Credits

The course enables health professionals to more effectively comprehend oral and written English in a health care setting. Emphasis is placed in increasing knowledge of terminology related to health care professions. Strengthening fluency in oral communication and writing records and reports is also included. Grammar is reinforced as an integral part of language. The course will provide opportunities for communicative activities and role-play, research and integration of technology to enhance oral and written presentations.

ENGL 234 Advanced Conversational English 3 Credits

Extensive practice in the use of academic speaking, listening, communication skills. The course prepares students to master successful communication skills in everyday settings such as the workplace, social events, and problem solving situations. Conversations, role-playing, discussions, and debates, among others, will be used in the classroom. Technology will be integrated to facilitate the development of the activities.

ENGL 246 Conversational English 3 Credits

This course provides intensive speaking and listening practice in every day situations in order to strengthen and increase fluency and accuracy. Topics of general interest relative to aspects of the process of communicating, such as verbal and nonverbal communication, are discussed. Oral presentations, role-playing, and group discussion are used. Research activities will be developed through the integration of technology by individual, pair or group work. This course includes laboratory experiences to aid in improving pronunciation.

ENGL 307 Professional Writing 3 Credits

Advanced expository writing for professional and technical venues, including research writing skills and composition using computer media. This course focuses on "real world" writing that emerges from social and personal civic commitments. Analysis of strengths and weaknesses of text and

crucial features of major professional writing documents with the use of checklists and rubrics are discussed. Course requires extensive writing practice and portfolio presentation.

Spanish

SPAN 100 Communication Skills in Spanish as the Vernacular Language 3 Credits

This course is designed for the improvement of the basic skills that are comprised in the four language skills, namely: listening, speaking, reading and writing. The contents of the course are commensurate with the students' needs and interests. Includes laboratory experiences.

SPAN 115 Reading, Writing and Oral Communication in Spanish I 3 Credits

Comprehension and use of the Spanish language from a communicative approach. The study and analysis of the written text taking into consideration the aspects of comprehension and the reading process. Analysis and interpretation of readings using the following as a reference frame: vocabulary in context, main idea, secondary idea, relationship of ideas, types of discourse, and types of language. Construction of the written message from the sentence to the paragraph. Development of techniques for oral presentations integrating technology in an expository discourse. The course will be conducted with the use of reflections, discussions of readings, critiques, investigations, the writing of essays and oral presentations with the use of technology. Includes laboratory experience.

SPAN 116 Reading, Writing and Oral Communication in Spanish II 3 Credits

The study and analysis of the written text taking into consideration the aspect of comprehension and the reading process. Analysis and interpretation of reading using the following as a reference frame: evaluation of the content of the message (inferences, critical analysis, distinguish amongst facts, opinion, and assumptions). To go beyond the meaning of the text and author's techniques, and resources. Construction of the written message from the paragraph and sequence of paragraphs for coherence of the message. Practice and use of grammatical structures dealing with imprecise or incorrect use of the language (barbarisms, solecisms, ambiguities, concordance, tautology-etc.) Development of techniques for oral presentations for an argumentative discourse. The course will be conducted with the use of reflections, discussions of readings, critiques, investigations, the writing of essays and oral presentations with the use of technology. Includes laboratory experiences.

SPAN 240 Literature and Diversity 3 Credits

The study of the concept of diversity within the literary context of different genres. Appreciation and analysis of literary productions from the perspectives of gender, race, ethnic origin, and social class, among others. Emphasis is on the analysis of customs, beliefs, traditions, and life styles of

the groups under study. The course will be developed through critical reflections, research, oral and written presentations, collaborative work, and the responsible use of technology.

SPAN 275 **Advanced Writing in Spanish**
3 Credits

Study and analysis of the metacognitive and cognitive processes of the written text. Integration of the information skills (research, evaluation, and synthesis) and basic research methodology, as well as planning and organizing strategies for the development of summaries, expository and argumentative essays will be emphasized. The course requires the integration of the computer in the production of written texts, critical reflections, and the presentation of a portfolio.

French

FREN 103 **Introduction to Basic French**
3 Credits

Study of the French language at an elementary level with emphasis on conversational skills. Emphasis is placed on the basic conversational requirements applied to day-to-day situations. Research skills are developed through the study of the French culture. The course will be developed through the use of films, documentaries, songs, and group activities, such as, simulations and interviews. The responsible use of emails to correspond in French with faculty and students is used as an instrument of technological communication. The course includes laboratory experience.

Humanities

HUMA 224 **Contributions of the Great Civilizations of the World: Old, Medieval, and Modern**
3 Credits

Theoretical and critical analysis of the principle historical, social, political, and economical processes of the great civilizations of humanity (European, African, Asian, and Amerindian) from the ancient classic Greek-roman and medieval ages to the modern and post modern ages. Study of the principle cultural, philosophical, and religious contributions that have influenced the structures that characterize society and apply them to the reality of the Puerto Rican society. The course will be carried out through research, ethnographic, geopolitical and socio-economic analysis of the classic and modern writings of readings, and integration of technology. The course will be framed by general value judgments applied to the Puerto Rican society.

HUMA 228 **Puerto Rico and its contributions to the Caribbean and the World**
3 Credits

Study and critical analysis of the political, economical, social, and cultural contributions of Puerto Rico to the Caribbean with emphasis on their projection to the world. Emphasis will be given to individuals and organizations that have made philosophical, scientific, and humanistic contributions. Ethical and civic aspects that developed these contributions will be considered. The course will be developed through collaborative work, oral presentations, and research. Responsible use of technology will be encouraged.

HUMA 230 **Appreciation of the Arts and Music**
3 Credits

Study of the four principle arts: architecture, sculpture, painting, and music. Emphasis on the fundamental resources of communication and resources of communication and expression of each of the arts; and analysis of works of art from the eye of the artist to the perspective of the spectator. The course will be carried out through the use of conceptual mapping, cooperative work, field trips, reflections, and research projects with the responsible use of technology.

History

HIST 255 **Analysis of the Puerto Rican Historical Processes**
3 Credits

Analytical and interpretive study of the historical processes of Puerto Rico: economic, social, cultural, anthropological, geographic, and political development. The causes and consequences that determine the present and contribute to the future framed by general value judgments and apply them to the Puerto Rican society will be studied. Models and strategies that lead to the construction of knowledge and development of critical thinking that will promote value of national development, such as, the study of public documents, ethnographic studies, case studies, research, concept mapping, and team work. The responsible use of technology will be encouraged.

HIST 274 **History of the United States**
3 Credits

Study and critical analysis of the economic, political, social, and cultural transformations that have manifested the historical development of the United States of America. Study of the geographic environment and the population theories of America and the pre-Columbian people. Analysis of the conditions and factors that contributed to the development of this nation and its evolution up to the present. The course is carried out through research, collaborative work, oral and written presentations, and the responsible use of technology.

HIST 310 **Latin American and Caribbean Cultural Perspectives**
3 Credits

Study of Latin American and Caribbean culture and the European and North American influence. Analysis and appreciation of the cultural concepts as they are interpreted by the Latin American and Caribbean countries, as well as, its manifestation on contemporary societies of this region. The aspects that identify each culture and those that are shared will be examined. The course will be carried out through teamwork, research, and oral and written presentations that integrate technology.

Art & Music

ART 101 Art Appreciation **2 Credits**

This course is designed to develop in the student a broad understanding of the basic principles of art. Study includes the elements of art, with special emphasis on plastic arts. The student will also gain aesthetic appreciation of great masterpieces.

ART 105 History of Art **3 Credits**

This course is a study of visual arts and their relation to history and culture. The student will gain appreciation of the great masterpieces in sculpture and painting, and will learn to recognize the stylistic forms of the various historical periods. The course includes visits to museums, expositions and exhibits of works of art.

ART 207 Art in Puerto Rico **3 Credits**

This course presents an overall vision of plastic arts in Puerto Rico from its origin to the present.

MUSIC 101 Music Appreciation **1 Credit**

This course is a study of the basic elements of music in reference to the masterpieces of the great composers. The students will develop skills in listening, enjoyment, knowledge and understanding of such musical compositions as folk songs, sonatas, symphonies, concertos, operas, etc., through lectures, records, piano demonstrations and other instruments. Visits to concerts and other musical demonstrations in this area will also be part of the course.

MUSIC 102 Choral Group **1 Credit**

This course provides group instruction in order to develop good singing habits. Training in the interpretation of choral music, particularly Puerto Rico folklore is part of the course. The students

will give presentations in concerts, radio and television programs, and other socio-cultural activities sponsored by UNE.

Social Sciences

SOSC 112 The Human Being and His Social Surroundings **3 Credits**

This course studies the conceptual and critical analysis of human social environment focusing on the main theoretical approaches and social organization, the integration of social and cultural structures, the social norms and roles, social inequality, and deviant behavior, as well as, the social institutions and their functions. The study of social processes, social interaction, and socialization and their consequences for the individual will be emphasized

SOSC 113 Analysis of Cultural and Historical Processes **3 Credits**

Analysis of culture based on the influences of the historical processes that have produced the individuals that live in society. Study of the past, present, and future social and cultural patterns by means of a transcultural/comparative approach, as well as, ethical and civic considerations, such as: industrialization, modernization, economic and political development, education, and computer science. The course will be developed through ethnographic studies and applied research, as well as the critical analysis of cases and historical events. Responsible use of technology will be encouraged.

SOSC 227 Cultural Diversity **3 Credits**

Scientific and anthropological study of cultural diversity with emphasis on theory and practice from a historical perspective. The course includes the concepts of multiculturalism, transnationalism, globalism, ethnocentricity, transculturation, endoculturation, and cultural relativity, among others. Analysis and ethical and personal appraisal of ethnic variations, movements of minority groups in their struggle for political and economic power, as well as, for civil and human rights; national and personal identity; the nature of socio-cultural conflicts, and the way in which societies deal with these situations. The course will be carried out through the adequate use of technological resources to develop ethnographic research, case analysis, critical reflection and group work

SOSC 228 Interpersonal Relations **3 Credits**

Philosophical and theoretical study of human and interpersonal relations from the behavioral perspective. Critical analysis and evaluation of human conduct starting with the individual and ending with his/her relationships with others. Emphasis will be on motivational skills, conflict management, decision making, problem solving, and ethical reflections, among others. The course will be carried out through case analysis, research, reflective exercises, group dynamics, and team work. The responsible use of technology will be encouraged.

SOSC 230 **Political and Economic Systems**
3 Credits

Study of the theories and concepts of the political and economical systems of the past, present, and future. Analysis of the challenges that formal governments face and their interaction with a global political and economic system. Emphasis is placed on economic policies, political culture, and the institutionalization and application of these to the political environment of a country. The course is developed through research, case studies, analysis of political and economic cases and processes, and their application. Responsible use of technology will be encouraged.

SOSC 242 **Socio Economic and Political Principles of Globalization**
3 Credits

Study of the origin and development of the political and economical systems of a global society of the 20th Century. Critical analysis of the transformation of the cultural and informational environment within the civil society, globalize, globalization, regionalism, governability, nationalism, sovereignty, human rights, sustainable development, and environmental protection. The course will be developed through readings, discussion of situations, analysis of official documents and original writings, case studies and research. Responsible use of technology will be encouraged.

SOSC 250 **Statistics in Social Sciences**
3 Credits

An introduction to the statistical methodology as applied to Social Sciences. Basic statistical concepts and techniques are introduced. Emphasizes the scientific and graphical presentation of data, as well as its analysis.

SOSC 255 **Skills in Communication and Interview**
3 Credits

Focuses on the various techniques and interpersonal skills necessary in the helping process. Emphasis is placed on the attainment of the necessary skills for effective communication in interviews.

SOSC 258 **Research Techniques in Social Sciences**
3 Credits

Introduces the learner to the application of all scientific techniques for research and investigation in the social sciences. Places emphasis on basic procedures for gathering data, establishing the problem and hypothesis, analyzing, interpreting and applying findings.

SOSC 278 **Recording and Analysis of Case Studies**
3 Credits

Discussion of the types of documents required by social service agencies. The ethical aspects involved in the management of information obtained from interviews and analysis of cases are examined.

SOSC 336 **Substance abuse and Legal Implications**
3 Credits

The course is designed to explore the use and abuse of alcohol, tobacco, and other drugs. The physiological, psychological, and social effects will be studied and analyzed critically and objectively. Particular emphasis will be placed on the participation of various agencies in relation to prevention, treatment, and the control that the substance use and abuse exercises over the community.

OYLE 110 **Development of Values, Attitudes, and Adaptation to University Life**
3 Credits

Analysis and evaluation of values, attitudes, and prejudices in university life and the world of work. The course studies the effect that our behavior has on others and how it also affects us. Evaluation of different types of ethical conduct from different philosophical perspectives that allow for the selection of those which give the individual more self control with emphasis on the university surroundings. Application of concepts through the use of concepts maps, self-reflections, case studies, role playing, team work, and the responsible use of technology.

Psychology

PSYC 121 **General Psychology I**
3 Credits

This course is an introduction to the scientific study of the fundamental principles that govern the human conduct. The concepts and principles related to the development of psychology as a science, the function of the nervous system, endocrine system, sensorial, and motor systems, perception, learning and intelligence. The basic theories and their relation with individual and social relations.

PSYC 122 **General Psychology II**
3 Credits

The course is an introduction to the scientific study of the fundamental principles that rule human behavior. Concepts and principles related to the development and maturity, such as impulses, motivation feelings and emotions, frustrations and conflicts, abnormal and normal, etc. will be studied. Also, basic relations and their relationship with the individual and society will be included.

PSYC 123 **Introduction to the Study of Psychology**
3 Credits

This course includes the study of perception, motivation, learning, development and theories of human personality, and the effects of heredity and environment on the behavior of individuals.

PSYC 210 **Human Sexuality**
3 Credits

This course will offer the student the opportunity to understand the principles and concepts related to human sexuality, its history and tradition. The contributions made by scholars in this field and also the basic determinants of sexual conduct. Physiology, anatomy and the psychological and cultural aspects of sexuality will be stressed. The different sexual dysfunctions and their origins will be studied. All themes will be discussed within the reality of the Puerto Rican culture.

PSYC 225 **Social Psychology**
3 Credits

Scientific study of social interaction in the development of personality from the perspectives of psychology and sociology; includes relationships with others, as well as, with groups within the cultural environment. Emphasis is given to understanding the process of socialization, symbolism, social values, citizenship, behavioral dynamics, and group interrelation and cultural context influence each other; and analysis of how conflicts arise in the workplace and the individual as a result of this interaction. The study of the theoretical context of both approaches will be the base for the discussion of readings, personal and workplace case analysis, problem solving, teamwork, and critical reflections. Responsible use of technology will be encouraged.

PSYC 226 **Evolutional Psychology**
3 Credits

Study of human development since its conception to death. Study of the theories of learning, cognitive in the development and psychodynamic. Emphasis on the interpersonal processes, cognitive and motivations. It makes reference to the findings in the scientific investigation of the study of human development.

PSYC 228 **Psychology of Diversity**
3 Credits

Study of human and cultural diversity framed in the behavioral sciences. Analysis of differences and similarities of individual human behavior, related to: ethnicity, gender, religion, age, physical condition, sexual orientation, learning differences, level and type of intelligence, language, socio-economic status, among others. Analysis of the psychological, social, economic, and legal implications using research in the field of diversity. The course will be carried out through the use of discussions, research, case studies, case analysis, responsible use of technology and cooperative work.

PSYC 321 **Personality Theories**

3 Credits

A critical evaluation of the principal psychological theories from their origin to the present, establishing their application to psychotherapy. The concept of personality from psychoanalytic theories, social, epistemological and existentialist.

PSYC 322 Theories and Techniques in Psychotherapy
3 Credits

Various focus and psychotherapeutic processes of the therapy; theories of personality and learning for counseling, psychology and psychoanalysis of the function that is carried out, the discernment in the changed of conduct or behavior in the treatment and the justification of the psychotherapeutic techniques.

PSYC 327 Psychology of the Elderly
3 Credits

This course offers the student the opportunity to develop the necessary skills to critically evaluate the psychological theories related to the elderly population, recent research in the field, and their implications. The implications of sensory and perceptual changes, learning, memory, intelligence, personality, and motivation in the daily routines of the elderly will be examined. The course will be carried out through readings, discussions, and research in which the students can apply the acquired knowledge.

PSYC 343 Theories of Learning and Motivation
3 Credits

This course establishes an introduction to the basic theories of the personality, the critical reflection concerning the theories. It presents a clear and precise picture of the principal characteristics of each theory. It should also foster criteria in order to guide each evaluation following them.

PSYC 350 Psychopathology
3 Credits

The course offers the student a comprehensive foresight of the concepts, the history, social aspects and scientific of normal behavior in the human being. It introduces the classification of psychological disturbances and the development of the necessary skills in the use and management of the DSMIV. One semester, 3 hours weekly.

PSYC 400 Psychological Measurement
3 Credits

Study of the principles of psychological measurements; evaluation of the characteristics of the test, such as validity and trustworthiness, quantification, conversion of points, linguistic adoption and normalization. A general vision of the test that will be used will be offered in the psychological field,

focusing on the arisen controversies regarding the use and interpretation of the same. One semester, 3 hours weekly.

PSYC 402 Methodology and Research
3 Credits

Introduction to the scientific study of behavior with special emphasis on laboratory methods, the design, recompilation and analysis of the facts using static's programs of the computers. Work will be done with outcomes of the scientific studies, their interpretation, theoretical and the contrast with new investigation. One semester, 3 hours weekly.

PSYC 423 Physiological Psychology
3 Credits

Study of the human organism with emphasis on the central nervous system, the somatic sensorial, and the endocrine system. The relationship between organism and behavior, and the superior cortical processes. The different emotional theories will be analyzed, motivation and learning and its impact on behavior. In addition, the different types of drugs will be considered as well as their effect in the human behavior. One semester, 3 hours weekly.

PSYC 435 Psychology Statistics
3 Credits

Introduction and discussion of the descriptive statistics and its application in the psychological investigation field. Study of the compendium, organization and analysis of facts, such as the sample distribution, among other things. Statistic models, correlation and simple regression, instrument and validity.

PSYC 450 Supervised Practice and Seminar I
3 Credits

Acquisition and development of the basic skills of communication and interview. Apply and use the help process, such as empathy, respect, approval and confidentiality. Other themes such as: Mental health and some other related to the course will be discussed in class.

PSYC 451 Supervised Practice and Seminar II
3 Credits

Bring into focus personal and group aid. It is required that each student, under supervision, complete a scientific study and be able to apply the proper scientific methodology. This course is an introduction to the scientific study of the fundamental principles that govern the human conduct. The concepts and principles related to the development of psychology as a science, the function of

the nervous system, endocrine system, sensorial and motor systems, perception, learning and intelligence.

Economics

ECON 123 Introduction to the Study of Economics 3 Credits

The course is designed to provide the student with theoretical and applied knowledge of the foundations of Economics. The student will learn the principles and theories of marketing operations in a mixed economy with emphasis on micro-economic and macro-economic analysis. National accounts, employment, and fiscal policies are covered, as well as, the basics of banking, the importance of the Federal Reserve System and monetary policies.

ECON 124 Economics for Engineering 3 Credits

This course is designed to introduce undergraduate engineering students to the discipline of economics, in general, and principles of engineering economics in particular. Utilizing economic theory and applications, this course will present a rigorous graphical and mathematical treatment of such topics as market equilibrium, elasticity's costs of production, and market structure. While quantitative tools are used throughout the course, the primary focus of the material is on the fundamental engineering economics for manufacturing decision-making and project evaluation.

ECON 253 Economy of Puerto Rico 3 Credits

This course provides an analysis of the characteristics and trends of the Puerto Rican economy. Special emphasis is placed on the main structural elements in the economy: the roles of agriculture, manufacturing, banking, construction and other services in the production, distribution and use of economic resources. The course also emphasizes production and national income indexes; and the government's role and the economic relationship between Puerto Rico and the United States.

Political Sciences

POSC 253 Political System of Puerto Rico 3 Credits

This course is an analysis of the political and judicial development of Puerto Rico from the 19th century to the present and the relationship of this development to organizations and the international world. The students will receive an introduction to the principles related to the government of Puerto Rico.

POSC 350 Dynamics of International Political Relations

3 Credits

Study of the principle theory of political science related to the field of international relations and its application of practices, concepts, and problems. Analysis of the relations among governments, organizations, and individuals and their social, political, and economic ties taking into consideration the levels of cooperation and conflict. Study of critical issues in the context of globalization. The course is developed through research, the use of the Internet, group work, and reflective critiques.

Sociology

SOCI 203 **Elementary Principles of Sociology**
3 Credits

This course will study the individual and his relationship with his environment and social organizations, and the nature of this relationship. The course will also emphasize the development, functions and influences of interaction, changes and social processes.

SOCI 213 **Social Problems of Puerto Rico**
3 Credits

Discussion and analysis of the social problems that are most frequently present in the Puerto Rican society. The presentation of the themes to be discussed will be from a sociological perspective.

SOCI 215 **Culture and Folklore of Puerto Rico**
3 Credits

Analysis of the essential cultural foundations of the Puerto Rican people and their ethical and civic arts, traditions, literature, music, paintings, sculpture, and the national festivals as they relate to the development of the historical processes from the 16th Century to the present. The course will be framed by general value judgments and applied to the Puerto Rican society. The course will be developed through field trips, research, and cooperative group work. The responsible use of technology will be encouraged.

SOCI 216 **Contemporary Social Problems**
3 Credits

Critical, theoretical, and empirical examination from the sociological perspective of the social problems, their classification of deviant behavior and the subsequent informal and formal social control. The course includes the influence of the social communication media and the structures in the construction of social problems. Comparative analysis of these local and global problems, their possible solutions by means of citizen actions and by the governmental structures that generate public policy destined to attend to and extenuate them. Analysis of readings and simulation exercises, case studies, statistical analysis, responsible use of technology, and the study of public policies related to the course will be used.

SOCI 225 **Sociology of Deviant Behavior**
3 Credits

This course examines the social construction of crime, taking into consideration the process by which criminal problems are generated. Emphasis is placed on the constructs of deviation behavior within a historical and contemporary framework and the social and symbolic construction of crime by analyzing videos, literature, and music. Topics, such as behavioral controls, civil rights, normal behavior, deviant behavior, crime, and the relationship between criminal and victim, will be discussed throughout the course.

SOCI 330 **Sociology of Marriage and Family**
3 Credits

An analysis of the marriage as a system and its influence on the family and society. Different modes of intervention of prevention and therapeutic interventions are studied so to achieve the skills needed for successful professional intervention with the marital couple and the family.

SOCI 335 **Ethics, Morality, and Society**
3 Credits

Scientific and philosophical analysis of the classic and modern axioms related to ethics, morality, and individual and collective human behavior. The course is also the study of the ethical and moral foundations of society with special attention to the relation between the individual and his/her personal codes of conduct when faced with those held by the community. Emphasis is on the analysis of ethical, moral, and self concepts, as well as how they are modeled, internalized, and impact the vision of a responsible life in society, education, economy, religion, government, and professions; appreciation for the diversity of values within the perspective of a global society. The course will be developed through the study of theoretical contributions and their application to real and hypothetical situations and problems, teamwork, discussion groups, reflections, ethnographic research, and use of the Internet. Responsible use of technology will be encouraged.

SOCI 360 **Sociological Imagination**
3 Credits

Scientific and philosophical study of the theoretical foundations of sociology with emphasis on the integration of the individual with the group, of the groups among themselves and social change. Analysis of the importance and the responsibility in the fulfillment of the creation of social reality and its diverse structures to comprehend the impact of society on the individual. Discussion and reflection of the theoretical contributions of the studies of social groups and implications in everyday life of the student as a social being as a professional. Collaborative work, research on diverse cultures and their respective formal and informal organizations will be some of the strategies that will be used in this course. Responsible use of technology will be encouraged.

Geography

GEOG 203 **Cultural Geography**

3 Credits

Study of the development and distribution of cultural elements in the world. Emphasis is placed on the critical organization of knowledge and its application in the comprehension of the environment that surrounds us and our activities. Analysis is of the way that societies around the world interact with one another and the environment. Consideration on the impact of the particularities of diverse human groups, cultural ecology, migratory movements, and changes in culture, customs, religions beliefs and values. The study of cultural diversity will be used as an instrument to value the importance of individual and community quality of life. The course will be developed through ethnographic research, case analysis, team work, and reflections on the individuals place on the planet. Responsible use of technology will be encouraged.

Social Work

SOWO 201 Basic Elements of Group Work 2 Credits

This course aims at the development of the student's capacity to understand diverse membership roles and their impact on the group. Particular attention is given to the leader and the various styles of leadership, including functional leadership. Discussions include ways to handle and prevent problems faced when working with groups.

SOWO 203 Basic Elements of Working with the Community 2 Credits

This course introduces students to the process of helping a community, using methods and techniques needed to meet welfare needs and deal with problems. Special attention is given to knowledge, attitudes and skills that the Associate in Social welfare needs to participate in the process of community development. One semester, two hours weekly.

SOWO 218 Process of Helping and Intervention in Social Work 3 Credits

This course provides the student the basic knowledge in the professional intervention in social work with an emphasis in the development of attitudes and communication skills in the use of interviews with the clients (individuals, group, families and community). In addition the course will provide the logical reasoning of professional interventions through the application of experiences learned through role playing or case discussions.

SOWO 243 Field Instruction and Seminar I 4 Credits

This course provides the student with practical experience in the basic elements of the social welfare profession. It aims at developing the attitudes, values and skills required for an adequate performance in the field of social welfare.

SOWO 244 Field Instruction and Seminar II
4 Credits

This course provides the student with practical experience in the basic elements of the social welfare profession. It aims at developing the attitudes, values and skills required for an adequate performance in the field of social welfare.

SOWO 255 Interviews and Communication in Social Work
3 Credits

This course focuses on the various techniques and interpersonal interviewing skills necessary in the helping process. Emphasis is placed on the attainment of the necessary skills for effective communication in interviews.

SOWO 260 Introduction to Social Work
3 Credits

This course studies the historical and philosophical development of social work and its place among related professions. Discussion and analysis of the principles, values, goals, regulations and sanctions, social policy, and code of ethics that regulates the practice of the profession is emphasized.

SOWO 265 Social Policy and Social Services
3 Credits

A study of social issues and the corresponding government policy. Social programs, agencies and services rendered to the community are discussed in depth.

SOWO 350 Social Work with Individuals and Families
3 Credits

An analysis of the family as a system and its influence in the individual and society. Different modes of intervention for prevention and therapeutically purposes are studied in order to achieve the skills needed for successful professional intervention with the individual and the family.

SOWO 360 Administration and Supervision of Social Services Agencies
3 Credits

Presents the principles, processes and practices for administration and supervision of Social Services Agencies. Emphasis is placed on the role of the social worker in such a setting.

SOWO 373 Social Work with Special Populations
3 Credits

Examines the problems confronted by diverse groups in society, such as drug addicts, AIDS patients, the elderly, handicapped, battered women and children. Emphasis is placed on the management, strategies and types of interventions for the various target groups.

SOWO 380 Social Work: The Child, Adolescent, and the Family
3 Credits

Students learn about the direct impact of social problems on children and adolescents. Existing legislation in favor of these age groups is also examined, in particular, the Juvenile Legislation and The Minors Protection Law of P.R.

SOWO 385 Social Work in the Industrial Setting
3 Credits

Existing labor and industrial legislature is discussed. Emphasis is placed on matters of social impact and current labor issues and conflicts. The handling of interventions inherent to industrial and work force settings is included.

SOWO 387 Social Work in the Socio-Medical Setting
3 Credits

Deals with the role of social work in a socio-medical setting as individuals and groups. All local and national legislature concerning the rendering of services is discussed. Focuses on the handling of social and emotional circumstances that affect recovery. Emphasis is placed on applicable interventions to the terminally ill patient, as well as the immediate family.

SOWO 391 Crisis Intervention
3 Credits

Reviews the generic theory of crisis intervention, as well as, the counseling skills used in helping individuals in crisis situations, including battering, sexual assaults, suicide attempts, drug overdoses, psychiatric emergencies, and family crisis. Students review the theory and approaches to crisis intervention, including the origins or causes of crisis, how a crisis develops, management of crisis, and resources within the community, well enough to apply these to suicides and other crisis situations.

SOWO 393 Recording Case Studies in Social Work
3 Credits

Discussion of the types of documents required by social service agencies. The ethical aspects involved in the management of information obtained from interviews and analysis of cases are examined.

SOWO 450 Social Work with Groups and Communities
3 Credits

This course develops the students' capacity to understand the diverse social roles that exist in groups and how they impact the community. Special attention will be given to the leader's role within the group as well as the different leadership styles. Discussion of different strategies that can be used to solve the various problems that can arise when working with small groups and community settings.

SOWO 480 Practicum and Seminar I
4 Credits

The course offers the trainee the opportunity of receiving a service training in a private or public agency. During their practice students will get acquainted with the performance of the Social Worker who will be trained to apply the acquired knowledge during the teaching learning process, by taking the required courses of their concentration. In addition they will learn to develop and polish the necessary skills needed for rendering services. The course will conciliate the formation of ethical attitudes and the application of the professional principles in relation to Social Work. The supervised practice will offer the student the opportunity to deal with situations inside the methodology of Social Work with individuals and families, community groups, and of other auxiliary methods.

SOWO 481 Practicum and Seminar II
4 Credits

The course, a continuation of SOWO 480, offers the student trainee the opportunity implementing the skills learned in a private or public agency. In addition, they will learn to develop and refine the necessary skills for the rendering of services. The course will conciliate the formation of ethical processes and application of professional related principles of Social Work. The supervised practice will offer the student the opportunity to manage situations inside the methodology of Social Work, with individuals and families, groups and communities of other auxiliary methods.

SOWO 491 Legal and Ethical Aspects of Social Work
3 Credits

Explores the evolution of social work ethics and legal aspects. The course will provide the student the basic understanding of the importance that ethics and values legalities are to the practice of social work. Ethics and values laws and codes will be thoroughly examined and discussed.

Gerontology

GERO 111 Introduction to Gerontology
3 Credits

Discussion of the basic principles and concepts of gerontology, covering the most important theories in the fields of biology, psychology, and sociology and their relationship to the process of aging. In addition, other outstanding theories in the field of gerontology will be discussed.

GERO 222 **Biophysical Aspects of Aging**
3 Credits

This course presents fundamental aspects of the biological and physiological processes related to aging. Changes that occur in the normal aging process, as well as, the pathological changes and how these affect the different systems and organs are discussed. Depression, Delirium,, and Dementia will be examined as some of the problems that may occur. Students will examine assessment and treatment options.

GERO 226 **Non traditional Modalities for the Well-Being of the Elderly**
3 Credits

This course will expect the student to analyze the diverse modalities that promote the health and well being of the elderly. The use of recreational activities such as, music therapy, massage, nutrition and other modalities will be explored with the student and placed into daily practice professionally as well as personally.

GERO 300 **Psychosocial Approaches with the Elderly**
3 Credits

Psychosocial approaches of aging with emphasis on theories, methodologies, and research findings. Topics such as memory, cognition, dementia, gender issues, personality/intellectual development, psychopathology, and geriatric assessment and spousal bereavement will be reviewed. Emphasis on the psychology of aging as it impacts the elderly will be examined in addition to the developmental issues in young and middle adulthood will also be integrated so aging can be viewed on a continuum.

GERO 302 **Ethical and Legal Dilemmas in the Intervention with the Elderly**
3 Credits

Students will analyze the ethical dilemmas and how they influence the management and process in decision making with the elderly in Puerto Rico, as well as, in other countries. Death, euthanasia, informed consent, and suicide, as well as, current legislation affecting the well being of the elderly will be discussed.

GERO 480 **Seminar and Supervised Practicum I**
4 Credits

The course offers the student trainee the opportunity to implement the skills learned in a social service setting with the aging. During their practice students will get acquainted with the performance of the Social Worker Supervisor who will require the student to apply the acquired knowledge during the teaching learning process. In addition they will learn to develop and enhance the necessary skills needed for providing services. The course will review the formation of ethical attitudes and the application of the professional principles in relation to Social Work. The supervised practice will offer the student the opportunity to deal with situations within Social Work with individuals and families, community groups.

GERO 480 Seminar and Supervised Practicum II
4 Credits

The course, a continuation of GERO 480, offers the student trainee the opportunity implementing the skills learned in a social service setting with the aging.

Criminology

CRIM 103 Introduction to Criminal Justice
3 Credits

Introductory course in which the origin and development of the Criminal Justice system in Puerto Rico will be studied. The class will examine the aspect and basic functions of the police, the courts, the lawyers of the defense, the district attorney, the correction facilities and the juvenile justice system. Consideration is given to the study of the crime, definition, reach and factors associated with crime.

CRIM 107 Foundations of Criminology
3 Credits

Diverse criminological theories will be studied by analyzing their value and providing concrete answers in order to prevent delinquency. The principle schools of thought will be examined and the auxiliary sciences (criminalistics, victimology, among others) will be studied and the reactions between society and criminal politics.

CRIM 200 General Principles of the Penal Code and Crimes Against Individuals and Property
3 Credits

The general principles of the penal code of Puerto Rico is studied. The topics covered are criminal intention, tentative, authors. The conspiracy, classification of crimes, criminal concealment, the defenses, penalties, aggravating circumstance, the theory of the physiology of causality. Included are crimes against the person and property. Case study and jurisprudence.

CRIM 201 Criminal Investigation
3 Credits

The course of Criminal Investigation consists of the study of the origin and evolution of the criminal investigation and its relation with the antisocial in Puerto Rico. The process of the investigation of the felony from the study of the scene where the crime was committed until the judicial process takes place. The basic techniques of scientific interviews, cross examination, and the modern methods for the investigation of crime.

CRIM 203 General Principles of the Penal Code and Crimes Against Individuals and Property
3 Credits

The general principles of the penal code of Puerto Rico is studied. The topics covered are criminal intention, tentative, authors. The conspiracy, classification of crimes, criminal concealment, the defenses, penalties, aggravating circumstance, the theory of the physiology of causality. Included are crimes against the person and property. Case study and jurisprudence.

CRIM 204 **Special Penal Laws**
3 Credits

Study of the special penal laws that regulate the penal conduct in Puerto Rico. The psychology of juvenile legislation and the study of the law that cover minor offenders. Case study and jurisprudence. One semester, 3 hours weekly.

CRIM 205 **Police Organization, Administration, and Supervision**
3 Credits

The course focuses on the study and analysis of the history, organization, administration, and supervision of the Puerto State and the Municipal Police Force. It also includes the roles, powers, duties, faculties, and administrative procedures.

CRIM 206 **Criminal Procedure**
3 Credits

This course is a study of the established procedures for the treatment of lawbreakers. Also covered are the criminal procedures to be followed in the investigation, arrest and the corrective measures applied. Attention is also given to civil rights of citizens and important decisions of the Supreme Court.

CRIM 207 **Justice System**
3 Credits

The study of the historical evolution of the civil law in Puerto Rico with respect to the legal subsystem fundamentals and rights of the family, succession, property, obligation, contracts, and torts law.

CRIM 208 **Evidence, Case Preparation, and Testimony**
3 Credits

A study of the rules of evidence relating to the criminal process, with emphasis on hearsay and its exception, how to prepare an effective presentation of a criminal case before a court, and how to give oral testimony.

CRIM 210 **Criminal Procedures and Evidence**
3 Credits

The course analyzes the legal dispositions that regulate the application of the Substantive Penal Code of Puerto Rico. The different stages of the judicial process and the constitutional guaranties

that protect the rights of the accused during the stages of investigation and during the judicial process are also studied.

CRIM 215 **Foundations of Criminalistics**
3 Credits

The course studies the origin and development of forensic sciences based on diverse types of evidence by the criminal investigator. Emphasis is placed in the importance of the preservation and management of the judicial process.

CRIM 216 **Ethics and Civil Rights Applied to the Criminal Justice System**
3 Credits

This course analyzes the ethical theories and explains the principles that may be used to evaluate policies of civil rights, such as, guides for moral decisions, and the standards for actions.

CRIM 218 **Police Relations with the Community**
3 Credits

The course provides for the study of community relations and the police, in particular, the role of the police officer in the community to tie society with compliance of the law. The course is focused on the commitment of the officer to working with individuals to resolve the problems within the community.

CRIM 220 **Ethics and Human Relations**
3 Credits

The course analyzes and studies the principles and ethical theory behind decisions based on human relationships.

CRIM 230 **Constitutional Rights and the Correctional System**
3 Credits

The study of the Constitution of Puerto Rico, in particular, its provisions and amendments regarding the rights of the accused are the focus of the course. Various Court decisions regarding the constitutional applications of due process on search, seizure, confession and rights of the prisoners are discussed.

CRIM 232 **Correctional System of Puerto Rico**
3 Credits

This course studies the local correctional system. The diverse theories and types of situations that are confronted daily in the correctional system are also discussed. It includes contemporary theories of punishment, corrections, and rehabilitation, as well as, attending to the problems and situations that affect the corrections officer within the extensive field of the correctional system.

CRIM 234 **Management and Supervision of Inmates**
3 Credits

Introductory course on the supervision techniques of inmates, as well as, correctional officers and other employees. Emphasis is placed on the development of specific methods of communication necessary to work effectively in a correctional institution. The primary goals of the course are: develop the ability to work in a potentially dangerous environment; implement and follow direct orders; recognize manipulation on part of the offenders; develop methods of observation, knowledge of, and implementation of body language; and solve problems that arise daily when working with culturally distinct populations.

CRIM 236 **Probation, Parole, and Community Corrections**
3 Credits

This course examines current legislation related to the aspects of probation, parole, and community treatment within the correctional administration. The students will critically analyze theories, practices, and policies related to probation, parole and community correction treatment.

CRIM 238 **Development and Treatment of Inmates Within the Correctional System**
3 Credits

This course will examine and analyze the history of the treatment of inmates within the correctional system, rehabilitation strategies, philosophy, ideology, and developments related to correctional, organizational, and managerial policies and practices. The students will critically analyze theories, practices, and policies related to treatment programs and rehabilitation of the adult and juvenile offenders.

CRIM 240 **Report Writing**
3 Credits

The course is designed to develop techniques and skills required to comply with the reports and documents related to criminal investigation cases. Emphasizes practice in clarity and legibility of reports and other technical documents. Numerous exercises will be provided regarding the formal information of cases in the Criminal Justice System.

CRIM 320 **Criminal Investigation**
3 Credits

The course of Criminal Investigation consists of the study of the origin and evolution of the criminal investigation and its relation with the antisocial in Puerto Rico. The process of the investigation of the felony from the study of the scene where the crime was committed until the judicial process takes place. The basic techniques of scientific interviews, cross examination, and the modern methods for the investigation of crime.

A study of the rules of evidence relating to the judicial process, with emphasis on hearsay and its exception, how to prepare an effective presentation of a case before a court, and how to present to evidence.

CRIM 425 **Criminalistics**
3 Credits

Study the origin and development of the forensic sciences basing the study in the different types of evidence utilized by the criminal investigation. Emphasis is made on the importance of preservation and handing of evidence in the judicial process.

CRIM 430 **Correctional System of Puerto Rico**
3 Credits

Principles of the correction system in Puerto Rico, its philosophy, legal bases, organization and administration of correctional facilities. Included are the area of penal institutions, community programs, the parole board, community rehabilitation, the bureau of evaluation and canceling, program of treatment and assistance for people confined to penal institutions and the penal officers group.

CRIM 475 **Supervised Practicum**
3 Credits

This is a field experience in which the student will have the opportunity to apply the knowledge gained and the skills and values developed in a private or public agency that has as working relation with the Criminal Justice System.

Paralegal Studies

PALE 101 **Fundamentals of Puerto Rican Law**
3 Credits

Introduction to our legal system and its historical development. Study of the judicial system of Puerto Rico.

PALE 103 **Legal Investigation**
3 Credits

Introduction to the techniques and resources of basic legal investigation. Introductory studies of the use of computers in legal investigation. Primary and secondary sources of legal rights will be examined. The techniques of editing summaries of jurisprudence and memorandum will be studied.

PALE 105 **Constitutional Principles**
3 Credits

Study of the Constitution of Puerto Rico and the Constitution of the United States of America. Emphasis on the rights, privileges, and immunities comprised in both constitutions.

PALE 107 **Fundamentals of Civil Procedure**
3 Credits

Introduction to the judicial system of Puerto Rico. Study of the Rules of Civil Procedure from its practical point of view. The development of a civil case with emphasis on the discovery of evidence will be used.

PALE 205 **Introduction to Private Law I**
3 Credits

Study of the Civil Code of Puerto Rico and its more important matters: family rights, estate, and inheritance.

PALE 206 **Introduction to Private Law II**
3 Credits

The study of the Code of Civil Laws of Puerto Rico in the matters of rights, duties and genuine contracts, and the vindictive damages.

PALE 301 **Aspects of Notary Law and Registration Law**
3 Credits

Study of notary law, the obligations and responsibilities of the notary. It will familiarize the student with the principles of the Property Law and the Registration Law.

PALE 307 **Principles of Administrative Law**
3 Credits

Fundamental aspects of the administrative litigation with emphasis on law suits. Topics to be covered: personnel administration, consumer affairs, public benefits and others.

PALE 309 **Legal Information System**
3 Credits

Study of the different possibilities that the judicial system has, law information techniques and the use of computerized system of information. The potential importance of the information science of the legal registers for the judicial systems, and in law offices.

PALE 311 **Professional Responsibility**
1 Credit

Analysis of the paralegal role within the system and professional behavior with the lawyer. Study of the Code of Ethics for Lawyers. As a final project the student will develop a code of ethics for the paralegal profession.

PALE 313 **Investigation and Editing of Documents**
3 Credits

Application of investigative techniques, including the localization and analysis of the law, jurisprudence and administrative rules. Techniques of editing legal documents will be examined, editing of legal memorandums and documents.

PALE 403 **Administration of the Legal Office**
2 Credits

This course is designed to prepare the student in the daily management of the office: implantation of procedures, training of personnel, purchases and supplies, accounting, reports, etc. Basic concepts of general administration.

PALE 425 **Practicum**
3 Credits

The students will be sent to a public or private entity where they will put into practice the knowledge and skills learned.

Public Affairs

PAAF 150 **Principles of Public Administration**
3 Credits

An analysis of the principles and theories that set the framework of the public administration. Emphasis is placed on the study of the concepts, models, systems and theoretical, as well as current theories. A major concern will be the guidelines that regulate the administration of municipalities and the interrelationship between these and the central government.

PAAF 160 **Psychosocial Basis of Organizational Behavior**
3 Credits

A study of the influence of the social setting and the personality of individuals as manifested in organizational behavior. Human behavior within organizations, including motivation, decision making and problem solving processes. Interpersonal and organizational communication are discussed.

PAAF 210 **Administration of Human Resources in Public Service**
3 Credits

Comprehensive study of the Puerto Rico State Legislative process. Analysis of the organization and operation, the structure of committee work and the process of creating a law will be studied in depth. Emphasis will be on the application of the process using acceptable sources of information. The course is a seminar in which the students will practice creating a legislative bill.

PUAF 412 **Federal Funds System in Municipal Government**
3 Credits

A study of the effects of federal funds in the economy of Puerto Rico, including their impact on the formulation of the state and local budgeting process. Guidelines in the use of federal funds are analyzed.

PUAF 415 **Municipal Fiscal Operations**
3 Credits

An analysis of laws and procedures that regulate good public administration including record keeping and budget and property administration. The functions and activities of the comptroller, mainly within municipalities, are reviewed.

PUAF 420 **Seminar on Special Topics or Issues**
3 Credits

An analysis of special topics and public issues, relevant to state and local governments, as they become important for public administration and public service. The contents will be revised and updated periodically for relevancy and pertinence. Press coverage, public demonstrations and opinions, as well as the viewpoints of the private sector, and the constituency are researched.

PUAF 450 **Supervised Practice in a Public Agency**
3 Credits

The course enables the students to obtain experience of public service within a state or local government, as they apply the knowledge and skills acquired in the field. Periodic meetings with the professor will provide opportunities of discussion of the variety of situations that arise during the practicum.

UNIVERSIDAD DEL ESTE

SCHOOL OF SCIENCE AND TECHNOLOGY
... a community of learners committed to excellence in
higher education

UNDERGRADUATE CATALOG

2006-2008

SCHOOL OF SCIENCE AND TECHNOLOGY

The School of Science and Technology is a collegial learning community in continuous development and expansion of our academic programs. It is part of the Office of the Vice-Chancellor for Academic Affairs. It offers undergraduate programs such as associate and bachelor's degrees.

The School's academic program includes engineering technology, natural sciences in health sciences and applied sciences at the associate degree level and biology, microbiology, biotechnology, and environmental technology at the bachelors of sciences level. The School also offers courses in chemistry, physics, environmental sciences and mathematics to all the academic programs in the Institution.

The academic program responds to the socioeconomic reality, and complements the theory with the practice. This is possible by means of the integration of the professional community, industry, the government sector, and the community in general, by means of strategic alliances and collaboration agreements. The use of advanced technology is one of principal teaching tools that supports the entire academic and administrative services, and has a direct impact on the student's activities.

The School of Science and Technology of Universidad del Este offers and collaborates with the university community in the development of an environment that fosters the study in harmony with the Institutional Vision and Mission Statement. The School of Science and Technology is a learning community in search of the highest educational ideals.

MISSION

The School's mission is as follows: The School of Science and Technology is a learning community where the student is the main participant and the center of the learning process, where high quality support services are offered for facilitating his or her holistic development. The student learning process is based on the search for knowledge, and is therefore in a continuous process of personal and professional development.

In order to fulfill its Mission, the School of Science and Technology is dedicated to:

- Provide service courses to contribute to the development of an analytical, scientific, environmental conscious culture within the university community.
- Strengthen the Undergraduate Research Program through activities related to faculty and student development.
- Strengthen the existing academic programs.
- Provide a stimulating academic environment where student will be prepared for life, assume leadership roles, and develop critical thinking skills to be able to confront a technologically changing world.

- Maintain and continue to develop strategic alliances and collaborative agreements that allow for the strengthening of the academic programs.
- Implement assessment tools in the classroom, the academic programs, and the services offered by the School.

FACULTY

Arana Santiago, Luis, PhD
Kansas State University
Assistant Professor
Mathematics

Arcelay Gutierrez, Angel, PhD
Ohio State University
Associate Professor
Biochemistry

Colon Guasp, Wilfredo, PhD
University of Florida
Associate Professor
Environmental Horticulture

Dávila Lebrón, Gladys, MA
New York University
Professor Emeritus
Mathematics

Castro Simmons, Mónica, MS
Virginia Tech
Instructor
Mathematics

Gomez Millan, Hector, PhD
University of Maryland
Assistant Professor
Mathematics

González Rodríguez, Sandra, Eng., MS
University of Puerto Rico Río Piedras Campus
Assistant Professor
Chemistry

Lizardi O'Neill, Lilliam, PhD
University of Puerto Rico Medical Sciences Campus
Full Professor
Physiology

Pabón Velázquez, Lydia, MPH
University of Puerto Rico
Emeritus Professor
Public Health

Peraza González, Carmen, MEd
University of Puerto Rico Río Piedras Campus
Assistant Professor
Mathematics

Restrepo, Gerson, MS
University of Puerto Rico Mayaguez Campus
Assistant Professor
Physics

Rodríguez Bonano, Nydia, PhD
University of Puerto Rico Medical Sciences Campus
Assistant Professor
Microbiology and Medical Zoology

Ruiz Limardo, Noemí, EdD
University of Puerto Rico Río Piedras Campus
Assistant Professor
Mathematics

Mendez Merced, Ana, PhD
University of Puerto Rico Río Piedras Campus
Assistant Professor
Biology

ADMINISTRATIVE STAFF

Colón Guasp, Wilfredo, PhD
University of Florida
Dean

Cherry Guevara, Rebecca, PhD

University of Puerto Rico Medical Campus
Associate Dean

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Universidad de Puerto Rico and Interamerican University
Engineering Program Director

Rodríguez Bonano, Nydia, PhD
University of Puerto Rico Medical Sciences Campus
Assistant Professor
Microbiology Program Director

Rivera Rosa, Miriam, MBA
Universidad del Turabo
Administrative Services Director

Yazmin Bigio Ferreira, BA
Universidad del Este
Student Coordinator

Cirilo Ramos, Carol, BA
Universidad del Este
Secretary III

Martinez Algarín, Luz, BA
Universidad del Este
Secretary IV

TECHNICAL STAFF

Hernandez Burgos, Carmen, MS
University of Puerto Rico Rio Piedras Campus
Coordinator CECMAT

Velez Rivera, Maribel, MS
University of Puerto Rico, Mayaguez Campus
Science Laboratory Technician

STUDENT'S SUPPORT SERVICES

Undergraduate Research Unit:

This academic Unit is responsible for all the undergraduate research initiatives performed by faculty members and selected students. The unit allows the development of a research culture

based on critical and creative thinking, discovery, and the construction of knowledge. Faculty members and students participate in workshop, seminars, and special conferences devoted to strengthen capabilities and knowledge in undergraduate research. Faculty and students participate in UNE's Annual Undergraduates Research Symposium and other professional meeting in the continental US and internationally.

Undergraduate Research Laboratory: U-GREAT Lab.

The Undergraduate Research Education and Training laboratory was created with fund from the US Department of Education and Institutional funds. The laboratory allows the incorporation of undergraduate research into the curriculum.

The Core Undergraduate Research Laboratory:

The Core Undergraduate Research laboratory was created with fund from the National Institute of Health RISE Project. The laboratory allows the incorporation of biomedical undergraduate research into the curriculum.

The CECMAT/U-GREAT Support Center:

The *Centro de Educación Científica, Matemática y Tecnológico* (CECMAT) provide faculty and students academic support using several resources search as: computers with multimedia, scanner, printers, lap top, video, digital display monitors, smart boards, texts, journals, and other related instructional materials. Open daily, and located in the Hall A, CECMAT offers traditional tutorial services, internet access, practice exercises, and workshops on various topics.

PHYSICAL FACILITIES

The School is located at Hall A and Hall B of the main campus in the City of Carolina. In these halls we can find the following laboratories and support center.

Hall A:	Mathematics 1 (L-101)	Biology Laboratory (L-109)
	Mathematics 2 (L-102)	Anatomy 7 Physiology Lab. (L-110)
	Undergraduate research (L-103)	Physics Laboratory (L-111)
	CECMAT (L-104)	
	Core Undergraduate Research Laboratory (Room 106)	
Hall B:	School of Science, and Technology	
	Microbiology Lab (L-113)	
	Technician Office (L-114-115)	
	Chemistry Lab (L-116)	

SPECIFIC ADMISSION REQUIREMENTS

General Index for all Bachelor of Science and Associate in Science programs is a minimum of 2.5 except for the associate degree in Natural Sciences that requires a minimum of 2.0.

GRADUATION REQUIREMENTS

All professional and concentration courses should be approved with 2.50 of index.

PROGRAM DESCRIPTION

Associate Degrees

Electronic Engineering Technology

The Electronic Engineering Technology curriculum prepares individuals to become technicians who design, build, install, test, troubleshoot, repair, and modify developmental and production electronic components, equipment, and systems such as industrial/computer controls, manufacturing systems, communications systems, and power electronic systems. The program is designed to prepare the individual to become a competent electronic technician capable of working and communicating with engineers, scientists, and production personnel. Their work requires the application of scientific and mathematical theory as well as specialized knowledge and skills in some aspect of technology.

Networking Engineering Technology

The Networking Engineering Technology curriculum prepares individuals to become engineering technicians who design, install, test, troubleshoot, repair, and modify data communications networks systems such as local area computer networks, wide area computer networks and industrial devices networks within an automation system. The curriculum includes the CISCO Academy courses that will prepare the student for the Cisco Certified Network Associates CCNA professional certification. The graduates from this program will be capable of working and communicating with engineers, scientists, and production personnel. Their work requires the application of scientific and mathematical theory as well as specialized knowledge and skills in some aspect of networks technologies.

Natural Sciences with emphasis in Applied Sciences

The Natural Science program with emphasis in applied sciences prepares the students for the various baccalaureate degree programs in the sciences. Students admitted to this associate degree program may not have a clear science program in mind but the applied sciences will prepare them to continue in some of the following science degree programs: microbiology, chemistry, biology, and biotechnology to mention a few. The students will be able to continue at Universidad del Este or transfer to another institution to continue his/her baccalaureate degree in science related fields.

Natural Sciences with emphasis in Health Sciences

The Natural Science program with emphasis in health sciences is geared toward the student interested in studying health science programs such as; pharmacy, radiology, sonography or medicine but were not admitted due to space availability or because the student is not sure what health field he/she would like to study. This associate program prepares the student to reclassify

to one of the health science programs offered at Universidad del Este or transfer to another institution offering health science programs not available at our institution.

Bachelor Degrees

Applied Microbiology

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

Biology

The graduate with this degree will be fully able to grasp and understand the theories, concepts, and practical foundation of biology in all its dimensions. The graduate will be able to identify and solve problems using scientific inquiry procedures. This degree can also be used to continue studies in medicine or go on to graduate studies.

Biotechnology

A graduate from this degree will be able to work in specialized laboratories in the food industry, pharmaceuticals, and regulatory agencies either within government institutions or agencies or within the private sector.

Environmental Technology

A graduate with this degree will be able to be employed with regulatory agencies, within government institutions or agencies, and or within the private sector. This professional will have in-depth knowledge to be able to identify and solve environmental problems using scientific inquiry procedures.

ASSOCIATE DEGREE PROGRAMS

Associate in Science in Electronic Engineering Technology

73 credits		Credits
General Education		19
Core Curriculum Courses		21
Major Courses		33
General Education		19
*SPAN 115-116	Reading, Writing, and Oral Communication in Spanish I& II	6
*ENGL 115-116	College Reading and Writing I and II	6

MATH 155*	Integrated Algebra and Trigonometry	4
ECON 124	Basic Economics for Engineers	3

Core Curriculum Courses **21**

ENGI 100	Introduction to Engineering	3
ENGI 160	Introduction to Engineering Graphics	3
MATH 221	Calculus I	4
CHEM 203	Chemistry I	4
PHSC 205	Engineering Physics I	4
COIS 262	Introduction to Computer Programming	3

Major Courses** **33**

EETP 202	Circuit Analysis I	4
EETP 203	Circuit Analysis II	4
EETP 204	Digital Circuit I	4
EETP 205	Digital Circuit II	4
EETP 206	Electronic Devices	4
EETP 207	Microprocessors	4
EETP 208	Electronic Systems	4
EETP 209	Microprocessor Technologies	4
EETP 330	Engineering Technology Application Project	1

Electives **None**

Practicum **None**

*The English, Spanish, and Math courses will be assigned according to the student's proficiency level in College Entrance Examination Board or the Institution's placement tests.

**All major courses must be approved with "C" or more.

Associate in Science in Electronic Engineering in Networking

76 credits	Credits
General Education	19
Core Curriculum Courses	24
Major Courses	33

General Education **19**

*SPAN 115-116	Reading, Writing, and Oral Communication in Spanish I & II	6
*ENGL 115-116	College Reading and Writing I and II	6
MATH 155*	Integrated Algebra and Trigonometry	4
ECON 124	Basic Economics for Engineers	3

Core Curriculum Courses 24

ENGI 100	Introduction to Engineering	3
ENGI 160	Introduction to Engineering Graphics	3
MATH 221	Calculus I	4
CHEM 203	Chemistry I	4
PHSC 205	Engineering Physics I	4
COIS 262	Introduction to Computer Programming	3
COIS 393	Computer Operating Systems	3

Major Courses** 33

EETP 202	Circuit Analysis I	4
EETP 203	Circuit Analysis II	4
NETP 202	Networking Basics – CCNA1	4
NETP 203	Routers & Routing Basics – CCNA2	4
NETP 204	Switching & Internet Routing – CCNA3	4
NETP 205	WAN Technologies – CCNA4	4
NETP 206	Network Operating Systems	4
NETP 207	Introduction to Industrial Networking	4
EETP 300	Engineering Technology Application Project	1

Electives None

Practicum None

*The English, Spanish, and Math courses will be assigned according to the student's proficiency level in College Entrance Examination Board or the Institution's placement tests.

**All major courses must be approved with "C" or more.

Associate in Natural Sciences with emphasis in Applied Sciences

63 credits	Credits
General Education	21
Core Curriculum Courses	28
Major Courses	14

General Education 21

*SPAN 115-116	Reading, Writing, and Oral Communication in Spanish I& II	6
*ENGL 115-116	College Reading and Writing I and II	6
MATH 130-131	Pre-calculus I and II	6
SOSC 228	Interpersonal Relations	3

Core Curriculum Courses 28

BIOL 203-204	General Biology I and II	8
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CHEM 203-204	General Chemistry I and II	8
MATH 304	Biostatistics	4
CHEM 351-352	Organic Chemistry I and II	8
or		
PHSC 203-204	General Physics I and II	8

Major Courses** **14**

BIOL 228	Introduction to Ecology	3
BIOL 240	Modern Genetics	3
BIOL 398	Molecular and Cellular Biology	4
CHEM 323	Analytical Chemistry	4

Electives **None**

Practicum **None**

*The English, Spanish, and Math courses will be assigned according to the student's proficiency level in College Entrance Examination Board or the Institution's placement tests.

**All major courses must be approved with "C" or more.

Associate in Natural Sciences with emphasis in Health Sciences

64 credits		Credits
General Education		30
Core Curriculum Courses		11
Major Courses		23
General Education		30
*SPAN 115-116	Reading, Writing, and Oral Communication in Spanish I & II	6
*ENGL 115-116	College Reading and Writing I and II	6
QYLE 110	Development of Values, Attitudes, and Adaptation to University Life	3
MATH 117	Basic Mathematics for Health Sciences	3
MATH 118	Fundamentals of Intermediate Algebra	3
SOSC 113	Analysis of Cultural and Historical Processes	3
SOCI 335	Ethics, Morality, and Society	3
SOCI 216	Contemporary Social Problems	3
or		
PSYC 225	Social Psychology	3
Core Curriculum Courses		11
BIOL 203-204	General Biology I and II	8
or		
BIOL 103-104	Anatomy and Physiology I & II	8
PUHE 201	Introduction to Biostatistics	3
Major Courses**		23
BIOL 303-304	Human Biology I and II	8
CHEM 203-204	General Chemistry I and II	8
PHSC 110	General Physics Survey	3
MATH 130-131	Pre-Calculus I & II	6
or		
MATH 221	Analytic Geometry and Calculus I	4
BIOL 231-232	Sectional Anatomy I & II	6
PHSC 203-204	General Physics I and II	8
Electives		None
Practicum		None

*The English, Spanish, and Math courses will be assigned according to the student's proficiency level in College Entrance Examination Board or the Institution's tests.

**All major courses must be approved with "C" or more.

BACHELOR DEGREE PROGRAMS

Bachelor in Sciences
Major in Applied Microbiology

137 Credits		Credits
General Education		48
Professional Courses		51
Major Courses		35
Electives		3
General Education		48
*SPAN 115-116	Reading, Writing, and Oral Communication in Spanish I& II	6
*ENGL I15-I16	College Reading and Writing I and II	6
MATH 130-131	Pre-calculus I and II	6
SOSC I13	Analysis of Cultural and Historical Processes	3
SOSC 228	Interpersonal Relationships	3
SOSC 242	Political and Social Economic Principals of Globalization	3
HIST 255	Analysis of Historic Puerto Rican Processes	3
Courses from Menu Selection		18
Professional Courses		51
BIOL 203-204	General Biology I and II	8
PHYS 203-204	General Physics I and II	8
CHEM 203-204	General Chemistry I and II	8
MATH 221	Calculus I	4
MATH 304	Biostatistics	4
CHEM 323	Analytical Chemistry	4
CHEM 351-352	Organic Chemistry I and II	8
CHEM 385	Biochemistry	4
UNRE 201	Undergraduate Research	3
Major Courses		35
BIOL 206	General Microbiology	4
BIOL 208	Microbial Ecology and Diversity	3
BIOL 220	Microbial Physiology	3
BIOL 306	Molecular Genetics of Microorganism	3
BIOL 308	General Mycology	3
BIOL 309	Industrial Microbiology	3
BIOL 330	Immunology	3
BIOL 324	Quality Control in Microbiology	3
BIOL 383	Food and Water Microbiology	3
BIOL 385	Epidemiological & Sanitary Microbiology	3
BIOL 395	Biotechnology: Basic Concepts & Applications	3
BIOL 400	Internship/Seminar in Applied Microbiology II	1

Electives 3

*The English, Spanish, and Math courses will be assigned according to the student's proficiency level.

** All professional and major courses (BIOL, MATH, CHEM, and PHYS) should be approved with 2.50 of index. The General Index and the major Index should be 2.5 in the moment of graduation.

Bachelor in Sciences Major in Biology

118 Credits	Credits
General Education	48
Professional Courses	39
Major Courses	28
Electives	3

General Education 48

*SPAN 115-116	Reading, Writing, and Oral Communication in Spanish I & II	6
*ENGL 115-116	College Reading and Writing I and II	6
MATH 130-131	Pre-calculus I and II	6
SOSC 113	Analysis of Cultural and Historical Processes	3
SOSC 228	Interpersonal Relationships	3
SOSC 242	Political and Social Economic Principals of Globalization	3
HIST 255	Analysis of Historic Puerto Rican Processes	3
Courses from Menu Selection		18

Professional Courses 39

BIOL 203-204	General Biology I and II	8
PHYS 203-204	General Physics I and II	8
CHEM 203-204	General Chemistry I and II	8
MATH 304	Biostatistics	4
CHEM 351-352	Organic Chemistry I and II	8
UNRE 201	Undergraduate Research	3

Major Courses 28

BIOL 228	Introduction to Ecology	3
BIOL 240	Modern Genetics	3
BIOL 330	Immunology	3
BIOL 206	General Microbiology	4
BIOL 325	Plant Biology	4
BIOL 395	Biotechnology: Basic Concepts & Applications	3
BIOL 398	Molecular and Cellular Biology	4

BIOL 430	Animal Biology	4
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Elective		3
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*The English, Spanish, and Math courses will be assigned according to the student's proficiency level.

** All professional and major courses (BIOL, MATH, CHEM, and PHYS) should be approved with 2.50 of index. The General Index and the major Index should be 2.5 in the moment of graduation.

Bachelor in Sciences Major in Environmental Technology

125 Credits		Credits
General Education		48
Professional Courses		42
Major Courses		32
Elective		3

General Education **48**

*SPAN 115-116	Reading, Writing, and Oral Communication in Spanish I & II	6
*ENGL 115-116	College Reading and Writing I and II	6
MATH 130-131	Pre-calculus I and II	6
SOSC 113	Analysis of Cultural and Historical Processes	3
SOSC 228	Interpersonal Relationships	3
SOSC 242	Political and Social Economic Principals of Globalization	3
HIST 255	Analysis of Historic Puerto Rican Processes	3
Courses from Menu Selection		18

Professional Courses **42**

BIOL 203-204	General Biology I and II	8
PHYS 203-204	General Physics I and II	8
CHEM 203-204	General Chemistry I and II	8
CHEM 323	Analytical Chemistry	4
BIOL 206	General Microbiology	4
BIOL 228	Introduction to Ecology	3
MATH 304	Biostatistics	4
UNRE 201	Undergraduate Research	3

Major Courses **32**

ENTE 101	Environmental Science Technology	3
ENTE 200	Environmental Policy and Legislation	3

ENTE 250	Air and Atmospheric Contamination Technology	4
ENTE 310	Soil Management and Conservation Technology	4
ENTE 320	Management and Control of Solid Waste and Dangerous Materials Technology	3
ENTE 330	Aquatic Environments	3
ENTE 331	Water Contamination and Treatment	4
ENTE 410	Environmental Health Technology	3
ENTE 420	Sustainable Development and Appropriate Technology	4
ENTE 490	Practicum in Environmental Technology	1

Elective **3**

*The English, Spanish, and Math courses will be assigned according to the student's proficiency level.

** All professional and major courses (BIOL, MATH, CHEM, and PHYS) should be approved with 2.50 of index. The General Index and the major Index should be 2.5 in the moment of graduation.

Bachelor in Sciences Major in Biotechnology

133 Credits	Credits
General Education	48
Professional Courses	51
Major Courses	31
Elective	3

General Education **48**

*SPAN 115-116	Reading, Writing, and Oral Communication in Spanish I & II	6
*ENGL 115-116	College Reading and Writing I and II	6
MATH 130-131	Pre-calculus I and II	6
SOSC 113	Analysis of Cultural and Historical Processes	3
SOSC 228	Interpersonal Relationships	3
SOSC 242	Political and Social Economic Principals of Globalization	3
HIST 255	Analysis of Historic Puerto Rican Processes	3
Courses from the menu selection		18

Professional Courses **51**

BIOL 203-204	General Biology I and II	8
PHYS 203-204	General Physics I and II	8
CHEM 203-204	General Chemistry I and II	8
MATH 221	Calculus I	4
MATH 304	Biostatistics	4

CHEM 323	Analytical Chemistry	4
CHEM 385	Biochemistry	4
CHEM 351-352	Organic Chemistry I and II	8
UNRE 201	Undergraduate Research	3

Major Courses 31

BIOL 206	General Microbiology	4
BIOL 240	Modern Genetics	3
BIOL 330	Immunology	3
BIOL 390	Bioprocesses and Instrumentation	3
BIOL 398	Molecular and Cellular Biology	4
BIOL 440	Environmental, Agricultural, and Industrial Biotechnology	3
BIOL 450	Pharmaceutical and Medical Biotechnology	3
BIOL 460	DNA Recombinant Technology	3
BIOL 470	Biotechnology Seminar	1
BIOL 480	Bio-pharmacology & Applications	3
BIOL 490	Practicum in Biotechnology	1

Elective 3

*The English, Spanish, and Math courses will be assigned according to the student's proficiency level.

** All professional and major courses (BIOL, MATH, CHEM, and PHYS) should be approved with 2.50 of index. The General Index and the major Index should be 2.5 in the moment of graduation.

COURSE DESCRIPTIONS

BIOLOGY

BIOL 101 Introduction to the Study of Biological Sciences I
3 Credits

This course is designed to provide instruction in the fundamentals of cell structure and physiology. Examination of the cultural aspects of biology and science that provide for man's interaction with

his ecological environment. Emphasis is placed on organic evolution as well as on human biological processes. One semester, 3 hours per week.

BIOL 102 **Introduction to the Study of Biological Sciences II**
3 Credits

The course familiarizes the student with the basic concept of modern biology. Topics included are: characteristics of living organisms, organization of life, metabolism, reproduction, integration, coordination and diversity of life. One semester, 3 hours per week.

Prerequisites: BIOL 101

BIOL 103 **Anatomy and Physiology I**
4 Credits

This course studies the fundamental concepts of Human Anatomy and Physiology. It emphasizes structure-function relationship of all systems in the human body with a clear understanding of how these systems integrate to achieve homeostasis. Pathological conditions, diagnosis, testing and treatment will also be discussed to enhance understanding of normal body functions. This course covers basic principles of cellular biology and biochemistry as well as the following systems: integumentary, skeletal, muscular, and nervous (including special organs and senses), and endocrine. One semester, 3 hours of lecture and 3 hours of laboratory per week.

BIOL 104 **Anatomy and Physiology II**
4 Credits

This course studies the fundamental concepts of Human Anatomy and Physiology. It emphasizes structure-function relationship of all systems in the human body with a clear understanding of how these systems integrate to achieve homeostasis. Pathological conditions, diagnosis, testing and treatment will also be discussed to enhance understanding of normal body functions. This course covers basic principles of cellular biology and biochemistry as well as the following systems: Circulatory (cardiovascular and lymphatic), respiratory, immune, excretory, digestive and reproductive. One semester, 3 hours of lecture and 3 hours of laboratory per week.

Prerequisites: BIOL 103

BIOL 106 **Compendium of Human Biology**
3 Credits

This course allows the student to construct a valid scientific knowledge of anatomical structures, of basic physiological processes and human pathology. By means of an active learning environment, the student is guided towards: the identification of corporal structures; the analysis of interrelationships between human systems structures and their functions; the knowledge to analyze the origins and symptoms of some pathologies associated with the different human corporal systems; the use of constructed knowledge for personal, ethical and social decision making; the use of scientific and technical vocabulary associated with anatomy and physiology, and the use

and interpretation of tables and graphs that show data and process of the human physiology and pathology. One semester, 3 hours per week with two hours of laboratory per week.

BIOL 115 **Introduction to Human Biology**
3 Credits

Study of anatomical structures and physiological processes in the human organism. Analyses of structure-function relationships in human physiology. Understanding of the human organism as a whole. Evaluation of relevant pathological conditions associated with different organ systems. Use of computer software to aid in the understanding of physiological phenomena and to enhance group discussions. Critical evaluation, development and appreciation of those practices that promote health to individuals and populations. Teaching strategies include, case presentations, research tasks, written reports, cooperative work and "in-classroom" laboratory exercises.

BIOL 203 **General Biology I**
4 Credits

First part of the general biology introductory course. Study of living organisms: characteristics, organization, and diversity. Emphasis is drawn upon specializations, adaptations, biochemical, and metabolic features at different organizational levels. Evolution is worked out as the unifying principle of biology. Inquiry, science processes' implementation, case studies, field trips, investigative laboratories, cooperative learning, and reflective discussions, among others, help in the development of students' attitudes and skills for taking personal, ethical and social decisions. Several modalities of students' assessment and evaluation will secure a holistic student's learning estimate. One semester, six hours of integrated lecture and laboratory per week.

BIOL 204 **General Biology II**
4 Credits

Second part of the general biology course. This course gives the students the opportunity to: a) construct biological concepts that will be needed in advanced courses and in their daily life, and their interconnections such as: biodiversity, tissue, organs and animal and plants systems specialization and adaptation, extinction, conservation and factors that determine evolution (natural selection and heritage), b) examine their beliefs and prejudices about biological concepts, c) research where evolution occurs, who is affected, d) be aware of the historical development of some biological ideas, e) develop scientific values and skills, and g) make personal, ethical, and social decisions. One semester, six hours of integrated lecture and laboratory per week. Prerequisites: BIOL 203

BIOL 206 **General Microbiology**
4 Credits

This course studies the microorganism diversity that includes the Kingdoms Monera, Protists, and Fungi. Emphasis is given to the anatomy, metabolism and reproduction of microorganisms. In a general way the importance of microorganisms in the different areas of microbiology are also studied. Those areas include: industrial, medical, food, ecological and water microbiology, also virology and biotechnology. In the laboratory, there will be practice in asepsis techniques, different methods of isolating microorganisms and obtaining qualitative and quantitative information. Also,

the identification of microorganisms through biochemical tests is practiced. One semester, 3 hours per week, 3 hours laboratory per week.

Prerequisites: BIOL 204 and CHEM 204

BIOL 208 **Ecology and Microbial Diversity**
3 Credits

This course emphasizes the study of the interactions between microorganisms, the environment and human beings. It focuses the importance of microorganisms in different natural ecosystems that include water, soil and air. In the laboratory, there are practice or activities in methods utilized to isolate different types of microorganisms in water, soil, and air. One semester, 3 hours per week, two hours of laboratory per week.

Prerequisites: BIOL 206

BIOL 220 **Microbial Physiology**
3 Credits

A study of the synthesis and regulation of the structural components of microorganisms, as well as transport systems and nutritional metabolic pathways. Mathematical description of the population growth related to microbial structure and metabolism. Laboratory experiences include techniques for the study of the incorporation, assimilation and utilization of diverse substrate sources. Research and analysis of the current legislation pertaining to the use of microorganisms for the environment and industry purposes. One semester, 3 hours per week, two hours laboratory per week. Prerequisites: BIOL 206

BIOL 228 **Introduction to Ecology**
3 Credits

An introduction to the general principles of ecology. Special focus will be on evolution and systems, and their applications to conservation of natural resources and human ecology. Special attention is also given to islands, bringing out examples in Puerto Rico. Emphasis will be given to interrelation of different resources to species and communities. One semester, 3 hours per week.

BIOL 231 **Cross Sectional Anatomy I**
3 Credits

This course is a general survey of Human Cross-Sectional Anatomy with emphasis on organs of body amenable to Diagnostic Ultrasound. The course includes transverse, longitudinal and coronal planes of the anatomy of: interior abdominal wall & peritoneum, pelvic organs and cavities, abdominal planes, inguinal region and scrotum, soft tissue and vasculature of neck, general abdominal vasculature, gastrointestinal tract, liver, gallbladder, pancreas, spleen, kidney and retroperitoneal space. One semester, four hours of integrated lecture and laboratory per week.

Prerequisites: BIOL 203, 204

BIOL 232 **Cross Sectional Anatomy II**
3 Credits

This course is a general survey of Human Cross-Sectional Anatomy with emphasis on organs of body amenable to Diagnostic Ultrasound. The course emphasizes pelvic cavity, pelvic vasculature & viscera, perineum and external genitalia and fetal anatomy and development. Emphasis is given in both courses to inter-organ relationship. One semester, four hours of integrated lecture and laboratory per week. Prerequisites: BIOL 203, 204 or BIOL 103, 104

BIOL 240 **Modern Genetics**
3 Credits

Study of the physiological and chemical concepts of heredity. Modern evolutionary principles will be analyzed through the study of Mendelian, molecular and population genetics. The student will (1) learn the structure and organization of the gene, (2) study the genetic behavior in populations and (3) become familiar with the concepts of genetic linkage and control of metabolism and growth. The course is developed through lectures, guided discussions, case studies and oral presentations, among others. During the laboratory the student will learn the basic methodologies that can be used to study, at the gene level, the heredity in organisms and populations. This course will be covered in one semester with a two hours lecture and two hours laboratory per week. Prerequisites: BIOL 204

BIOL 250 **Introduction to the Study of Environmental Science**
3 Credits

The course is a practical and appreciative study of the environment. It presents basic concepts of environment and human population as a frame of reference for the rest of the topics. The content also includes analysis and evaluation of soil, water, air, and energy resources, emphasizing fundamental aspects of pollution of these resources and their possible fitness. The development of the topic of environmental ethics is discussed with concern. One semester, 3 hours per week.

BIOL 255 **Environmental Science**
3 Credits

In this course we will be discussing and applying the basic concepts and principles of environmental sciences and sustainable development of natural resources. Anthropogenic actions and their impact in the water, air, ground and energy resources will be analyzed. We will promote skills for the development of critical thinking through case discussions and the presentation of models and strategies directed to the prevention and solution of environmental problems, based on the ethics and environmental justice promoted under sustainable development. Emphasis will be given to the environmental situation in Puerto Rico and by means of the "*laboratory without walls*" field trips to places of environmental interest, related to subjects discussed in class. One semester, 3 hours per week.

BIOL 301 **The Human Being as a Biological Entity**
3 Credits

Analysis of the human organism as an integrated system of structures and functions. Application of scientific methodologies in the study of pathological conditions and their treatments. The course emphasizes locally prevalent pathological conditions affecting infants, children, teens, adults and the elderly. Critical and ethical analyses of practices that promote organismal homeostasis and improve quality of life. The course emphasizes the development of assessment and analysis skills. Teaching strategies include case studies, responsible multimedia use, presentations and research activities.

BIOL 303 **Human Biology I**
4 Credits

Human Biology I support students' construction of accurate scientific knowledge regarding structural and functional composition of the human body while simultaneously developing scientific cognitive and scientific skills. Students are guided to utilize anatomical and physiological terminology to identify and describe macro scope and microscopic structures of the integumentary, skeletal, muscular, nervous and endocrine system, and their relationships. The course facilitates understanding of the most relevant concepts of those systems functioning, and gives the opportunity to analyze causes and symptoms of some pathologies associated with them. Emphasis is given to the relationship among basic concepts at the chemical, cellular and tissular level, to graphs, concept maps and table utilization and interpretation, and to the applicant of knowledge to solve problems and to make informed individual, social and ethic choices. One semester, 3 hours of lecture and 3 hours of laboratory per week. Prerequisites: BIOL 101, 102 or equivalent, MATH 105

BIOL 304 **Human Biology II**
4 Credits

Human Biology II supports student's construction of accurate scientific knowledge regarding structural and functional composition of the human body while simultaneously develops scientific cognitive and scientific skills, creativity and positive attitudes toward science and social team working skills. Students are guided to describe macroscopic and microscopic structures of the cardiovascular, lymphatic, immunologic, respiratory digestive, urinary, and reproductive system, and the relations among these and other body systems functioning and allows students analysis of causes and symptoms of some pathologies associated with them. Emphasis is given to the relationship among basic concepts at the chemical, cellular and tissular level, to graphs, concept maps and table utilization and interpretation, and to the application of knowledge to solve problems and to make informed individual, social and ethic choices. One semester, 3 hours of lecture and 3 hours of laboratory per week.
Prerequisites: BIOL 303

BIOL 306 **Microbial Molecular Genetics**
4 Credits

Organization of the composition of the microbial genome, as well as its replication, regulation, expression and exchange of genetic information. Emphasis is placed on the mutagenic processes and the presence of plasmids. Laboratory experiences include techniques in molecular biology for the bacterial genome manipulation during biotechnology events. Research and analysis of the

legislation pertaining to the manipulation and recombination of genetic materials of microorganisms. One semester, 4 hours per week, 3 hours of laboratory per week.

Prerequisites: BIOL 206, CHEM 385

BIOL 308 **General Mycology**
3 Credits

A study of the morphology, physiology, distribution and taxonomy of the five (5) principal divisions of the mycota kingdom: zygomycetes, myxomycetes, basidiomycetes, ascomycetes and deuteromycetes. Use and implications of the commercial application of fungi is explored. Laboratory experiences include the different methods of isolation, management, characterization or classification and control of fungi. One semester, 3 hours per week, two hours of laboratory per week. Prerequisites: BIOL 206

BIOL 309 **Industrial Microbiology**
3 Credits

Study of the diverse functions of microorganisms in the natural environment, manufacturing, quality control and bioremediation environments. Emphasis is placed on the control and regulation of the metabolic pathways in the production of metabolites for commercial application, and genetic manipulation to increase production levels. Laboratory experiences include routine microbiological techniques applied to diverse industrial processes. Research and analysis of the legislation pertaining to the manufacturing industry and related areas, as well as relevant rules and regulations. One semester, 3 hours per week, two hours of laboratory per week. Prerequisites: BIOL 206

BIOL 324 **Microbial Quality Control**
3 Credits

Study of the factors, which determine quality control processes. Incorporates current techniques to challenge systems exposed to microbial pollution as a means for prevention. Includes the analysis of the properties and attributes associated with the microbiological quality of products, processes, and personnel in open and closed areas. Emphasis is placed on the role of the microbiologist as an active subject in the processes of production, packaging, filling and quality certification. Research and analysis of the legislation pertaining to the manufacturing industry and related areas, as well as, relevant rules and regulations. One semester, 3 hours per week. Prerequisites: BIOL 206

BIOL 325 **General Plant Botany**
4 Credits

This course is an introduction to the fundamental structure and function of plants, including the plant cell, photosynthesis, respiration, genetics, and regulation of growth by hormones as well as external factors. An overview will be presented on major plant groups, including algae, fungi, bryophytes, ferns, gymnosperms and angiosperms. The course will focus on the angiosperms; their structure, development and the relation between their reproduction and movement of water and minerals. One semester, 4 hours per week. Prerequisites: BIOL 203, 204

BIOL 330 **Immunology**
3 Credits

Study of our protection from foreign macromolecules or invading organisms such as bacteria, fungi, parasites and virus particles, and our response to them. This course will provide students with a general and medically relevant foundation of knowledge regarding the components and basic principles of the immune system and the vocabulary and language of immunology. The course integrates knowledge of the immunological basis for defense against infection known as innate immunity and adaptive immunity, immune-mediated pathology, immunodeficiency and immunological barriers to transplantation; and familiarity with beneficial therapies to modulate the immune response, including immunization. Active in-classroom learning activities such as group discussions, case presentations and interactive computer searches are encouraged as knowledge-building tasks, integrated into the three-hour per week lecture time.

Prerequisites: BIOL 204

BIOL 331 **Developmental Biology**
4 Credits

Study of the developmental patterns from the molecular level to the multicellular level. Special emphasis will be given to animal development. One semester, 3 hours of lecture and 3 hours of laboratory per week. Prerequisites: BIOL 203, 204

BIOL 335 **Advance Cardiovascular Anatomy and Physiology**
2 Credits

The course is an in-depth study of cardiovascular anatomy and physiology, with emphasis in venous and arterial hemodynamic. This course also includes discussion of the pathophysiological basis of cardiovascular disease, 2 hours of lecture and 1 hour of laboratory per week.

Prerequisites: BIOL 231, 232

BIOL 340 **Genetics**
4 Credits

This course reviews classical genetics. Studies the fundamentals of molecular genetics and population genetics. One semester, 3 hours of lecture and 3 hours of laboratory per week.

Prerequisites: BIOL 203, 204

BIOL 372 **Internship / Seminar in Applied Microbiology I**
2 Credits

Supervised application of knowledge acquired during course work in the microbiology program as it applies to different work scenarios. Emphasis is placed on modeling the appropriate workshops pertaining to initiative, creativity, decision-making, conflict management, problem solving and topics

relative to ethics, organizational behavior, and human relations. One semester, one hundred and sixty (160) hours per semester. Prerequisites: BIOL 206, 208, 220, CHEM 203, 204

BIOL 383 **Water and Food Microbiology**
3 Credits

A study of microorganisms as contaminants of water and food sources, and their consequences, such as infections and diseases transmitted by them. Emphasis is placed on the general use in the production and preservation of foods. Laboratory experiences include microbiological techniques applied to evaluate the quality of food and water. Research and analysis of the legislation pertaining to the food and water industry, and related areas, as well as relevant rules and regulations. One semester, 3 hours per week, two hours of laboratory per week.

Prerequisites: BIOL 206

BIOL 385 **Epidemiological & Sanitary Microbiology**
3 Credits

Studies the aspects of disinfection, sanitizing, and sterilization of physical areas where there are microorganisms present. Emphasizes the aspects of survival, dissemination, transportation, and impact on the environment of potential pathogens, their control through studying critical control points and the application of appropriate treatments. One semester, 3 hours per week.

Prerequisites: BIOL 206, CHEM 204

BIOL 390 **Bioprocess and Instrumentation**
3 Credits

The successful application of bioprocess technology in a licensed manufacturing facility requires project planning and execution that is tailored to the unique requirements for GMP biologics production. Equipment and facility implementation must be informed by a thorough understanding of the process and regulatory impact on the project. This course will provide a comprehensive review of the fundamentals of biopharmaceutical project management, as well as instruction on the latest trends, strategies and techniques that are employed by industry leaders to successfully execute time and resource limited projects in a regulated environment. We will explore all aspects of facility and equipment delivery, including budgeting and conceptual development, equipment sourcing, integrated facility design, and fast track commissioning and qualification. The course combines lectures, seminars, in-class lab exercises and demos. Prerequisites: BIOL 240

BIOL 395 **Laboratory Techniques in Biotechnology**
3 Credits

Introduction to biotechnology and their practical applications in microbiology. Analysis of the principles of molecular biotechnology in prokaryotes and eukaryotes and applications for organism identification, bio-pharmaceutical products, biotransformation and bioremediation. Study of practical applications in industrial, agricultural, environmental, legal and clinical biotechnology through case study and laboratory exercises. Specific examples illustrate different techniques used in applied microbiology. These include, but are not limited to: Restriction endonuclease

analysis of DNA, DNA sequencing, cloning and expression, nucleic acid hybridization, gel electrophoresis and protein product isolation and purification. Emphasis on public perception and ethical issues in biotechnology as well as current perspectives. Combined conferences and “in-classroom” laboratory exercises and specific technique demos. Prerequisites: BIOL 206

BIOL 398 **Cellular and Molecular Biology**
4 Credits

Studies the function and molecular organization of eukaryote and prokaryote cells. The course covers and describes the fundamental concepts of the structure and interaction of the biological molecules. An in depth analysis is undertaken in order to understand the processes of storage, transcription and regulation of gene expression. The lab experience includes techniques of protein analysis and purification and the application of nucleic acids in the process of recombinant DNA. One semester, 3 hours per week, 3 hours of laboratory per week. Prerequisites: BIOL 204, 240, CHEM 204

BIOL 400 **Internship/Seminar in Applied Microbiology**
2 Credits

Continue supervised application of knowledge acquired during course work in the microbiology program as it applies to the different work scenarios. Emphasis is placed in modeling the appropriate performance of a professional microbiologist. Includes conferences, seminars and workshops pertaining to initiative, creativity, decision-making, conflict management, problem solving and topics relative to ethics, organizational behavior, and human relations. One semester, one hundred and sixty (160) hours per semester. Prerequisites: BIOL 372

BIOL 430 **Animal Biology**
4 Credits

Study of animal development and diversity through the analysis and discussion of the main evolutionary tendencies seen on this group of organisms. Examples of relationships between taxa are presented considering the concepts structure-function, and the solution provided by each taxon to the relationship between the animal and its environment. The biological mechanisms responsible animal development, life cycles and diversity will be discussed and the importance of its conservation will be stressed. This course pretends to relate the study of zoology to ethical problems of environmental conservation and emphasize the importance of citizens knowing about the native fauna when making responsible decisions in their daily chores. The course will be developed through conferences, case studies, and student contribution to the knowledge of Puerto Rican and Caribbean fauna through seminars and workshops. The course includes laboratory experiences, field trips, and the use of technological resources (internet and interactive CD's). Three-hour lecture and three-hour laboratory weekly. Prerequisites: BIOL 204

BIOL 440 **Environmental, Agricultural and Industrial Biotechnology**
3 Credits

Study of applications in molecular biology, synthesis, sequencing and amplification of DNA and RNA, restriction endonucleases and protein synthesis, bioremediation and industrial biotechnology

(excluding pharmaceutical industries). The course will examine the new technologies that have revolutionized the manufacture, synthesis, and biological and engineering processes of biotechnology products using microorganisms, plant and animal cells. Use of biotechnology applications in agriculture including genetic engineering in plants, bacteria that promote plant growth, microbial insecticides, production of agricultural feedstock; and environmental applications including contaminant treatment and the use of biosensors for detecting environmental contaminants will also be examined. Legislations, rules and regulations (including patent requirements) relevant to genetically modified organisms will be discussed. Ethical aspects associated to these processes will be reflected upon. The course is developed through lectures, guided discussions, case studies and oral presentations, among others. Three-hour lecture weekly. Prerequisites: BIOL 206, BIOL 398

BIOL 450 **Pharmaceutical and Medical Biotechnology**
3 Credits

Study of the production, drug delivery devices and shipping and handling of pharmaceutical products using microorganisms, virus, and plant and animal cells, for treatment of humans and for diagnostic tests. The course will discuss the use of genetic engineering to produce transgenic and "knockout" mice, molecular diagnosis, production of monoclonal antibodies, vaccine vectors, antibiotics and human hormones. Novel discoveries and delivery devices of anti-viral drugs, human molecular genetics, genetic therapy, small molecule drugs, cell and tissue therapy, stem cell therapy, genetic bioengineering of organs and tissue, and virotherapy, among others. Ethical aspects associated to these processes will be reflected upon. The course is developed through lectures, guided discussions, case studies and oral presentations, among others. Three-hour lecture weekly. Prerequisites: BIOL 206, BIOL 398

BIOL 460 **Recombinant DNA Technology**
3 Credits

Introduction to the principles underlying medical and industrial applications of recombinant DNA. The study of genetics is now facilitated by a collection of recombinant DNA techniques designed for direct manipulation and chemical analysis of the genetic material that controls the cell. Selected examples are used to highlight the techniques in production, diagnosis and research. These include but are not limited to the following: Specific cleavage of DNA with restriction endonucleases, DNA cloning, nucleic acid hybridization, gel electrophoresis, gene expression and protein purification. Emphasis is placed on ethical issues and public perception of the technology as well as the scientific issues. Lectures are combined with in-classroom laboratory exercises and demos of specific techniques. Three hours/week (3 credits) Prerequisites: BIOL 206, BIOL 398.

BIOL 470 **Seminar in Biotechnology**
1 Credit

Development of communication skills needed by professionals in the field of biotechnology through student oral presentations and facilitated discussion. Topics include current scientific advances in biotechnology and the social impact of biotechnology. Biotechnology is a rapidly expanding field in which new information, discoveries and applications are reported each and every day. As with many areas of science, the most current information can only be found in journals or presented at

scientific conferences and meetings; by the time textbooks are written, edited and published, much of the cutting edge information may be outdated. This seminar course is designed to provide practice in the critical reading of research articles from scientific journals, and in the oral and visual presentation of scientific information to your colleagues. Because the use of genetically-engineered organisms in modern biotechnology has given rise to social, ethical and legal considerations, we will examine these issues as well. Prerequisites: BIOL 450, BIOL 460

BIOL 480 **Principles of Bio Pharmacology and Bio Toxicology**
3 Credits

This course is designed to introduce the student to the principles of pharmacology and toxicology applied to biotechnology. The first component of the course will present the principles of the entry, distribution, metabolism and removal of drugs from the body. The second component will present the principles of drug interaction with the body systems and the mechanism of action of principal representatives of the drug classes. The third component will present the mechanisms of toxicity and toxicity testing. This course is designed to assist in the preparation of graduates for employment in the pharmaceutical industry or to pursue post-graduate study and research in the discipline. The syllabus will be developed through lectures, computerized tutorials, case studies and written reports. Three-hour meetings weekly. Prerequisites: CHEM 385, BIOL 398, BIOL 460

BIOL 490 **Biotechnology Internship**
1 Credit

The internship will consist of a period of observation, experimentation and job training in a biotechnology laboratory within industry or academia. The student will work under the guidance of mentor to gain expertise in the manipulation of living organisms and the applications of basic technologies such as fermentation, molecular genetics and product manufacture. The internship provides an opportunity to improve intellectual and technical skills in research, safety practices, analysis and documentation. The student will master the theory, concepts and skills involving tools, materials, equipment and procedures. They will also master regulations such as Food and Drug Administration (FDA), Environmental Protection Agency (EPA), Occupational Safety & Health Act (OSHA); and Good Manufacturing Procedures (GMP) associated with the particular occupation of the industry or research laboratory. Prerequisites: BIOL 440, BIOL 450, BIOL 460

CHEMISTRY

CHEM 121 **Basic Concepts in Chemistry**
3 Credits

A study and analysis of the basis concepts of chemistry. Emphasis is placed on the atomic nature of matter, its properties and states. One semester, 3 hours per week. Prerequisites: MATH 116

CHEM 203 **General Chemistry I**
4 Credits

First part of the introductory course of fundamental concepts in chemistry. Study of matter, its composition, properties, physical changes, and energy transformations related to these physical changes. Analysis of relevant environmental issues related to the chemistry concepts studied. Promotion of decision-making on controversial issues involving chemistry and ethics. Investigative activities that promote the development of higher thinking process and hands-on experience on doing science. One semester, 3 hours of lecture, and 3 hours of laboratory per week.

Prerequisites: MATH 115 or 118

CHEM 204 **General Chemistry II**
4 Credits

Second part of the introductory course of fundamental concepts in chemistry. Study of matter, its composition, properties, chemical reactions, and energy transformations related to these reactions. Analysis of relevant environmental issues related to the chemistry concepts studied. Promotion of decision-making on controversial issues involving chemistry and ethics. Investigative activities that promote the development of higher thinking processes and hand-on doing science. One semester, 3 hours of lecture, and 3 hours of laboratory per week. **Prerequisites:** CHEM 203, MATH 115, 116 or 117

CHEM 323 **Analytical Chemistry**
4 Credits

Introduction to fundamental theory and practice of analytical chemistry. The course focuses on the study of chemical equilibrium of acid-base systems, complex formation and electrochemistry through the use of case studies and problem-solving strategies. In addition, basic statistics applied to analytical data and sampling techniques are presented. The course is developed through lectures, interactive demos, problem solving and oral presentations, among others. Gravimetric, volumetric and spectrophotometric methods of analysis are studied and applied in the laboratory. Three- hour lecture and four- hour laboratory weekly. **Prerequisites:** CHEM 204, MATH 131 or MATH 155

CHEM 351 **Organic Chemistry I**
4 Credits

Applies quantum mechanics concepts to explain the electronic structure of the carbon atom. Includes the molecular orbit theory, which explains the formation of the covalent bonds in organic molecules. Describes the structural isomerism and the stereochemistry, which provide for the chemical properties of the organic molecules. Nomenclature, structure and reactions of hydrocarbons, alkyls halides, alcohol, ethers and other aromatic compounds are described in this course. Determination of the organic structures using spectroscopy is done. Laboratory practices include techniques required to analyze the chemical properties of organic molecules, and also, reactions and synthesis. One semester, 3 hours per week, 3 hours of laboratory.

Prerequisite: CHEM 204

CHEM 352 **Organic Chemistry II**
4 Credits

Study of the chemical and physical properties of organic compounds as continued from the first part of the course. Groups of compounds such as aromatics, aldehydes, carboxylic acids and derivatives, amines and carbohydrates will be emphasized. Structure, reactions properties and synthesis of the various compounds will be analyzed. Applications and important uses of the compounds will be described using literature. The course is developed through lectures, interactive demos, problem solving and oral presentations, among others. Properties, reactions and synthesis of the compounds will be established through a series of laboratories. Classes will meet 3 hours in conference and 3 hours in the laboratory weekly. **Prerequisite: CHEM 351**

CHEM 385 Biochemistry
4 Credits

A study of the biomolecules and organelles that conform the cell to explain their biological function. Describes biomolecules, such as: proteins, carbohydrates, lipids, nucleic acids and vitamins. Includes the study of the cell structure and the thermodynamic principles that describe the intracellular metabolic processes; biosynthesis and metabolic reactions of biomolecules with emphasis on nucleic acids and processes, such as, replication, transcription and protein biosynthesis. Laboratory practices include techniques, which help to analyze physical and chemical properties of biomolecules. One semester, 3 hours per week, 3 hours of laboratory.

Prerequisites: CHEM 351

ENGINEERING TECHNOLOGY

ENGI 100 Introduction to Engineering
3 Credits

Introductory required course for all first year engineering students. Introduction to the various specialties within the engineering profession. Basic concepts of engineering design and technical communication. Discussion of laws and ethics of the engineering profession. One semester, 3 hours of lecture-discussion per week.

ENGI 160 Introduction to Engineering Graphics
3 Credits

Includes principles of engineering drawing utilizing manual drafting methods, sketching and computer graphics with an introduction to descriptive geometry. The fundamentals of orthographic projection, auxiliary projections, sectioning, dimensioning and tolerances are presented. Isometric and oblique pictorials methods are covered as well as principles of interpretation of engineering drawings, symbols, types of views, and textural symbols. One semester, 2 hours of lecture-discussion and 2-hour lab per week. **Co-requisite: MATH 155 or MATH 130**

EETP 202 Circuit Analysis I (DC)
4 Credits

This course will analyze passive DC circuits using Ohm's and Kirchhoff's Laws, network theorems, and branch/mesh/nodal analysis. It will include transient analysis of R-C and R-L circuits along

with concepts of energy, power, and efficiency. One Semester, 2.5 hours of lecture-discussion per week and 2.5 hours of laboratory session per week. Co-requisite: MATH 155 or MATH 130

EETP 203 **Circuit Analysis II (AC)**
4 Credits

This course covers the Basic concepts needed to understand alternating current theory and begins with an introduction to magnetic theory and the principles of electromagnetic induction. It continues with an introduction to AC circuit analysis in which time-varying electrical signals are presented. Capacitors and inductors are covered along with RC, RL, RLC circuits and their transient analysis. Low-pass, high-pass, band-pass, and stop-pass filters are covered along with concepts of power factor analysis, sweep generation usage, and Fourier series. One semester, 2.5 hours of lecture-discussion per week and 2.5 hours of laboratory session per week. Co-requisite: MATH 155 or MATH 131, Prerequisite: EETP 202

EETP 204 **Digital Circuits I**
4 Credits

This course will analyze and design combinational logic and integrated circuits using Boolean algebra, Karnaugh maps and logic diagrams. It will study number systems, binary codes and code conversions along with flip-flops, multivibrators and circuit applications. One semester, 2.5 hours of lecture-discussion per week and 2.5 hours of laboratory session per week. Co-requisite: MATH 155 or MATH 131, Prerequisite: EETP 202

EETP 205 **Digital Circuits II**
4 Credits

This course covers the design and characteristics of digital logic circuit decoders, encoders, multiplexers, along with ADCs, DACs, RAMs, and ROMs, and their applications. Logic families, such as CMOS, TTL, and ECL will also be covered. The course includes the discussion of fusible link and programmable PLC, PGA, and other such technologies. One semester, 2.5 hours of lecture-discussion per week and 2.5 hours of laboratory session per week. Pre-requisites: EETP 204.

EETP 206 **Electronic Devices**
4 Credits

This course covers the fundamentals of solid-state semiconductor electronic devices, including diodes, bipolar and MOS transistors and circuits utilizing rectifiers, zener diodes regulators, clippers, clamper, and amplifiers. It will stress transistor modeling and circuit analysis and design along with computer use for circuit analysis. One semester, 2.5 hours of lecture-discussion per week and 2.5 hours of laboratory session per week. Co-requisites: EETP 205, Prerequisite: EETP 204

EETP 207 **Microprocessors**
4 Credits

This course covers an introduction to microprocessors and microprocessors based systems. The student will learn machine and assembly language programming and well as understand the functions of interrupts and DOS entry points. One semester, 2.5 hours of lecture-discussion per week and 2.5 hours of laboratory session per week.

Co-requisites: COIS 262, Prerequisites: EETP 205.

EETP 208 Electronic Systems
4 Credits

This course will study electronic system schematics and take account of with frequency considerations and decibel usage. Differential and operational amplifiers, power supplies, thyristors, oscillators, and feedback concepts will all be examined and analyzed. The student will understand video monitor basics and transmission theory and prepare a manual on a computer-controlled system. One semester, 2.5 hours of lecture-discussion per week and 2.5 hours of laboratory session per week. Co-requisites: PHSC 205, Prerequisites: EETP 206

EETP 209 Microprocessor Technologies
4 Credits

This course covers the applications of the Intel Pentium microprocessor as it is commonly used in industry today. The physical structure, architecture, and operation of the PC and its various peripheral attachments will be covered as well as PC troubleshooting techniques, board upgrades, and use of diagnostic software. One semester, 2.5 hours of lecture-discussion per week and 2.5 hours of laboratory session per week. Co-requisites: EETP 207 and EETP 208, Prerequisite: EETP 206

NETP 202 Networking Basics-CCNA1
4 Credits

Networking Basics-CCNA1 introduces Cisco Networking Academy Program students to the networking field. Emphasis in develop basic knowledge and skills on networks terminology and protocols, local-area networks (LANs), wide-area networks (WANs), Open System Interconnection (OSI) models, cabling, cabling tools, routers, routers programming, Ethernet, Internet Protocol (IP) addressing, and network standards. Networking Basics-CCNA1 is the first of the four courses leading to the CISCO Certified Network Associate (CCNA) certification. One semester, 2.5 hours of lecture-discussion per week and 2.5 hours of laboratory session per week. One semester. Co-requisite: COIS 393 and EETP 202

NETP 203 Routers and Routing Basics-CCNA2
4 Credits

The study of routers equipment configuration and basics routing techniques. Skill development on how to configure a router, manage CISCO IOS Software, configure routing protocols, and create access lists controlling access to the router. Emphasis is given to initial router configuration, CISCO IOS Software management, routing protocol configuration, TCP/IP, and access control list (ACLs). Routers and Routing Basics-CCNA2 is the second of four CCNA courses leading to the

CISCO Certified Network Associate (CCNA) certification. One semester, 2.5 hours of lecture-discussion per week and 2.5 hours of laboratory session per week. Pre-requisite: NETP 202

NETP 204 Switching Basics and Intermediate Routing-CCNA3
4 Credits

The study of switching basics and intermediate routing. Skills development on IP addressing techniques, Variable Length Subnet Masking (VLSM), command-line interface configuration of switches, Ethernet switching, and intermediate routing configuration. Topics relative to intermediate routing protocols (RIP v2, single-area, OSPF, EIGRP), Virtual LANs (VLANs), Spanning Tree Protocol (STP), and VLAN Trunking Protocol (VTP), are also discussed. Switching Basics and Intermediate Routing-CCNA3 is the third of four courses leading to the CISCO Certified Network Associate (CCNA) certification. One semester, 2.5 hours of lecture-discussion per week and 2.5 hours of laboratory session per week. Pre-requisite: NETP 203

NETP 205 WAN Technologies-CCNA4
4 Credits

The study of Wide Area Networks Technologies, configuration and troubleshooting. Intensive skills development on advance IP addressing techniques and knowledge of Network Address Translation (NAT), Port Address Translation (PAT), and DHCP. Topics relative to WAN technology and terminology, PPP, ISDN, DDR, Frame Relay, network management, and introduction to optical networking, are also discussed. WAN Technologies-CCNA4 is the last of four courses leading to the CISCO Certified Network Associate (CCNA) certification. One semester, 2.5 hours of lecture-discussion per week and 2.5 hours of laboratory session per week. Pre-requisite: NETP 204

NETP 206 Network Operating Systems
4 Credits

The study of basic concepts, functions and commands of Network Operating Systems. Skills development in the installation, operation, management security, configuration, troubleshooting, documentation and basic hardware services for networks operating systems on workstation and servers. One semester, 2.5 hours of lecture-discussion per week and 2.5 hours of laboratory session per week. Pre-requisite: COIS 393

NETP 207 Introduction to Industrial Networking
4 Credits

The study of industrial networking basic knowledge and its applications. Skills development of networks installation, configuration, and troubleshooting with emphasis on manufacturing application, service or other related high technology industries. Topics relative to Industrial Ethernet, Profibus, and Actuator-Sensor Interface networks within an automation system are also discussed. The course develops specific Ethernet backgrounds including hardware and software requirements, topologies and installation rules. One semester, 2.5 hours of lecture-discussion per week and 2.5 hours of laboratory session per week. Co-requisite: NETP 205 and NETP 206, Prerequisite: EETP 203

ETAP 300 **Engineering Technology Application Project**
1 Credit

The execution of the engineering technology application should capitalize upon the base of knowledge and skills developed by the student through the courses taken earlier in the program of study. The engineering application project selected and proposed by the student must be approved in advance by the faculty member who will monitor and evaluate the student's performance on the project. Such projects are usually equivalent in difficulty to those normally experienced by beginning professionals. Pre-requisite: Student in the last semester of curriculum and Program Director approval.

ENVIRONMENTAL SCIENCES

ENTE 101 **Environmental Science Technology**
3 Credits

Study of basic concepts and principles of the environmental sciences and the sustainable development. It will discuss the ecosystems functioning, and the water, air, soil and energy resources. Also offer the examination of critical issues of environmental degradation in global and local systems related to: air and water pollution, soil erosion, deforestation, over dependence on fossil fuels and improper management of toxic and other wastes. By means of the discussion of cases are presented model and strategies to prevent and solve environmental problems, taking as bases the environmental ethics. Three-hour lectures weekly. Prerequisites: BIOL 228

ENTE 200 **Policy and Environmental Law**
3 Credits

Discussion of the origin of the environmental policy and its principles of ethics and justice. It analyzed the major laws and rules related to contamination control and conservation of the natural resources that applied to United States and Puerto Rico. Moreover they are studied the role of the principal order agencies and the communities in the implementation of this legal resources. The course is developed through lectures, case studies, search of information through the internet, and oral presentations, among others. Three hour lectures weekly.

Prerequisites: ENTE 101

ENTE 250 **Air and Atmospheric Pollution Technology**
4 Credits

Study of the structure, properties and basic characteristic of the atmosphere, as well as the principal meteorological phenomena. It's discussed the sources of atmospheric pollution and it's effects to the environment and the human health. It gives emphasis to the models and strategies applicable in Puerto Rico for the prevention and control of the atmospheric pollution. The course is developed through lectures, case studies and problem solving, among others. The course includes practical laboratory experiences and field studies. Prerequisites: ENTE 101

ENTE 310 **Soil Conservation and Management Technology**
3 Credits

Study of soils as natural ecosystems, their forming factors as well as their physical, chemical, biological and hydro characteristics. In addition, the impact of human activities such as agriculture, urbanism, and mining on the planning, management and conservation of this resource is discussed. Puerto Rico's soil problems will be analyzed and alternatives will be presented within the scope of sustainable development. Field visits will be conducted. Three hour lectures weekly. Prerequisites: ENTE 101

ENTE 320 **Solid Waste and Hazardous Waste Management and Disposal**
3 Credits **Technology**

Study of the nature of hazardous solid wastes as well as sources of production, storage and collection of solid and hazards waste. Alternatives for waste reduction and disposal as well as public policy and waste management will also be discussed within the scope of sustainable development. The course is developed through lectures, case studies, field trips, and oral presentations, among others. Three hour lecture weekly.

Prerequisites: ENTE 101

ENTE 330 **Water Environment**
3 Credits

Study of the structure and functioning of the aquatic ecosystems, particularly those of Puerto Rico; as well as their chemical, physical and biological characteristics. It analyzes the availability of water in our planet and their principal uses, doing emphasis in the handling strategies and conservation of the same in the frame of the sustainable development. This course complements with laboratory practice and field studies. Prerequisites: ENTE 101

ENTE 331 **Water Pollution and Treatment**
4 Credits

Analysis of the principal sources of contamination in the aquatic environment, it's effects to the ecosystem as to the human beings and the control methods of the same. It also studies the treatment of the wastewaters and the waters appointed to public use, doing emphasis in the particular situation of Puerto Rico. The course requires laboratory practice and field studies.

Prerequisites: ENTE 330

ENTE 410 **Environmental Health Technology**
3 Credits

Study of the principles and processes by which the environment affects human health. Presents topics from a public health perspective that includes toxicological, biological, physical, and chemical hazards, risk analysis, acceptability and assessment, community health and occupational health. This course includes a field investigation of an environmental health problem in Puerto Rico and will conclude with student group presentation of selected investigation topic. Prerequisites: ENTE 101

ENTE 420 **Sustainable Development and Appropriate Technology**
4 Credits

Practical course, designed using the concept of hands-on experience. Sustainable development and appropriate technology principles are applied to energy production, solid wastes management, food production and soil restoration. Sustainable models applicable to Puerto Rico will be discussed. The course includes four (4) hours per week of practical experiences, both in a laboratory and field visits. Laboratory experiences will be conducted in a "laboratory without walls", where the aforementioned principles and concepts will be integrated.

Prerequisites: ENTE 101, ENTE 310, ENTE 320, ENTE 331, ENTE 410

ENTE 490 **Environmental Technology Internship**
1 Credit

Provides a structured, formal work experience at an agency or company, public or private, where students carry out tasks related to the practice of environmental science. The student must complete a minimum of 120 hours under the direction, supervision and evaluation of an assigned mentor at the internship site, in coordination with the professor responsible for the course. Application must be approved in the semester preceding the one in which the practicum must be taken, and the site must be approved by the School and the Professor responsible for the coordination of this experience. Prerequisites: ENTE 101, ENTE 310, ENTE 320, ENTE 331, ENTE 410

PHYSICS

PHSC 101 **Introduction to the Study of Physical Sciences I**
3 Credits

This course intends that students increase conceptual understanding of physical sciences topics in sequential and interdisciplinary approach through use of concrete laboratory experiences, estimations, analogies, integration among concepts, problem solving and multi-contextual evaluation. Connections between physics and chemistry and some applications in astronomy and biology are also included. This way this course intends to contribute to acquire scientific literacy in an era of rapid scientific and technological advances. One semester, 3 hours per week.

Prerequisites: MATH 11 or 118

PHSC 102 **Introduction to the Study of Physical Sciences II**
3 Credits

This course is a continuation of PHSC 101 and intends that students increase conceptual understanding of physical sciences topics in a sequential and interdisciplinary approach through use of concrete laboratory experiences, estimations, analogies, integration among concepts, problem solving and multi-contextual evaluation. Connections between physics and chemistry and some applications in astronomy and biology are also included. This way this course intends to

contribute to acquire scientific literacy in an era of rapid scientific and technological advances. One semester, 3 hours per week. **Prerequisites:** PHSC 101

PHSC 103 **Introduction to Radiological Physics**
3 Credits

This course studies the basic principles of the different areas of physics, including: mechanics, heat, electricity, magnetism, as well as units of measurement in the English, metric and international systems. Included are the analyses of the structure and composition of matter, as well as the basic concepts of ionized and non-ionized radiation. Principles of x-ray circuits and the history of radiological physics are also covered. One semester, 3 hours per week.

Prerequisites: MATH 115 or 118

PHSC 110 **General Physics Survey**
3 Credits

The course introduces basic subjects of general physics, such as: the study of measurement systems, dynamics, energy saving and work, heat and temperature, fluids, light and sound waves, electricity and magnetism. The course focus is primarily directed to physics concepts, although it includes numerical problems and simple application exercises. One semester, 3 hours per week.

Prerequisites: MATH 115 or 118

PHSC 203 **General Physics I**
4 Credits

Course developed from concrete sequential experiences, use of analogies and problem solving to contribute to increase the scientific literacy in the students. This course seeks conceptual understanding by integration among concepts and disciplines and multi-contextual evaluation. The key concepts of this course are the force and its relation with movement, "spatial" (work) and "time"(impulse) effects and how these concepts reveal the conservation of physical quantities like energy, among others. The concepts of field and potential and the analogy of the gravitational field with the electric field are also studied. One semester, six hours of integrated lecture and laboratory per week. **Prerequisites:** MATH 221

PHSC 204 **General Physics II**
4 Credits

This course studies the dynamics of distinct entities such as: fluids, heat, electric changes, and waves; the behavior of matter and its energetic character at atomic level are also studied. Emphasis is given on studying analog systems to provide students the opportunity to recognize similar patterns among the above mentioned dynamics; concrete experiences are used in a classroom-lab environment but emphasis is given on abstraction in order for the student to refine this skill. This course also intends to contribute to increase scientific literacy in the students and

that they perceive Physics as a toll to interpret the world. One semester, six hours of integrated lecture and laboratory per week.

Prerequisites: PHSC 203

PHSC 205 Engineering Physics I
4 Credits

The course examines the basic laws of physics and their application. A calculus-based course emphasizing the principles and applications of mechanics. Topics include: motion in one, two and three dimensions, Newton's law, work and energy, rotation, static equilibrium of a rigid body, particles and conservation of momentum. One semester, 2.5 hours of lecture-discussion per week and 2.5 hours of laboratory session per week.

Co-requisite: MATH 221

PHSC 208 Physical Science Compendium
3 Credits

Study of the laws of motion and their relationship with energy conservation, energy transfer mechanisms, composition and physical properties of matter, and technological applications of modern materials. Application of fundamental concepts of electricity and magnetism as a means to understanding electrical circuits. Integration of chemical and physical concepts in the study of phenomena related to the formation and death of solar systems. These concepts will be applied in a sequential and interdisciplinary manner through the use of case studies, interactive demonstrations, problem solving and research projects. Technology will be used responsibly in the course applications.

MATHEMATICS

MATH 105 Basic Mathematics
3 Credits

This course presents the fundamental operations used with whole numbers, decimals, fractions, percentages, measurements, integers, ratios and proportions, and scientific notation. It also covers basic algebra, first degree equations and graphs, and the metric and apothecary systems. One semester, 3 hours of lecture and one and a half hour of laboratory per week.

MATH 112 Intermediate Algebra II
3 Credits

This course covers the following mathematics concepts: graphs and functions, systems of lineal equations rational exponents, systems of equations and inequalities, roots, radicals and complex numbers, quadratic equations. One semester, 3 hours per week.

MATH 115 **Algebra for Science and Engineering**
6 credits

This course is designed as an intensive Algebra course with the purpose of enhancing student's mathematical skills for the Science and Engineering programs. The course stresses the study of the real numbers system and their properties, algebra language, equations and inequalities, rectangular coordinates, graphs, polynomials, rational expressions and exponentials, radicals and their operations, complex numbers and quadratic equations. One semester, 8 hours per week, two hours of laboratory per week.

MATH 116 **Fundamentals of Mathematical Reasoning**
3 credits

Comprehension and analysis of fundamental concepts in logical-mathematical reasoning. Emphasis on basic set theory, logic and numerical system, basic concepts in algebra, geometry, measurement, probability and statistics. Interdisciplinary concepts are integrated through problem solving applications. Concepts will be developed through cooperative learning, concept mapping, and basic research projects. Technology will be use responsibly in the course applications.

MATH 117 **Elementary Statistics**
3 Credits

This course presents the fundamental concepts of statistics. It will also cover how to read, prepare, and interpret data presented in different types of graphs. Emphasis in the basic techniques used in scientific research and statistics methods. The course requires a student project. One semester, 3 hours per week.

MATH 118 **Fundamentals of Intermediate Algebra**
4 Credits

This course presents the use of whole numbers and their properties, the language of algebra and equations, rectangular coordinate system, graphics, polynomial, expressions rational exponents, radicals and operations, complex numbers, and quadratic equations.

MATH 119 **Applied Mathematics for Business Administration**
3 Credits

Study of fundamental concepts of mathematics applied to management, economics and finances. Includes functions, linear equations and in equations with one and two variables, matrixes, and mathematics applied to finances. Problem solving techniques will be applied to business administration situations in general. Concepts and skills will be developed through case studies, and basic research projects. Technology will be used responsibly in the course applications. The course includes laboratory experiences.

MATH 130 **Pre-Calculus I**
3 Credits

Study of relations and functions, graphs, polynomial functions, linear direct and inverse variation, quadratic functions, and the binomial theorem. These concepts and skills will be applied towards solving problems related to biology, chemistry and physics. Concepts and skills will be developed through math exercises, laboratory experiences, case studies, and basic research projects. Technology will be used responsibly in the course applications.

Prerequisite: MATH 115 or 118

MATH 131 **Pre-Calculus II**
3 Credits

Study of exponential, logarithmic and trigonometric functions, including analytic trigonometry. It also includes topics in analytic geometry such as conic sections and polar coordinates. Emphasis is made in applications in biology, chemistry, physics, and engineering, and the use of technology tools to develop mathematical concepts and to solve problems. The course incorporates educational strategies such as laboratory, practice, cooperative learning, and basic research projects. Prerequisite: MATH 130

MATH 151 **Integrated Algebra and Trigonometry I (Pre-Calculus I)**
3 Credits

This course covers the following mathematic principles: relations and functions, definition, domain, range, graphs, distance formula, inverse functions, exponential functions, logarithms, polynomial functions, linear direct and inverse variation, quadratic functions, the residue and factor theorem, factor notation, permutations, combinations, and the binomial theorem. One semester, four hours per week. Prerequisite: MATH 118

MATH 152 **Integrated Algebra and Trigonometry II (Pre-Calculus II)**
4 Credits

This course covers the following advanced mathematic principles: successions, sigma notation, arithmetic and geometric progressions, succession convergence, the measure on an angle in radians and degrees, sine, cosine, periodicity, addition formulas, function of the tangent, cotangent, secant, cosecant, the sine and cosine law, analytic geometry, the circle, parabola, hyperbola, ellipse, and axis translations and rotations. One semester, four hours per week.

Prerequisite: Math 151

MATH 155 **Integrated Algebra and Trigonometry (Pre-Calculus)**
4 Credits

This is a compendium course that studies real number system, absolute values, equations and inequalities, functions and their graphs: Polynomial, rational, exponential, logarithmic and trigonometric functions; applications of trigonometry's of identities; complex numbers; zeroes of polynomial equations; systems of equation determinants matrices; polar coordinates; transformations of the plane, translations, rotations, lines conic; sequences, mathematical induction, combinatorics. One semester, five hours of lecture-discussion per week.

MATH 221 **Analytic Geometry and Calculus I**
4 Credits

This course covers the following advanced mathematic principles: the limit of a function, theorem of limit, continuity, the derivative, differentiation of algebraic, trigonometric and logarithmic functions, applications to physics, fundamental theorem of differential calculus, Rolle theorem, mean value theorem, applications of the derivative to the drawing of curves, assumptions and primitive functions, the properties of Cauchy and Riemann additions, gravity, inertia and pressure centers, Lebesgue integral and integration methods. One semester, five hours per week.

Prerequisites: MATH 151, 152

MATH 304 **Introduction to Biostatistics**
4 Credits

Study of theory, sampling methods, summarization and graphic representation of data. Measures of center, location and spread will be determined. Application of probability, combinations and permutations, probability distributions and the central limit theorem. Study of hypothesis testing, confidence intervals, T or Z test, correlations, linear regressions, Chi-square test, and variance analysis through cooperative learning, research projects, concept mapping, and oral presentations. The course meets four hours weekly. Prerequisites: MATH 151 or 155

UNDERGRADUATE RESEARCH

UNRE 201 **Undergraduate Research**
3 Credits

Application of the scientific method to the development of research project. It provides an introduction to the processes such as formulating hypothesis, specific mains, experimental design and statistical analysis. The students will have experience to reading, analyses and discuss articles from scientific journals. Students are required to write a research proposal on a subject of interest. Prerequisites: BIOL 203 or CHEM 203 Co-requisite: MATH 151

UNRE 202 **Undergraduate Research II**
1 Credit

This course consists of practical research experiences. Each student develops their own research project based on their research proposal developed in UNRE 201. The student will go through all the steps necessary for carrying out a research project. Prerequisites: UNRE 201

UNRE 203 **Undergraduate Research III**
1 Credit

This course consists of practical research experiences. Each student develops their own research project based on their research proposal developed in UNRE 201. The student will go through all the steps necessary for carrying out a research project. This course provides the student a continuation of his research activities from UNRE 202. Students are required to make presentations to the community. Co-requisites: UNRE 202

UNRE 204 Undergraduate Research IV
1 Credit

This course consists of practical research experiences. Each student develops their own research project based on their research proposal developed in UNRE 201. The student will go through all the steps necessary for carrying out a research project. This course provides the student a continuation of his research activities from UNRE 203. Students are required to make presentations to the community. Co-requisites: UNRE 202, 203

UNIVERSIDAD DEL ESTE

INTERNATIONAL SCHOOL OF TOURISM

AND

HOSPITALITY MANAGEMENT

Undergraduate and Certificate Program Catalog

2006-2008

International School of Tourism and Hospitality Management

The International School of Tourism and Hospitality Management (ISTHM) offer Certificates, Associate Degrees and Bachelor Degrees. Since 1996, ISTHM has been evolving rapidly and continuously. ISTHM has state-of-the-art culinary and bartending laboratory facilities, classrooms with Internet access, a computer laboratory with integrated data-show, and experienced and dedicated faculty and staff.

ISTHM General Information:

- The International School of Tourism and Hospitality Management (ISTHM) is located at Universidad del Este, which is part of the Ana G. Méndez University System.
- In May 1997, ISTHM acquired The Hotel School of Puerto Rico at Isla Verde along with its Certificate programs in Culinary Arts, Bartending, Travel Agent, and Rooms Division.
- Today, ISTHM programs provide a full menu of tourism & hospitality education programs ranging from certificates to bachelor degree level studies. It is our goal to offer graduate courses in the near future.
- Through international agreements and strategic partnerships with governmental tourism departments, professional tourism and hospitality associations, and quality colleges and universities, ISTHM will develop a global orientation with its faculty, curriculum and students.
- Improvements in the curriculum with new concentrations and interactivity between program offerings will provide incentives to students to continue their education and to focus on specific career development tracks.
- **All of the professional courses in ISTHM are conducted in English.**
- The initiation of web-based courses instruction will enhance our student's use and application to computer technology.

Mission:

To optimize the use of ISTHM resources to strengthen and enhance the competitive capabilities of the hospitality industry in Puerto Rico and the Americas, providing current education, information, technology and facilities.

To add value to the industry through the education and training of its workforce, making significant contributions to the region's economic growth.

Vision:

ISTHM will become an innovative leader in tourism and hospitality education and training in Puerto Rico, the Caribbean and Latin American regions.

Programs

ISTHM offers certificates in Pastry and Baking, Bartending and Culinary Arts, Associate degrees in Hotel Operations and Culinary Arts, and Bachelor Degrees in Hotel Management, Event and Conventions Planning, as well as in Food and Beverage Management.

The Bachelor Degree in Hotel Management and the Associate Degree in Hotel Operations were modified and enhanced last October 2002. Majors in Food & Beverage Management and Events and Conventions Planning were created in January 2003 and the first Associate Degree in Culinary Arts in Puerto Rico initiated in August 2003.

All the professional courses in the degree programs are taught in English, while the certificate courses are bilingual. We anticipate that additional international opportunities will be added to the curriculum allowing students to take short and full semester courses and field trips to learning centers located around the globe.

Faculty

Pagán Parrilla, Omar J., CHE
Assistant Professor and Dean
MS, Florida International University
Hotel & Food Service Management

La Fontaine Madeira, Luz
Associate Professor
MS, New York University
Higher Education Administration

Medina, Anyanzi, CHE
Instructor
MS, New York University
Food Management

Rivera, Manuel
Instructor
MS, Florida International University
Hotel & Food Service Management

González, Angel
Instructor
MS, University of Massachusetts
Hotel, Restaurant & Travel Administration

Santiago Font, Zoe
Instructor
MTA, George Washington University

Event Management

Administrative Staff

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Rivera, Luis, AS, Universidad del Este- In progress
Steward
Culinary Arts
ue_lrivera@suagm.edu

Figuroa, Joel, High School Diploma, Escuela Adolfinia Irizarry de Puig
Steward Assistant

Program Descriptions

Certificate in Pastry and Baking

A three semester specialized certificate that provide students with comprehensive hands-on experience in high quality baking and pastry arts with the elaboration of a variety of breads, buns, platted and ice cream desserts, and chocolates usually served in fine restaurants. Students will obtain necessary skills to produce quality bakery products from scratch and will be required to complete a 400 hours of supervised practice experience in a hotel or restaurant.

Certificate in Hotel Operations

Designed to provide students with the knowledge and skills necessary to work effectively in the front desk, reservations, concierge of a hotel or in the uniform service, cleanliness of public areas and rooms within the hotel's rooms division. The one-year program focuses in people with little or no formal experience and/or education in the hotel industry. It includes a 250-hour practicum in a hotel, small inn or resort environment.

The certificate assures competitive bidding for position openings in excellent hotels, small inns and "Paradores".

Certificate in Bartending and Food & Beverage Service

This Certificate emphasizes hands-on learning experiences at an actual Bar/Lounge laboratory setting where mixology techniques and appropriate table service skills are learned. It targets waitress staff with little or no formal education, as well as bartending aficionados. The one-year program properly prepares students for entry- level service careers in the Industry. It includes a 150-hour Practicum in a hotel or restaurant setting.

Certificate in Culinary Arts

This one-year program was designed to provide students with the knowledge and skills to become a professional in the field of food production and preparation. It prepares students for entry-level service careers in the restaurant industry. Students use our culinary arts laboratories to practice, create, and innovate with hands-on experience. A Practicum experience of 200 hours is required in a restaurant or hotel setting.

Associate Degree in Culinary Arts

The Associate Degree program in Culinary Arts combines a supervisory base with professional courses in culinary, baking and pastry arts. Emphasis is placed on hands-on practice and the development of specialized skills for work in the field. This program offers options that prepare the student for advancement into entry-level management positions. A Practicum experience of 450 hours is required in a restaurant or hotel setting.

Associate Degree in Hotel Operations

The Associate Degree in Hotel Operations is a four semester major designed to prepare students for entry-level managerial positions in the hospitality industry. The curriculum places heavy reliance on experience acquired through a 250 hour Internship in a lodging property. Students

who achieve outstanding records may, upon completing this program, apply for admission to the Bachelor degree major in our School.

Bachelor of Science in International Tourism and Hospitality Management

The Bachelor program is designed to prepare students for direct entry into the hospitality management field. The curriculum reflects world trends in hospitality management through core and specialization courses. This program requires two Internship opportunities for a total of 550 hours of field experience to enhance the student's education. Our Bachelor degree prepares people with the expertise, commitment and skills for management, operational and support positions in the ever-changing hospitality industry. Students have the option of choosing among three majors to pursue specialized hospitality and tourism studies.

Major in Food & Beverage Management

Students learn to perform management functions through related coursework in Food & Beverage Operations, Culinary Skills Lab, Cost Control & Purchasing, Menu Planning & Design, Restaurant Management, and Beverage Management among others.

Major in Hotel Management

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

Major in Event and Convention Planning

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

Admission's Requirements to the Hospitality Programs

These are in addition to the general admissions requirement at UNE.

- High School grade point average of 2.0 for Certificate programs
- High School grade point average of 2.5 for Associate programs
- High School grade point average of 2.75 for Bachelor programs
- Health Certification
- Bachelor's in Culinary Arts and Management have an additional requirement:
 - College Board results of at least 450 in each area: Spanish, English, and Mathematics

Associate of Science Degrees

Associate of Science in International Tourism and Hospitality Management in Hotel Operations

73 Credits
General Education

Credits
33

Core Professional Courses	31
Major Courses	9

General Education 33

SOSC 113	Analysis of Cultural & Historical Process	3
COMP 110	Intro. To Computers & Software	3
*ENGL 118-119	English for the Workplace I, II	6
*SPAN 115	Reading, Writing & Oral Communications I	3
*MATH 119	Applied Math for Business Administration	3
HIST 255	Analysis of PR Historical Processes	3
QYLE 110	Adapting to University Life, Developing Values & Attitudes	3
MANA 217	International Relations	3
Course Menu	Select two Courses from the Menu offerings	6

Core Professional Courses 31

ACCO 111	Basic Accounting I	4
MANA 213	Personnel Administration	3
ITHM 101	Introduction to the Hospitality Industry	3
ITHM 102	Introduction to Management in Hospitality	3
ITHM 115	Tourism Systems	3
ITHM 211	Hospitality Ethics	2
ITHM 250	Hospitality Internship	3
ITHM 280	Guest Service	3
ITHM 290	Applied Spreadsheet & Database Application	3
ITHM 320	Guest Lecture Series	1
ITHM 340	Food and Beverage Operations	3

Major Courses 9

ITHM 300	Rooms Division Management	3
ITHM 301	Rooms Division Management II	3
ITHM 306	Casino Operations	3

* = Students taking English, Spanish or Math Hill be placed in accordance with the Collage Board Results.

Transfer students from other institutions must comply with UNE residency policy.

All ITHM and English courses must be approved with a minimum of C. ITHM 250 y remedial English has a minimum-passing grade of B.

All ITHM courses are taught in English

Associate of Science in Culinary Arts

73 Credits	Credits
General Education	18
Core Professional Courses	21
Major Courses	34
General Education	18
COMP 110 Intro. To Computers & Software	3
*ENGL 118-119 English for The Workplace I, II	6
*SPAN 115 Reading, Writing & Oral Communications I	3
*MATH 116 Fundamentals Math Reasoning	3
QYLE 110 Adapting to University Life, Developing Values & Attitudes	3
Core Professional Courses	21
ITHM 103 Intro. to Culinary Arts	4
ITHM 106 Purchasing and Product ID.	3
ITHM 201 Intro to Food and Beverage Management and Service	3
ITHM 205 Intro to Menu Planning and Restaurant Layout	3
ITHM 204 Nutrition for Culinary Arts	3
ITHM 207 Introduction to Wine and Food Pairing	3
ITHM 211 Hospitality Ethics	2
Major Courses	34
ITHM 104 Meat Cutting	2
ITHM 105 Food Preparation I	3
ITHM 107 Food Preparation II	5
ITHM 200 Baking I	4
ITHM 202 Garde Manger I	4
ITHM 203 Garde Manger II	3
ITHM 206 Baking II	4
ITHM 208 Culinary Internship I	1
ITHM 209 International Cuisine	7
ITHM 210 Culinary Internship II	1

* = Students taking English, Spanish or Math Hill be placed in accordance with the Collage Board Results.

Transfer students from other institutions must comply with UNE residency policy.

All ITHM and English courses must be approved with a minimum of C. ITHM 250 y remedial English has a minimum passing grade of B.

Bachelor of Science Degrees

Bachelor of Science in International Tourism and Hospitality Management Major: Hotel Management

121 Credits	Credits
General Education	51
Core Professional Courses	43
Major Courses	18
Electives	9

General Education 51

SOSC 112	The Human Social Environment	3
SOSC 113	Analysis of Cultural & Historical Procedures	3
COMP 110	Introduction to Computers & Software	3
*ENGL 118-119	English for the Workplace I & II	6
*SPAN 115-116	Reading, Writing & Oral Communication I & II	6
*MATH 119	Applied Math for Business ADM	3
HIST 255	Analysis of PR Historical Processes	3
OYLE 110	Adapting to University Life, developing values & Attitudes	3
MANA 217	International Relations	3
MENU COURSES	Select 6 courses from the Menu offerings	18

Core Professional Courses 43

ACCO 111	Basic Accounting I	4
MANA 213	Personnel Administration	3
ITHM 101	Intro. to the Hospitality Industry	3
ITHM 102	Intro. to Management in Hospitality	3
ITHM 115	Tourism Systems	3
ITHM 211	Hospitality Ethics	2
ITHM 250	Hospitality Internship	3
ITHM 280	Guest Service	3
ITHM 290	Applied Spreadsheet & Database	3
ITHM 320	Guest Lecture Series	1
ITHM 340	Food & Beverage Operations	3
ITHM 360	Hospitality Accounting	3
ITHM 365	Labor & Hospitality Law	3
ITHM 370	Hospitality Sales & Marketing	3
ITHM 460	Capstone	3

Major Courses 18

ITHM 300	Rooms Division I	3
ITHM 301	Rooms Division II	3
ITHM 306	Casino Operations	3

ITHM 390	Advance Internship in Hotel Operations.	3
ITHM 400	Revenue Management for Hotel Operations	3
ITHM 402	Organizational Behavior in the Service Industry	3

Electives **9**

* = Students taking English, Spanish or Math Hill be placed in accordance with the Collage Board Results.

Transfer students from other institutions must comply with UNE residency policy.

All ITHM and English courses must be approved with a minimum of C. ITHM 250 y remedial English has a minimum passing grade of B.

All ITHM courses are taught in English

Bachelor of Science in International Tourism and Hospitality Management
Major: Food & Beverage Management

121 Credits	Credits
General Education	51
Core Professional Courses	41
Major Courses	21
Electives	6

General Education **51**

SOSC 112	The Human Social Environment	3
SOSC 113	Analysis of Cultural & Historical Procedures	3
COMP 110	Intro. To computers & Software	3
*ENGL 118-119	English for the Workplace I & II	6
*SPAN 115-116	Reading, Writing & Oral Communications I & II	6
*MATH 119	Applied Math for Business ADM	3
HIST 255	Analysis of PR Historical Processes	3
QYLE 110	Adapting to University Life, Developing Values & Attitudes	3
MANA 217	International Relations	3
MENU COURSES	Select 6 courses from the Menu offerings	18

Core Professional Courses **43**

ACCO 111	Basic Accounting I	4
MANA 213	Personnel Administration	3
ITHM 101	Intro. to the Hospitality Industry	3
ITHM 102	Intro. to Management in Hospitality	3
ITHM 115	Tourism Systems	3
ITHM 211	Hospitality Ethics	2
ITHM 250	Hospitality Internship	3
ITHM 280	Guest Service	3

ITHM 290	Applied Spreadsheet & Database	3
ITHM 320	Guest Lecture Series	1
ITHM 340	Food & Beverage Operations	3
ITHM 360	Hospitality Accounting	3
ITHM 365	Labor & Hospitality Law	3
ITHM 370	Hospitality Sales & Marketing	3
ITHM 460	Capstone	3

Major Courses 21

ITHM 345	Culinary Skills Lab	3
ITHM 350	Cost Control and Purchasing in Food and Beverage Operations	3
ITHM 401	Menu Planning and Analysis	3
ITHM 403	Wines, Spirits and Beers	3
ITHM 425	Nutrition for Foodservice	3
ITHM 450	Advanced Internship in Food & Beverage Operations	3
ITHM 452	Restaurant Management	3

Electives 6

ITHM Electives

* = Students taking English, Spanish or Math Hill be placed in accordance with the Collage Board Results.

Transfer students from other institutions must comply with UNE residency policy.

All ITHM and English courses must be approved with a minimum of C. ITHM 250 y remedial

English has a minimum passing grade of B.

All ITHM courses are taught in English

Bachelor of Science in International Tourism and Hospitality Management Major: Event and Convention Management Planning

121 Credits	Credits
General Education	51
Core Professional Courses	34
Major Courses	27

General Education 51

SOSC 112	The Human Social Environment	3
SOSC 113	Analysis of Cultural & Historical Procedures	3
COMP 110	Intro. To computers & Software	3
*ENGL 118-119	English for the Workplace I & II	6
*SPAN 115-116	Reading, Writing & Oral Communications I & II	6
*MATH 119	Applied Math for Business ADM	3

HIST 255	Analysis of PR Historical Processes	3
QYLE 110	Adapting to University Life, Developing Values & Attitudes	3
MANA 217	International Relations	3
MENU COURSES	Select 6 courses from the Menu offerings	18

Core Professional Courses 43

ACCO 111	Basic Accounting I	4
MANA 213	Personnel Administration	3
ITHM 101	Intro. to the Hospitality Industry	3
ITHM 102	Intro. to Management in Hospitality	3
ITHM 115	Tourism Systems	3
ITHM 211	Hospitality Ethics	2
ITHM 250	Hospitality Internship	3
ITHM 280	Guest Service	3
ITHM 290	Applied Spreadsheet & Database	3
ITHM 320	Guest Lecture Series	1
ITHM 340	Food & Beverage Operations	3
ITHM 360	Hospitality Accounting	3
ITHM 365	Labor & Hospitality Law	3
ITHM 370	Hospitality Sales & Marketing	3
ITHM 460	Capstone	3

Major Courses 21

ITHM 302	Introduction the Event and Convention Industry	3
ITHM 310	Convention Sales	3
ITHM 315	Exhibit & Trade Show Management	3
ITHM 341	Catering Sales & Operations	3
ITHM 404	Convention and Event Planning Logistics	3
ITHM 406	Special Events Management	3
ITHM 455	Advanced Internship in Events & Conventions	3

Electives 6

* = Students taking English, Spanish or Math Hill be placed in accordance with the Collage Board Results.

Transfer students from other institutions must comply with UNE residency policy.

All ITHM and English courses must be approved with a minimum of C. ITHM 250 y remedial English has a minimum passing grade of B.

All ITHM courses are taught in English

A Student from another School that opts for a MINOR with ISTHM must comply with the following requirements: Complete 18 credit hours of the courses Minor.

Minor in: Hotel Management 18

ITHM 101	Intro. to the Hospitality Industry	3
ITHM 102	Intro. to Management in Hospitality	3
ITHM 300	Rooms Division I	3
ITHM 301	Rooms Division II	3
ITHM 306	Casino Operations	3
ITHM 340	Food & Beverage Operations	3

Minor in: Events & Conventions 18

ITHM 101	Intro. to the Hospitality Industry	3
ITHM 102	Intro. to Management in Hospitality	3
ITHM 302	Introduction the Event and Convention Industry	3
ITHM 310	Convention Sales	3
ITHM 315	Exhibit & Trade Show Management	3
ITHM 341	Catering Sales & Operations	3

Minor in: Food & Beverage 18

ITHM 340	Food & Beverage Operations	3
ITHM 101	Intro. to the Hospitality Industry	3
ITHM 102	Intro. to Management in Hospitality	3
ITHM 425	Nutrition for Foodservice	3
ITHM 345	Culinary Skills Lab	3
ITHM 350	Cost Control and Purchasing in Food and Beverage Operations	3

Course Descriptions

FREN 103 Introduction to Basic French **3 Credits**

Study of the French language at an elementary level with emphasis in conversational skills. Emphasis in the basic conversational requirements applied to day- to-day situations. Development of research skills through the study of the French culture. The course will be develop through the use of films, documentaries, songs and group activities such as simulations and interviews. The responsible use of emails to correspond in French with faculty and students is used as an instrument of technological communication. The course includes laboratory experiences. Pre-requisite: None

ITHM 101 Introduction to the Hospitality Industry **3 Credits**

Examination of the nature, scope, and significance of the most important areas within the international, national and local Travel and Tourism Industry. Historical perspectives as well as current trends and issues that are shaping the industry and career opportunities will also be discussed. Special emphasis will be given to Lodging, Food and Beverage, and the Meeting industries. The course is developed through in-class discussion, situation analysis, and group dynamics. Responsible use of technology will be promoted and oral and written presentation skills will be developed. Pre-requisite: None

ITHM 107 **Food Preparation II**
5 Credits

Introduction to fundamental cooking theories and techniques focused on soups, salads, dressings and delicatessen. Application of cooking methods will emphasize on sautéing, poaching, steaming, roasting, braising, baking, broiling and frying. The students will learn cooking techniques used as for fish, meats, poultries, vegetables and starches. Sauce derivatives, restaurant desserts, breakfast cookery, plate development, knife skills and proper sanitation practices are also applied in this course. Theoretical presentations, demonstrations and extensive participation in lab sessions are used to develop the course. The course will use the Internet as a research tool and MS Words for paper and projects. Pre-requisite ITHM 103, ITHM 104, ITHM 105.

ITHM 109 **International Travel Destination**
3 credits

Study of the international tourism destinations and its application in the globalization of the hospitality industry. Emphasis in the description of the most visited tourism attractions in the world, the cultural diversity and the internationalization of the hotel and gastronomic industries. The course will be developed through case analysis of multinational hotel chains and gastronomic enterprises, comparison of the different destination's cultures , oral reports and the use of technology for group and individual presentations.

ITHM 111 **International Travel Destination Lab**
3 credits

Study trip to get acquainted with the principal tourism destinations in Europe or other international destinies. Emphasis in the comparative analysis of the different cultures and characteristics of the hotel and gastronomic countries to visit. Assessment of the international destinations and its importance in the hotel and gastronomic industry. The course will be developed through guided visits to hotels, gastronomic and cultural attractions, reflective sessions, and the preparation of a portfolio of the places visited during the trip.

ITHM 115 **Tourism Systems**
3 credits

Study of the different impacts that tourism has on destinations. Students will learn about the process of traveler decision making in tourism planning. Emphasis is placed on economy, culture, and the environment impacts. The course will use the Internet as a research tool and MS Words for paper and projects and Power Point for presentations. Pre-requisite: None

ITHM 120 **Travel Geography**
3 Credits

The geographic world is constantly changing. A broad understanding of place is important in the tourism industry. This course will feature a study of the geography of travel with emphasis on mature and new destinations, an understanding of physical, social and cultural features of geography and an examination of the movement and trends of travel. Pre-requisite: None

ITHM 190 **History of Gastronomy**
3 credits

Discussion of the history of gastronomy from a global perspective. Identification of the significant moments in the development of gastronomy from pre-history up to the present time. Emphasis is placed in the role that food and diet play in history of society, including the relationship to culture and geo-political position of a country, its religion and economy. Recipes will be analyzed, which include ingredients particular to regions presented in class. The course will be developed through conferences, research, the use of the Internet, group work and presentations. Pre-requisite: None

ITHM 200 **Baking I**
4 Credits

Introduction to the principles and techniques used in the preparation of high-quality baked goods and pastries, with an emphasis on baking principles, fundamental production techniques and evaluation of quality characteristics of baking ingredients. The students will develop an understanding of baking formulas and ratios used to prepare bread and dough. Topics to be covered and practiced include: cake baking and decoration, cookie dough, pie crust and *pate a choux*. Theoretical presentations, demonstrations and extensive participation in lab sessions are used to develop the course. The course will use the Internet as a research tool and MS Words for paper and projects. Pre- requisite ITHM 107

ITHM 201 **Introduction to Food & Beverage Management and Service**
3 Credits

Overview of the various types of restaurants in the industry, the different ways they serve food and beverage and the proper way to deal with the customers and customer's complaints. The student should understand the infrastructure of the front of the house of a restaurant, the different ways of setting the tables in a restaurant or banquet halls. The student will know how to deal with the restaurant front of the house employees and how to motivate them to up-sell. Introduction to the most used ratios in food and beverage and ingredients will be explored. Theoretical presentations, case studies and field trips are used to develop the class. The course will use the Internet as a research too, MS Words for paper and projects and emails as means of communication. Pre- requisite ITHM 103.

ITHM 202 **Garde Manger I**
4 Credits

Examination of the modern and traditional theories, techniques, principles and styles of the main areas of the cold kitchen, including the development of recipes, preparation and testing of products. Students will learn styles of presenting food and buffets through the preparation of hot and Cold hors-d'oeuvre, Forcemeats, Sausages, Cheese and fruit trays, Mousse, Terrines, Galantine and Pâté. Curing and smoking techniques, preparation of dressing, emulsions, infusions and techniques of presentation of salads will be introduce will also be discussed. Theoretical presentations, demonstration and extensive participation in lab session are use to develop the course. The course will use the Internet as a research too, MS Words for paper and projects and emails as means of communication. Pre- requisite ITHM 200.

ITHM 203 **Garde Manger II**
3 Credits

ITHM 208 Culinary Internship I
1 Credit

Complete in a commercial foodservice or hospitality establishment a practicum approved by the ISTHM internship coordinator to continue in the job experience. The student s benefit from the opportunity to develop speed in manual skills and to work under pressure in a real life situation. This practicum requires 150 working hours. Evaluation will be required by the supervisor assigned according to school standards. The course will meet once a week for one hour. Pre-requisites: ITHM 107, ITHM 200, ITHM 201, ITHM 202, ITHM 205.

ITHM 209 International Cuisine
7 Credits

Exposure to the diverse gastronomic cultures from around the world through seminars, conferences, demonstrations, menus discussions, investigative research, and recipes preparation and development. Topics discussed includes historic information about regional traditions, food and service protocol. Discussion of the cultural diversity to provide an understanding of other cultures and develop ethnic menus representative of a national cuisine from diverse countries around the world. The course will use the Internet as a research tool. The course will use the Internet as a research tool, MS Words for paper and projects, Email as means of communication and Power Point for presentation. Pre-requisites: ITHM 203, ITHM 204, ITHM 206

ITHM 210 Culinary Internship II
1 Credit

Work experience that facilitates the student with a "hands-on" learning opportunity to apply and expand all the learned technical skills. This internship requires 150 working hours in a commercial foodservice or hospitality establishment a practicum approved by the ISTHM internship coordinator to continue in the job experience. It will require feedback from the assigned supervisor and a final project reflecting the work experience and an evaluation of the program. This course will meet once a week for one hour. Pre-requisites: ITHM 208, 209 (in progress), ITHM 211.

ITHM 211 Hospitality Ethics
2 Credits

Debate of the ethical dilemmas commonly encounter by the hospitality employees. Discussion of overbooking regulations, breach of contract, sexual harassment, professional and personal relationships with peers and supervisors, abuse of power, schedule assignation and lies. Emphasis will be placed in the understanding of morale and it's implication. The course will be develop through the analysis of case studies, readings, and day-today situations. The course will use the Internet as a research tool, MS Words for paper and projects and Email as means of communication. Pre-requisite: None

ITHM 250 Hospitality Internship I
3 Credits

Exposition to the hospitality industry to gain on the work experience. Each intern will need to rotate into three (3) different areas of the hotel for a minimum of 250 hours. Emphasis is placed on operational areas such as F&B, Rooms Divisions and Conventions Planning. Approximately 85 hours on each area. The internship will be develop through training, approximately 85 hours on each area. Evaluations from supervisors and the ISTHM internship coordinator, 1 ½ hour seminar per week, and a final project presentation discussing the student learning experience will be required. Pre-requisite: ITHM 102.

ITHM 280 **Guest Service**
3 Credits

Analysis and exploration of the role of service in a successful hospitality operation. Topics discussed encompass: handling difficult guests, dealing with complaints, developing listening skills, and improving guest satisfaction. Introduction to the service philosophy. The course will use the Internet as a research tool, MS Words for paper and projects, Email as means of communication and Power Point for presentations. Pre-requisite: None

ITHM 290 **Spreadsheet and Database Applications**
3 Credits

Introduction to tourism business related computerized microcomputer software applications including spreadsheet, database, presentation and graphics packages. Student will develop the skills to use the software (Excel, Access, Word, Power Point) to organize, interpret and present information. The course uses real life situations to prepare and analyze financial information using Excel. Special emphasis is place on database management and the use of MS Access to create tables, queries and reports of information such as Customers and Employee Database, Account Payables, Accounts Receivables, and Inventories. The course will use lectures and assigned lab material. Prerequisite: ITHM 101, COMP 110.

ITHM 300 **Rooms Division I**
3 Credits

Discussion of the functions of the major components (front office, housekeeping, guest services, reservations, engineering and maintenance and security) of the rooms division within a hotel. The interaction with this division and the other areas of the hotel are explored in relationship to customer service. The course will use the Internet as a research tool, MS Words and Excel for paper and projects, Fidelio software, the Email as means of communication and Excel for papers and projects. Prerequisite: None

ITHM 301 **Rooms Division II**
3 Credits

Advanced discussion of the division manager's tasks. Continuation of ITHM 300, where the student will be presented with an in-depth analysis and study of the major components (front office, housekeeping, guest services, reservations, engineering and maintenance and security) of the rooms division within a hotel. The course will use the Internet as a research tool, Fidelio software, the Email as means of communication and MS Word and Excel for papers and projects. Pre-requisite: ITHM 300

ITHM 302 **Introduction to the Event and Convention Industry**
3 Credits

Analysis of the conventions, expositions, events and meetings within the hospitality Industry. Study of the history, trends, terminology and types of events. Emphasis will be given in the services of the Convention and Visitors Bureaus, Convention Centers and the market segments. The course will be develop through the analysis of case studies, readings, presentations, research, field trips to the new Puerto Rico Convention Center and convention hotels. The course will use the Internet among others research tools, Email as means of communication and MS Word and Power Point for papers and projects. Pre-requisites: None

ITHM 306 **Casino Operations**
3 Credits

An inside look at the Cruise and Gaming Industry. Topics include staffing, types of operations, security, control entertainment, and economic impact. The course will use the Internet as a research tool and MS Words and Excel for paper and projects the Email as means of communication. Pre requisite: ITHM 101

ITHM 310 **Convention Sales**
3 Credits

Presentation of the specialized sales skills required for the industry. Topics will include: vocabulary relative to the hotel sales office, understanding of the needs and wants of the two markets; introduction to room set-up, the audiovisual components and technology utilization, menu planning and the roles and responsibilities of convention sales and service managers; the concept of cold calls, successful sales techniques, booking strategies as well as the review and negotiation of contracts and the appropriate financial management of a meeting. Consideration of listening techniques and communication skills as tools of the trade will also be discussed. The course will use the Internet as a research tool, MS Words for paper and projects, Email as means of communication and Power Point for presentations. Pre-requisites: None

ITHM 315 **Exhibit & Trade Show Management**
3 Credits

A study of the role of the corporate exhibit manager. Focuses on the management problems of trade shows and exhibits, including design, logistics, staffing, setting objectives, customs and regulations. The course will use the Internet as a research tool, MS Words for paper and projects, Email as means of communication and Power Point for presentations. Pre-requisite: ITHM 302

ITHM 320 **Guest Lecture Series**
1 Credits

On-site visits from industry leaders to share their managerial experiences in the hotel, restaurant, kitchen and/or event management industry. Professional growth, challenges, opportunities and corporate culture will be cover by various distinguished lecturers.

ITHM 340 **Food & Beverage Operations**
3 Credits

Overview of foodservice and beverage operations in the commercial and non-commercial segments. Discussion of the fundamentals of managing these operations to maximize service, efficiency, and productivity. Emphasis is placed on menu theory, production planning and service techniques used to exceed guest expectations. The course is developed through class discussion and teamwork assignments and discussion. The course will use the Internet as a research tool and MS Words for paper and projects. Pre-requisite: None

ITHM 341 **Catering Sales & Operations**
3 credits

Study of hotel catering, including sales, operations, and its relationship with other departments and outside vendors. Emphasis is placed on sales methods, creating contracts, function sheets information, and managing labor and inventory. The course is developed through in-class discussion, oral and written reports, group dynamics, and a research project. The course will use the Internet as a research tool and MS Words for paper and projects. Pre-requisite: ITHM 340

ITHM 345 **Culinary Skills Lab**
3 Credits

Demonstration of the diverse cooking methods through the preparation of breakfast, brunch, lunch, and dinner. Practical training on the use of different types of kitchen utensils and equipment. Emphasis is placed on food production and meal service practice, menu planning, sanitation, and technical operations in a restaurant-like environment. The course is developed through in-class discussion, teamwork, recipe worksheets, hands-on production, oral reports, and faculty/peer evaluations. Responsible use of technology will be promoted. Pre-requisite: ITHM 340

ITHM 350 **Cost Control and Purchasing in Food and Beverage Operations**
3 Credits

Examination of methodologies and tools to control food, beverage, labor and other costs within a Foodservice Operation. In-depth analysis of financial information to locate cost problems in food service operations and to determine break-even and profit levels. This course uses case studies analysis, lecture, group discussions and computer projects to simulate real life scenarios if a foodservice operation. Students will solve problems and situations based on the interpretation of cost related issues. This course regularly uses basic mathematics and spreadsheet applications. Pre-requisites: ITHM 290, ACCO 111

ITHM 360 **Hospitality Accounting**
3 Credits

Analysis and application concepts of accounting for the hospitality industry. A study of hotel Accounting systems, planning, and financing control with the industry, analyzing and understanding financial statements. Preparation of budgets and cash flow analysis will also be discussed. The course is guided to decision making process through the analysis and interpretations of accounting data utilizing case studies, reflections and hand-on practice. The course will use the Internet as a research tool and MS Words for paper and projects. Pre-requisites: ACCO 111, ITHM 290

ITHM 365 **Labor & Hospitality Law**
3 Credits

Application of the law to aspects of the hotel industry to include the innkeeper/guest relationship, rights of employees/employers, liabilities, relationship to guest, and negligent acts. Understanding of the legal considerations associated with operating a hotel or tourism business. The identification of the most common labor laws will also be discussed. The course will use the Internet as a research tool, MS Words for paper and projects and Email as means of communication. Prerequisites: ITHM 102.

ITHM 370 **Hospitality Sales & Marketing**
3 Credits

Study of the functions and principles of marketing and sales. Students will learn about the function of a marketing plan, the sales office, sales techniques, telephone sales, internal marketing and sales, restaurant and lounge sales, catering and meeting room sales, advertising and public relations, and marketing to different target markets. The course will use the Internet as a research tool, MS Words for paper and projects, Email as means of communication and Power Point for presentations. Pre-requisite: None

ITHM 390 **Advanced Internship in Hotel Operations**
3 Credits

ITHM 460
3 Credits

Capstone Course

Integration of learned managerial skills and strategies through the analysis of management situations in the hospitality industry. The evaluation of strategic solutions, to help students review and practice their management knowledge and capabilities. Case studies will be used to explore current trends and issues pertaining the three areas of concentration: hotel, food and beverage and events and conventions management. Students will be guided in their effort to find a supervisory managerial level job in the hospitality industry. Emphasis is placed on the students' abilities to investigate, analyze and discuss these issues through oral and written work. The course will use the Internet as a research tool and MS Words for paper and projects. Pre-requisites: ITHM 390, ITHM 400 / ITHM 401, ITHM 450 / ITHM 455, ITHM 404.

Certificate Programs

Certificate in Culinary Arts 32 Credits – 1000 Hours

Code	Course Description	Credits	Hours
ITHM 090	Gastronomy	4 credits	60 hours Conference
ITHM 091	Sauces, Stocks and Knives Skills	3 credits	45 hours Laboratory
ITHM 092	Meat and Fish ID	2 credits	30 hours Laboratory
ITHM 093	Food Production	5 credits	75 hours Laboratory
ITHM 084	Dining Service and Operation	2 credits	30 hours Conference
ITHM 096	Garde Manger	4 credits	60 hours Laboratory
ITHM 095	Baking	4 credits	60 hours Laboratory
ITHM 098	International Taste	2 credits	30 hours Conf. & Lab.
ITHM 099	Practicum	1 credits	535 hours
ITHM 097	Food Service Mathematics	2 credits	30 hours Conference
ITHM 089	French for Culinary Arts	3 credits	45 hours Conference

FIRST SEMESTER

SECOND SEMESTER

CODE	Course Description	Credits	CODE	Course Description	Credits
ITHM 090	Gastronomy	4	ITHM 084	Dining Service and Operation	2
ITHM 091	Sauces, Stocks and Knives Skills	3	ITHM 096	Garde Manger	4
ITHM 092	Meat, Poultry and Fish ID	2	ITHM 095	Baking	4
ITHM 093	Food Production	5	ITHM 098	International Taste	2
ITHM 097	Food Service Mathematics	2	ITHM 089	French for Culinary Arts	3
			ITHM 099	Practicum	1
TOTAL		16	TOTAL		16

Certificate in Bartending and Food & Beverage Service
27 Credits - 590 Hours

Code	Course Description	Credits	Hours
ITHM 084	Dining Service and Operation	2 credits	30 hours
ITHM 079	Introduction to the Bartending Service and Operations	4 credits	60 hours
ITHM 080	Wines and Spirits	6 credits	90 hours
ITHM 083	Customer Service	1 credits	15 hours
ITHM 097	Foodservice Math	2 credits	30 hours
ITHM 081	Conversational English I	3 credits	45 hours
ITHM 082	Conversational English II	3 credits	45 hours
ITHM 085	Beverage Preparation Lab.	5 credits	75 hours
ITHM 086	Bartending Practicum	0 credit	100 hours
ITHM 087	Dinning Service Practicum	1 credit	100 hours

FIRST SEMESTER

SECOND SEMESTER

Code	Course Description	Credits	Code	Course Description	Credits
ITHM 079	Int. to the Bartending Service & Operation	4	ITHM 084	Dining Service and Operations	2
ITHM 080	Wines and Spirits I	6	ITHM 083	Customer Service	1
ITHM 085	Beverage Preparation Lab Classical and Contemporary drinks	5	ITHM 081	Conversational English I	3
ITHM 086	Bartending Practicum	0	ITHM 082	Conversational English II	3
			ITHM 087	Dinning Service Practicum	1
			ITHM 097	Food Service Math	2
TOTAL		15	TOTAL		12

Certificate in Pastry and Baking

32 Credits 865 Contact Hours

Code	Course Description	Credits	Hours
ITHM 060	Basic Culinary Kitchen Concepts	3 credits	45 hours
ITHM 061	Introduction to Baking & Pastry	4 credits	60 hours
ITHM 062	Breads & Dough	4 credits	60 hours
ITHM 064	Patisserie I	4 credits	60 hours
ITHM 063	Specialty Breads	3 credits	45 hours
ITHM 065	Patisserie II	4 credits	60 hours
ITHM 066	Cakes: Preparation & Decoration	3 credits	45 hours
ITHM 067	Chocolate	3 credits	45 hours
ITHM 068	Plated deserts	3 credits	45 hours
ITHM 069	Practicum	1 credit	400 hours

FIRST YEAR

FIRST SEMESTER					SECOND SEMESTER				
Code	Credits	Hours	Pre-requisite	Part-of-Term	Code	Credits	Hours	Pre-requisite	Part-of-Term
ITHM 060	3	45		3 WK	ITHM 063	3	45	ITHM 062	3 WK
ITHM 061	4	60		3 WK	ITHM 065	4	60	ITHM 064	3 WK
ITHM 062	4	60	ITHM 061	3 WK	ITHM 066	3	45	ITHM 063, 065	3 WK
ITHM 064	4	60	ITHM 062	3 WK	ITHM 067	3	45	ITHM 065	3 WK
					ITHM 068	3	45	ITHM 066, 067	3 WK
TOTAL	15	215			TOTAL	16	240		

SECOND YEAR

FIRST SEMESTER			
Code	Credits	Hours	Pre-requisite
ITHM 069	1	400	ITHM 060, 061, 062, 063, 064, 065, 066, 067, 068
TOTAL	1	400	

Certificate in Hotel Operations
27 Credits 610 Contact Hours

Code	Course Description	Credits	Hours
ITHM 072	Intro. To the Hospitality Industry	3 credits	45 hours
ITHM 073	Tourism System	3 credits	45 hours
ITHM 081	Conversational English I	3 credits	45 hours
ITHM 074	Front Office & Reservations Operations	3 credits	45 hours
ITHM 075	Housekeeping & Concierge Operations	3 credits	45 hours
ITHM 076	Guest Services	3 credits	45 hours
ITHM 077	Food & Beverage Operations	3 credits	45 hours
ITHM 082	Conversational English II	3 credits	45 hours
ITHM 078	Practicum	3 credit	45 hours

FIRST YEAR

FIRST SEMESTER				SECOND SEMESTER			
Code	Credits	Hours	Pre-requisite	Code	Credits	Hours	Pre-requisite
ITHM 072	3	45		ITHM 076	3	45	
ITHM 073	3	45		ITHM 077	3	45	
ITHM 081	3	45		ITHM 078	3	45	
ITHM 074	3	45		ITHM 082	3	45	ITHM 081
ITHM 075	3	45					
TOTAL	15	215		TOTAL	12	180	

[Course Descriptions of Certificate Programs](#)

ITHM 060 **Basic Culinary Kitchen Concepts**
3 Credits 45 hours

Intensive review of kitchen basic concepts. Includes review of terms, and essential vocabulary within the historic context of the culinary arts in order to develop esteem for the profession. Practice with different kinds of knives and cuts, as well as the development of thickening agents, cooking methods, hot and cold sauces and fundamentals of hygiene and food handling relative to the kitchen and traditional cooking and baking methods. The course will be conducted through theoretical presentations, demonstrations and lab experiences. Emphasis placed in responsible use of technology as students research diverse subjects. Pre-requisite: None

ITHM 061 **Introduction to Baking & Pastry**
4 credits 60 hours

Study and presentation of fundamental concepts and tools for baking within the historic context of the field. Includes discussion of the ethics code and the use of ingredients and their basic preparation, traditional and essential cooking and baking methods. Development of skills related to measurement and equivalencies as well as operation of basic machinery and tools. Considers the fundamental principles of hygiene and food handling relative to the bake shop. The course will be conducted through theoretical presentations, demonstrations and group work. Emphasis placed in responsible use of technology as students research diverse subjects. Pre-requisite: None

ITHM 062 **Breads & Dough**
4 Credits 60 hours

Production of variety of breads and buns. This course will include: costing out recipes, conversion of recipes, and proper usage of bakery equipment to produce French Baguettes, soft and hard rolls, muffins and biscuits. Advanced techniques including: fermentation processes and how they contribute to flavor; mixing methods, and chemical reactions that take place while baking as well as explanation and application of theory to production, basic baking terminology, characteristics and functions of baking ingredients. Considers the fundamental principles of hygiene and food handling relative to the bakeshop. The course will be conducted through theoretical presentations, demonstrations, problem-solving and lab experiences. Emphasis placed in responsible use of technology as student's research recipe development and student's portfolio. Pre-requisite: ITHM 061

ITHM 063 **Specialty Breads**
3 Credits 45 hours

Production of wide variety of artisan and specialty breads using advanced techniques. Includes production of the following breads: traditional, festive, grain based, fruit based, chocolate, herbs and puff pastry. Discussion of corrections of common baking problems and faults in the production of artisan breads as well as advanced fermentation and dough techniques including rolled dough. Considers the fundamental principles of hygiene and food handling relative to the bakeshop. The course will be conducted through theoretical presentations, demonstrations, problem-solving and lab experiences. Emphasis placed in responsible use of technology as student's research recipe development and student's portfolio. Pre-requisite: ITHM 065

ITHM 064 **Patisserie I**
4 Credits 60 hours

Elaboration and preparation of pastries and simple desserts such as pies, creams, basic cakes and cookies. Includes history and origins of patisserie and skill development to prepare sweets and study of techniques to produce gourmet desserts. Application of mixing methods, shaping, handling, glazing, cooling and storing of pastries. Considers the fundamental principles of hygiene and food handling relative to the bakeshop. The course will be conducted through theoretical presentations, demonstrations, problem-solving and lab experiences. Emphasis placed in responsible use of technology as student's research recipe development, specific patisserie techniques, and student's portfolio. Pre-requisite: ITHM 062

ITHM 065 **Patisserie II**
4 Credits 60 hours

Production and elaboration of plated desserts, ice cream desserts, sorbets, mousse, soufflés, crème brûlée, pies and classic cakes. Includes sauces development and basic uses of chocolate. Considers the fundamental principles of hygiene and food handling relative to the bakeshop. The course will be conducted through theoretical presentations, demonstrations, problem-solving and lab experiences. Emphasis placed in responsible use of technology as student's research recipe development, advanced patisserie techniques and student's portfolio. Pre-requisite: ITHM 064

ITHM 066 **Cakes: Preparation & Decoration**
3 Credits 45 hours

Cake production, decoration, and assembly. Emphasis placed on theory, ingredients, and methodologies of cake baking and decorating of wedding and special occasion's cake. Includes basic decorations such as royal icing, marzipan and laminated paste as well as demonstration in sugar made flowers. Considers the fundamental principles of hygiene and food handling relative to the bakeshop. The course will be conducted through theoretical presentations, demonstrations, problem-solving and lab experiences. Emphasis placed in responsible use of technology as student's research recipe development, decorating techniques and own portfolio. Pre-requisite: ITHM 063, ITHM 065

ITHM 067 **Chocolate**
3 Credits 45 hours

Study of the history and uses of chocolate under different temperatures. Includes chocolate molding, tempering techniques, creating chocolate sculptures, and basic candy making. Learn to use both traditional and contemporary production methods in creating confections by hand and with special equipment. Considers the fundamental principles of hygiene and food handling relative to the bakeshop. The course will be conducted through theoretical presentations, demonstrations and lab experiences. Emphasis placed in responsible use of technology as students research recipe development, decorating techniques, and student's portfolio. Pre-requisite: ITHM 065

ITHM 068 **Plated Desserts**
3 Credits 45 hours

Preparation of plated desserts applying concepts from mixtures, cooking, baking, decoration, presentation, flavors combinations and texture. Includes modern presentation techniques and use of multiple ingredients recipes to create individual desserts and miniature desserts as well as preservation, yield techniques and dessert banquet table presentation. Considers the fundamental principles of hygiene and food handling relative to the bakeshop. The course will be conducted through theoretical presentations, demonstrations, and problem solving and lab experiences. Emphasis placed in responsible use of technology as students research recipe development, presentation techniques and own portfolio. Pre-requisite: ITHM 066, ITHM 067

ITHM 069 Baking Internship
1 Credit 400 hours

Practical supervised experience within the industry. The student will complete 400 hours of internship. Student is required to present an electronic portfolio.

ITHM 079 Introduction to the Bartending Service and Operation
4 Credits 60 hours

Basic principles on the composition, organization, inventory, operation and management of the bar. Also , types of equipment required, fundamental of drink preparation and cost control are covered too. The duties and responsibilities of the bartender are likewise discussed. Laws related to the dispensation of alcoholic. The course will use the Internet as a research tool, MS Words for paper and projects, Email as means of communication and Power Point for presentation. Pre-requisite: None

ITHM 080 Wines and Spirits
6 Credits 90 hours

Familiarization with wine and the different alcoholic beverages, including history, classification, production, service and food pairing thereof. The student will have the opportunity to visit different representatives of the alcohol and wines industry. The role of the Sommelier and the Wine Steward will also discussed. Laws related to the dispensation of alcoholic beverages will be given special consideration. The course will use the Internet as a research tool, MS Words for paper and projects, Email as means of communication. Pre-requisite: None

ITHM 081 Conversational English I
3 Credits 45 hours

Course that intends to increase the student's ability to understand and use English through practice in conversation concerned to the Tourism Industry. Pre-requisite: None

ITHM 082 Conversational English II
3 Credits 45 hours

Course that helps the students to increase their ability to understand, speak, read, and write the English language through practice in conversations and class activities concerned to the Hospitality Industry and the Bartender profession.

ITHM 083 Customer Service
1 Credit 15 hours

Develop student's customer service skills, such as courtesy, greeting, listening, handling difficult customers and understanding customers expectations. Course includes working with personal appearance and self image presentation skills. The course will use the Internet as a research tool, MS Words for paper and projects, Email as means of communication. Pre-requisite: None

ITHM 084 Dining Service and Operation
2 Credits 30 hours

Basic principles on the operation and management of the Dinning Room. Topics include table service and presentation, food classification, menu interpretation, how to take an order, use of glasses and dinnerware, etiquette and good manners. Theoretical presentation, demonstration and practice are use to develop the course. Pre-requisite: None

ITHM 085 Beverage Preparation Laboratory

5 Credits 75 hours

Integration of acquired knowledge in previous courses by preparing drinks with and without alcohol. The student will be able to prepare classical and seasonal drinks. Demonstration of bar setup, preparation of reports, cleaning procedures and hygiene will be required. Pre-requisite: ITHM 079

ITHM 086 Bartending Practicum

0 Credit 100 hours

Opportunity to learn through experience. The student will work within the beverage service industry to gain on the job work experience as a bartender. Each student will need to apply acquires knowledge for a minimum of 100 hours. Evaluations from supervisors and the ISTHM internship coordinator and a final project presentation discussing the students learning experience will be required. Pre-requisites: ITHM 080 in progress, ITHM 085.

ITHM 087 Dinning Service Practicum

1 Credit 100 hours

Opportunity to learn through experience. The student will work within the dinning service industry to gain on the job work experience as a waiter or waitress. Each student will need to apply acquires knowledge for a minimum of 100 hours. Evaluations from supervisors and the ISTHM internship coordinator and a final project presentation discussing the students learning experience will be required. Pre-requisite: ITHM 083, ITHM 084

ITHM 089 French for Culinary Arts

3 Credits 45 hours

Introduction to the French language with emphasis on vocabulary acquisition, basic grammar construction and oral communication. This course concentrates on culinary vocabulary used, cooking methods, tools and equipment, and recipe interpretation. The course will use class discussion, dialogues and oral reports. Pre-requisite: ITHM 090

ITHM 090 Gastronomy

4 Credits 60 hours

Familiarization with the history of Gastronomic and fundamental culinary theories. Topics of study include cooking methods, techniques and recipe conversion , products ID, culinary terms, equipment identification, kitchen security, organization and planning . Description of proper practices of hygiene and sanitation and the prevention of food-borne illness through the proper handling and service of potentially hazardous foods. The course will use the Internet as a research tool, the Email as a means of communication and MS Word for papers and projects. Pre-requisite: None

ITHM 091 Sauces, Stocks and Knives Skills (Laboratory)

3 Credits 45 hours

ITHM 098 **International Taste (Laboratory)**
2 Credits 30 hours

Exposure to diverse gastronomic culture from around the world through laboratory classes, seminars, research, recipes preparation. Topics of study include history, traditions, religion, food and method of service of the following countries; France, Italy, Spain, Australia, American, Latin America and the Caribbean Islands. The course will use the Internet, as a research tool MS Word will be use for paper and projects. Pre-requisites: ITHM 093, ITHM 095 and ITHM 096

ITHM 099 **Culinary Arts Practicum**
1 Credits 535 hours

Practicum in a commercial foodservice or hospitality establishment approve by the ISTHM internship coordinator to continue in the job experience. The student s benefit from the opportunity to develop speed in manual skills and to work under pressure in a real life situation. Practicum ITHM 099 requires 535 working hours. The supervisor assigned according to school standards will require evaluation. The course will meet once a week for one hour.

Pre-requisite: ITHM 093, 090, 095, 096, 098

UNIVERSIDAD DEL ESTE

SCHOOL OF PROFESSIONAL STUDIES AHORA Program

Undergraduate Catalog

2006-2008

SCHOOL OF PROFESSIONAL STUDIES

AHORA Program

The Ana G. Méndez University System, a pioneer in educational services for adults, continues that tradition by means of the School for Professional Studies at the Universidad del Este. The School for Professional Studies provides a university environment for the professional adult where the methods of teaching, the academic and administrative services are tailored to meet the genuine needs of this population. The School features its AHORA Program, an accelerated studies program for professional adults that wish to continue their university studies.

History and Development

The School of Professional Studies was established in June 1996. The AHORA Program began classes in September of that year, becoming the first accelerated studies program in Puerto Rico. At first, AHORA was offered at our main campus and the Manatí University Center. In 1997 it expanded to the Yauco University Center and in 1998 to the Cabo Rojo University Center. The School of Professional Studies also administers the AHORA Program for the other institutions of the Ana G. Méndez University System.

At the beginning, AHORA offered three programs leading to bachelor degrees in the accelerated mode. Presently it has eight programs leading to this degree. The academic offerings of the School of Professional Studies include: Bachelor of Business Administration with concentrations in Management, Marketing, Computerized Information Systems, and Administrative Secretary; Bachelor of Education with a concentration in Pre-School; and, Bachelors of Arts with concentrations in Criminal Justice and Social Work.

In 2003, The Metro Orlando University Center began its offerings. The center represents the continuation of the commitment to provide quality access alternatives to a university education for Hispanic adult students through the Accelerated Dual Language Discipline Based Immersion Model, developing language skills in both Spanish and English. The academic programs include: Associates Degrees in Paralegal Studies, Hotel Operations, Computer Information in Web Design, Medical Secretary and Billing; Bachelors Degree in Hotel Management, Events and Conventions Planning, Administrative Secretary, Health Management, and Paralegal Studies, and Psychology; and Masters in Educational Leadership

The School of Professional Studies is presently developing accelerated master degrees.

Mission and Goals

The mission of the AHORA Program of the School of Professional Studies is to provide an accelerated educational process to adult students, different from traditional methods of teaching, where their professional experience is incorporated in the classroom to create an interactive, challenging and dynamic environment. Faculty members with professional experience, specially prepared to work with adults, are educational facilitators in an innovative way. AHORA is designed exclusively for the adult student, offering a professional environment, as well as integrated, personalized and individualized services.

To fulfill this mission, the School of Professional Studies intends to:

- Promote adults to value continuous learning and increase their contribution to the world of employment
- Facilitate adult students to reach their educational goals
- Create a learning community that facilitates building new knowledge based on and applicable to the professional and personal reality of adults
- Provide integrated student services of quality and easily accessible to adult students
- Recruit and develop personnel that know and effectively meet the needs of the adult student
- Integrate technology into the academic, service and administrative processes
- Develop academic offerings that respond to the present needs of the professional and business world
- Establish a continuous process of feedback and assessment of all the processes and services.

Description of the accelerated program of studies

The AHORA Program is accelerated because all of its courses are offered in five or eight week sessions. During each session, classes meet once a week for four hours each week. The accelerated methodology is based on a learning process shared between the professor and the student. Each student receives a module, which serves as a study guide and indicate the assignments and activities that must be completed to prepare for class. Our faculty is specially selected and trained to work with adult students through the accelerated mode, facilitating a class environment where learning is built on experiences and the assignments performed by the students. This model of accelerated studies can be applied to the different academic programs of the institution, to new academic programs or any other academic program where adult students participate.

The courses are offered evenings, Saturdays (morning, afternoon, and evening), and Sundays (morning and afternoon). The student may take a maximum of two classes per session, completing six credits every five or eight weeks. Registration is continuous, with courses beginning fourteen times a year, and the possibility of completing up to fifty-four credits in an academic year. This way, the program provides greater flexibility for students, since they can advance their academic progress or design a class program that conforms to the variety of commitments they may have during the year.

Admissions Requirements

To fulfill its mission and goals, the AHORA Program admits only adult students with academic and professional experience that meet the following requirements:

- 23 years of age or older
- 3 years of work experience
- 24 credits of academic work at the postsecondary level

Faculty

The AHORA Program faculty is selected through a process that certifies that they have the capacity to effectively facilitate learning in an accelerated studies program. Also, our faculty members have at least a master's degree and two years of previous experience as a professor or professional in their field. This way we ensure that they demonstrate mastery of the subject matter, are updated with the trends and practices of their field, and can be effective facilitators in an accelerated program for adults. Over 250 professionals have been certified through this process and are offering courses in the Program.

Administration

The administrative team of the School of Professional Studies is composed of a Dean, Associate Dean, Director of Faculty and Curriculum, Director of Integrated Services, and a Director of Administration.

- ❑ Associate Vice President / Dean: Luis J. Zayas Seijo, MA in Political Science, University of Chicago
- ❑ Assistant Vice President / Associate Dean: Mildred Rivera, MBA in Management, Universidad Metropolitana
- ❑ Associate Dean: Sylvia Y. Cosme Montalvo, MBA, MS Statistics, University of Puerto Rico
- ❑ Director of Faculty and Curriculum: María Cruz Guilloty, MEd, Educational Technology, Informatics and Multimedia, Universidad del Sagrado Corazón
- ❑ Director of Integrated Student Services: José Luis Rivera Rivera, MBA in Marketing, Universidad Metropolitana
- ❑ Director of Administration: Deborah Marín, BBA in Management, Universidad Metropolitana

The AHORA Program also has a Student Affairs Coordinator on the campus and at each University Center.

Integrated Services

The service offered is characterized for being personalized and individual, where the student and the program representative together go through the steps from admission to registration, according to the particularity of each student. Due to the integration of the different student services, students can process their admission, preliminary validation of transfer credit for their courses, receive orientation and apply for financial aid, receive personalized academic advising, and complete registration in the offices of the AHORA Program. The AHORA Program personnel also offer orientation about other services available and serve as a liaison to other offices at the Universidad del Este.

Credits for Experience

The School for Professional Services recognizes that not all knowledge is acquired in a classroom. The work place is also a learning center; knowledge obtained through experience can be evaluated and validated as university credits.

Students that have extensive knowledge of the content of a course in their program of studies may obtain credit by passing *challenge exams*. They must apply for this at the offices of the AHORA Program. The student will receive a study guide prepared for each exam.

Students may also obtain credits for knowledge acquired through their experience by means of a *portfolio*. The portfolio consists of an essay that shows that the knowledge obtained through work experience is equivalent to the knowledge that would be obtained in a classroom at university level.

To prepare a portfolio, students must have approved six credits in the Program. They must then register in the EXPL 101 course that will allow them to train in techniques for preparing a portfolio. After taking this course, students can apply for credits for those portfolios they prepare. Students must be aware that they must not only evidence the years of experience, but also the knowledge obtained through that experience. The essay is evaluated by faculty specialized in the area, who will determine if the credits can be given based on the evidence presented.

The cost of a course by challenge exam or portfolio is 50% the cost per credit of the course to be approved. Each course can be taken this way only once. If the exam or portfolio is approved, a grade of "P" (Passed) will be given and the credits corresponding to the class will be awarded. If it is not approved, the student must register in the class.

All procedures related to credit for experience closely follow the Council for Adult Experiential Learning (CAEL) guidelines and standards.

Academic Programs

Presently, the School of Professional Studies offers accelerated studies for various programs at the Universidad Del Este. **Detailed information about these programs is available in the sections of this catalog pertaining to the other schools of the institution.**

The offerings of the School of Professional Studies are as follows:

School of Business Administration

- Bachelor of Business Administration with major in:
 - Management
 - Accounting
 - Marketing
 - Computerized Information Systems
 - Administrative Secretary

School of Education

- Bachelor of Education with a major in: Early Childhood and Primary Education

School of Social and Human Sciences

- Bachelors of Arts in Social Work
- Bachelor of Social Sciences with major in:
 - Criminal Justice

