IMPORTANT NOTES: THE TERMINATION DATE OF UNIVERSIDAD DEL ESTE'S UNDERGRADUATE CATALOG HAS BEEN EXTENDED UNTIL DECEMBER 2012.

Universidad del Este Catalog is published for informational purposes and should not be considered as a contract between a student and the Institution. Information contained herein supersedes that previously published and is subject to change.

At Universidad del Este (UNE), every effort is made to provide accurate and up-to-date information. However, the University reserves the right to change without notice statements in the catalog concerning rules, policies, fees, curricula, courses, or other matters when necessary. Changes may apply to current and former students.

Universidad del Este reserves the right to make changes in course offerings, curricula, and other policies affecting its programs. In the specific case of a curriculum revision, current students will be moved horizontally to the new curriculum.

Students will be required to take new courses at the same level or higher than that at which the student is currently enrolled but never courses at a level below. All current and former students enrolled in the Institution are subject to these conditions.

In addition, UNE is currently reviewing and restructuring many of our academic programs in an effort to enhance their quality and improve our efficiency. In that process, some of the programs and courses mentioned in this catalogue may be modified, consolidated with other programs or courses, or eliminated. If you have questions about a particular program or course, you should contact the appropriate university school, department or University Center. In case that a program is eliminated, the school's representative or program director will prepare a course schedule to assure the graduation of those students enrolled in the program.

It is the student’s responsibility to know and comply with the rules expressed herein, which coincide with current bylaws and regulations of the University, the administrative resolutions and the federal laws on civil rights.

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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, Barceloneta, and Santa Isabel. UNE has two branch campuses in the state of Florida, one in Orlando; Metro Orlando University Center and Miramar; South Florida University Center. The Carolina campus is located in the Eastern part of the island. Its 21 acres suburban campus and its modern and spacious buildings provide an ideal atmosphere for the learning experience.

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 over 12,700-student body is comprised of undergraduates in the Carolina campus, the five Off-Campus sites, and the two branch campuses. Masters degree programs were initiated in October 2001 at UNE’s Carolina campus and in 2005 were initiated in the Off-Campus sites.

The academic faculty consists of one-hundred and eight (108) full time professors and over five hundred and thirty-five part-time professors. Forty-one 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 Universidad del Este

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

In 1949, Puerto Rico Junior College was founded and incorporated according to Puerto Rican laws on June 30, 1950. The Puerto Rico Council of Higher Education licensed the Institution on June 27, 1957, which was followed by the Middle States Association of Colleges and Secondary Schools accreditation on May 1, 1959. It has been subsequently reaccredited since 1959 until the present, 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 technical-professional programs in: liberal arts, sciences, hospitality, culinary arts, education, and business administration leading to certificates, associate, bachelor, and master degrees in different disciplines.

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
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
Puerto Rico Council on Higher Education
Puerto Rico General Council of Education
Joint Review of the Health Commission in Radiologic Technology
International Association for Continuing Education and Training
Accreditation Commission for Programs in Hospitality Administration

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 Board of Puerto Rico
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
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 some time 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 degree programs are classified in these general categories: Certificate Programs, Associates, Bachelors, and Masters. The Certificate 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 Ana G. Méndez University System as well as its own self-standing partnerships and agreements.

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
Florabel G. Mullick, President of the Board
Félix Schmidt, Vice President of the Board
José F. Méndez, President of the Ana G. Méndez University System
Juan M. García-Passalacqua
Juan R. Melecio
Antonio J. Colorado
Daneris Fernández
Zoraida Fonalledas
David Rivé-Power
Ivan A. Pietri
José Domingo Pérez
Víctor 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, Vice President for Planning and Academic Affairs
Alfonso L. Dávila, Acting Vice President for Financial Affairs
Francisco J. Bartolomei, Vice President for Marketing and Student Affairs
Victoria De Jesús, Vice President for Human Resources
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, Physical Facilities and Operations Manager, Deans of schools, five 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, the Library Director, fourteen 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
Anne L. Howard Tristani, MA, Vice Chancellor for International, Federal and Corporate Affairs
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
Yamiel Natal, MIS, Coordinator of Information Systems

Office of the Vice Chancellor
Mildred Huertas Solá, Ed.D., Vice Chancellor
Nilda I. Rosado, MEd. Associate Vice Chancellor for Licensing and Accreditation
Magalie Alvarado Hernández, MPA Associate Vice Chancellor for Administrative Affairs
María Véaz, Ed.D., Associate Vice Chancellor for Retention
Luis Iturralde, MBA, Associate Vice Chancellor for Research
Ezequiel Bayuelo, Ed.D. Assistant Vice Chancellor for Assessment and Investigation
Jesús Oliveras, MBA Assistant Vice Chancellor for Graduate Programs
Mildred Rivera, MBA, Assoc. Vice President-Dean, School of Professional Studies and Continuing Education
Omar J. Pagán, MS, Dean, José A. (Tony) Santana International School of Hospitality and Culinary Arts
Maria Véaz, Ed.D., Acting Dean, School of Education
Maritza Espina, Ph.D., Dean, School of Business Administration
Jhon Sanabria, Ph.D., Dean, School of Social and Human Sciences
Wilfredo Colón Guasp, Ph.D., Dean, School of Sciences and Technology
Justo Lugo, MPH, Acting Dean, School of Health Sciences
Elizabeth Marte, MEd., Associate Dean, School of Professional Studies at UNE
Esther Rubio, MBA, Associate Dean, School of Technical Studies
Sylvia Esquilín, MBA, Director Faculty Development

Office of the Vice Chancellor of Information Resources and Telecommunications
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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
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Karen A. Crespo, MBA, 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
Carmen G. Velázquez, MA, Associate Vice Chancellor of Quality of Life and Student Wellness
Migdalía S. Torres, MED., Assistant Vice Chancellor for Multidisciplinary Services
Belinda Ruiz, MA, Assistant Vice Chancellor for Scholarships and Internship Program
Betzaida Cora, MED, Assistant Vice Chancellor of the Employment Center
Eigna De Jesús, MBA, Registrar
Clotilde Santiago, BBA, Director of Admissions and Financial Aid
Angel González, BBA, Bursar
Emmanuel Colón, MA, Director of Social and Cultural Activities
Julio Figueroa, MEd., Director Athletics and Sports
Jeffrey Gladstone, M A., Director of Complimentary Educational Services
Adamar González, MD, Doctor, Carolina Campus
Lydia E. Meléndez, BS, Nurse, Carolina Campus

Office of the Evening and Weekend Programs
Lourdes González Ed.D, Director of the Evening and Weekend Programs
Adrián Hernández, BBA, Coordinator
Carmen Sánchez, BS, Nurse, Evening Division-Carolina Campus

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, DBA, Director, Barceloneta Off-Campus Center
Rosa Pérez, MBA, 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 he/she attended or an official document of an institution or agency recognized by the U.S. Department of Education must be submitted to comply with the equivalency of high school diploma.
- Applicants should submit College Entrance Examination Board (CEEB) scores. This is not required for applicants' ages twenty-three (23) or older.
- Non-refundable application fee ($15.00).

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

Admissions 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
- 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 admissions requirements.

Admissions Procedures
- Submit an application for admission.
- Submit an official high school transcript or its equivalent. If the applicant is not a high school graduate, he should submit evidence that he is taking the last credits to complete his requirements.
- Enclose the non-refundable application fee ($15.00).
- Submit College Entrance Examination Board results if applicant is under the age of 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 called to be interviewed by the Program 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 admission.
registration. Students are urged to submit all the required documentation within 45 days after classes have initiated.

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

**Readmitted Students**

An applicant for readmission is a student who has interrupted his studies for one 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 Este’s by-laws, rules and regulations.
- Veteran students should submit transcripts from previous trainings taken. No veteran student will be certified until this requirement has been met.

**Procedures for Transfer**

- Submit an application for transfer.
- Enclose payment of a transfer fee of $15.00. This is non-refundable.
- Submit an official transcription from
- The 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, revised June 2009 which are distributed once a year and are available upon request at the Office of the Vice Chancellor of Student Affairs and at the website: 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/she does not comply with these rules or refuses to cooperate with a working member of the Institution. The decision reached by the administration in such cases is final.

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

Admissions Policy

The two main objectives of the Universidad 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.
Reallocation of Students

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

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

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

Special Conditions and Regulations
- Students who have registered in the maximum permitted academic load and need three more credits to complete the graduation requirements in the same semester will be allowed to take three additional credits with the written authorization of the appropriate Dean or Associate Dean of the School or Program Director/Coordinator.
- No student will have an academic load greater than 21 credits. The maximum academic load in the summer will be: twelve to fifteen (12-15) credits. An academic load of (18) credits will be permitted to students who are candidates for graduation in the summer and have the written authorization of the appropriate Dean or Associate Dean of the School or Program Director/Coordinator.
- All students will be given a reasonable time in which to graduate or complete their declared major. However, the Institution discourages professional students and will reserve the right to admit, readmit or register any student in any semester, part-of-term session or class. For the same reasons, the Institution reserves the right to suspend a student temporarily or permanently.

Changes in Programs or Schedules
- A student may change their program of study in accordance with the following rules:
  - The student must have written authorization of the Dean or Associate Dean of the School in order to be processed by the Registrar’s Office.
  - The Institution will make every reasonable effort to offer courses as announced, but it reserves the right to change the time schedule or to withdraw a course or courses. The School may identify other similar courses to substitute the eliminated course.

Withdrawals
- Total or partial withdrawals are allowed during a regular semester, part-of-term, or summer session as specified in the academic calendar.
Any student who is officially registered, and completes the required procedure for withdrawal, will receive a withdrawal (W) grade.

Any student, who fails to complete the required procedure for dropping a course before the stipulated date and whose absences exceed the maximum allowed, will receive a withdrawal failure (WF).

Total withdrawal is allowed at any moment before the date stipulated in the academic calendar of the semester, part-of-term, or summer session.

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 the total cost of enrollment, as pertinent, will also take effect. Students must visit the Financial Aid Office for information regarding the % of the payment required by the student.

Veterans and beneficiaries will have their educational benefits terminated when a Leave of Absence is granted. Once the veteran’s returns to classes, the benefits will be reinstated.

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 equivalent for laboratory work has been determined according to the rules of each School.

Scholastic standing in completed courses is indicated by the following letter grades:

Letter grade system and grade points per credit.

<table>
<thead>
<tr>
<th>Letter Grade</th>
<th>Score Range</th>
<th>Grade Points</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>90 - 100</td>
<td>4</td>
<td>excellent</td>
</tr>
<tr>
<td>B</td>
<td>80 - 89</td>
<td>3</td>
<td>good</td>
</tr>
<tr>
<td>C</td>
<td>70 - 79</td>
<td>2</td>
<td>satisfactory</td>
</tr>
<tr>
<td>D</td>
<td>60 - 69</td>
<td>1</td>
<td>deficient</td>
</tr>
<tr>
<td>F</td>
<td>0 - 59</td>
<td>0</td>
<td>failure (no grade credit)</td>
</tr>
</tbody>
</table>

In special cases the following grading system will be used:

<table>
<thead>
<tr>
<th>Letter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>W</td>
<td>Withdrawal</td>
</tr>
<tr>
<td>WN</td>
<td>Administrative withdrawal (no grade points)</td>
</tr>
<tr>
<td>WF</td>
<td>Student deserted the classroom or excessive unjustified absences from course.</td>
</tr>
<tr>
<td>I</td>
<td>Incomplete work. Student absent from final examination or failed to complete and turn in final work assignment, but must have complied with all the partial requirements of the course.</td>
</tr>
<tr>
<td>WA</td>
<td>Administrative withdrawal. Processed by the Vice Chancellor of Student Affairs</td>
</tr>
<tr>
<td>P</td>
<td>Passed</td>
</tr>
<tr>
<td>NP</td>
<td>Not passed</td>
</tr>
<tr>
<td>IP</td>
<td>In progress</td>
</tr>
<tr>
<td>*</td>
<td>Repeated Course</td>
</tr>
<tr>
<td>T</td>
<td>Transfer course</td>
</tr>
<tr>
<td>NR</td>
<td>Not Reported (Grade) by professor</td>
</tr>
</tbody>
</table>

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

A “WN” indicates no assistance to a course within the first few days after classes begin (no grade points). Reported to the Office of the Registrar in the official 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” indicates a student, who is absent from the final examination or failed to complete and turn in final work assignment, but must have complied with all the partial requirements of the course 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 has complied with all partial requirements of the course during the semester or part-of-term.
- 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 or work requirement 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 official course grade register at the Registrar’s Office.

In the case of students not complying with these established rules, the professor will assign a “0” in the corresponding work missed by the student, and will report the final grade to the Registrar after calculating the corresponding grades.

Grade Point Average
The grade point average is obtained by dividing the total number of honor points by the total number of credit hours in which the student has received a final grade, even those where an F or WF is final. The credits taken at UNE will be the only ones used to compute the student’s grade point average. All courses identified as developmental and not included in the course sequence of the program of study, will not be included in the grade point average for graduation.

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.

Veteran students and beneficiaries who were suspended from UNE due to failure to meet the academic standards; and qualify for academic probation, the benefits should remain suspended as well.

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

**Minimum Grade Average Required by Earned Credits**

- Readmission to 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](http://www.suagm.edu/une)

An example representing each academic program is presented on the next page:
## Required Credits and Retention Index per Program

### Certificate Program

<table>
<thead>
<tr>
<th>Accumulated Attempted Credits</th>
<th>% Required of Attempted Credits Approved</th>
<th>Retention Index Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - 14</td>
<td>50%</td>
<td>1.60</td>
</tr>
<tr>
<td>15 - 28</td>
<td>55%</td>
<td>1.80</td>
</tr>
<tr>
<td>29 - 42</td>
<td>60%</td>
<td>2.00</td>
</tr>
<tr>
<td>43 - 54</td>
<td>67%</td>
<td>2.00</td>
</tr>
</tbody>
</table>

### Associate Degree Program

<table>
<thead>
<tr>
<th>Accumulated Attempted Credits</th>
<th>% Required of Attempted Credits Approved</th>
<th>Retention Index Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - 18</td>
<td>50%</td>
<td>1.50</td>
</tr>
<tr>
<td>19 - 36</td>
<td>54%</td>
<td>1.65</td>
</tr>
<tr>
<td>37 - 54</td>
<td>58%</td>
<td>1.75</td>
</tr>
<tr>
<td>55 - 72</td>
<td>62%</td>
<td>1.90</td>
</tr>
<tr>
<td>73 - 90</td>
<td>64%</td>
<td>2.00</td>
</tr>
<tr>
<td>91 - 110</td>
<td>67%</td>
<td>2.00</td>
</tr>
</tbody>
</table>

### Bachelor Degree Program

<table>
<thead>
<tr>
<th>Accumulated Attempted Credits</th>
<th>% Required of Attempted Credits Approved</th>
<th>Retention Index Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - 26</td>
<td>50%</td>
<td>1.50</td>
</tr>
<tr>
<td>27 - 52</td>
<td>53%</td>
<td>1.60</td>
</tr>
<tr>
<td>53 - 78</td>
<td>56%</td>
<td>1.70</td>
</tr>
<tr>
<td>79 - 104</td>
<td>59%</td>
<td>1.80</td>
</tr>
<tr>
<td>105 - 130</td>
<td>62%</td>
<td>1.90</td>
</tr>
<tr>
<td>131 - 156</td>
<td>65%</td>
<td>2.00</td>
</tr>
<tr>
<td>157 - 182</td>
<td>67%</td>
<td>2.00</td>
</tr>
</tbody>
</table>

**Veterans and their beneficiaries: Required Credits and Retention Index per Program**

Veterans and their beneficiaries must complete their program of studies within the time established by their curriculum (100%). Students who extend their studies beyond the time (150%) established by the program cannot continue to receive Veteran’s benefits. They need to maintain a retention index of 2.00 when the 100% of the program is completed. The veterans and their beneficiaries should follow the program sequence which is distributed by academic year. If the student is a recipient of the Pell Grant, he may resort to the 150% additional time, established by the Standard for Satisfactory Academic Progress of the Institution. Veterans should be evaluated utilizing both Veteran’s Benefits and Pell Grant criteria, if they are beneficiaries of these.
Graduation Requirements

The student usually graduates from the Universidad 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: (l) Directory Information Records, (2) LIMITED ACCESS RECORDS.
(1.) Directory Information, which may be made public, includes the student’s name, last known address, telephone number, date and place of birth, major field of study, participation in officially recognized activities and sports, weight and height of members of athletic teams, dates of attendance, degrees and awards received, and the most recent previous educational agency or institution attended by the student. The Office of the Vice Chancellor of Student Affairs will only release this information or a representative after the petitioner has demonstrated a legitimate need to have such information. Students who do not wish release of “directory information” must complete a statement in the Office of the Registrar no later than the last day of each term; otherwise directory information may be disclosed by the College for legitimate purposes.

(2.) Limited Access Records pertain to the permanent academic records of the student, disciplinary records, financial information, and testing data. This category also includes all records maintained officially by the Institution, which do not come under the categories of Directory Information, or Sole Possession Records.

The Institution will not release information in Limited Access Records except after written permission of the student or parent.

Student Right-To-Know and Campus Security Act

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

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

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

Office of the Vice Chancellor of Student Affairs

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

- Admissions and Marketing
- Registrar
- Social and Cultural Activities
- Counseling and Guidance
- Student Support Services Program
- Health Services
- Sports Program
- Quality of Life and Students’ Wellness
- Student Associations Program
- Bursar
- Financial Aid
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 chances 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 leaderships skills and to assume responsibility with themselves and their community.

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

The program emphasizes outreach and pro-active stance in the delivery of services. The services include: individual and group personal counseling, crises management, consultation, personalization and humanization of campus environment searching for the quality of students life, establishment of self helps groups, enhancement of leadership skills, follow up, referrals and others. Professional counselors offer all services.
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.

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 over 400 UNE students a year that meet the eligibility criteria established by federal law for participation in this program.
The United States Department of Education Grant Award permits the Program to offer personal, academic and career counseling; and academic support such as tutoring in all subject areas, special tutoring for disabled students and socio-cultural and career oriented off-campus activities; concerts, and conferences.
To qualify as a program participant, a student must be an American citizen or resident alien, have obtained final admission to the school, be the first generation of his family to graduate with a baccalaureate degree, be of low income and/or have a documented disability. Certain documentation may request of those students interested in becoming program participants.

Health Services*
First aid and medical services are offered at the Health Services Office of the Institution. In the event of an emergency or illness, the student should report to the Health Services Office to receive first-aid.
The Health Services Office offers preventive medicine and medical materials, free of charge, for all students. The nurse and or doctor provide information on a variety of health related topics which includes medical clinic sessions as well as personal health care education. In case of an emergency, an ambulance from the metropolitan area will be called and the student will be taken to a local hospital. This same procedure will be followed in the off-campus 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 Program
The Athletic program is geared to the promotion and active participation of students in all sports activities. It is a fundamental component of the students' life in our Institution, which aims at contributing to the physical and mental growth and well being of its students.

The 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.

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

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

Veterans and their beneficiaries must complete their program of studies within the time established by their curriculum (100%). Students who extend their studies beyond the time (150%) established by the program cannot continue to receive Veteran’s benefits. Therefore, Academic Progress Norms established on page 23, do not apply to veterans and their beneficiaries, who need to maintain a retention index of 2.00 when the 100% of the program is completed. The Tables shown on pages 24 and 25 do not apply. The veterans and their beneficiaries should follow the program sequence which is distributed by academic year. The following examples show time/length of various programs: Certificate program of 36 credits is 1 and half years; Associate degree program of 73 credits is 2 and half years; Bachelor degree program of 121 credits is 4 years. If the student is a recipient of the Pell Grant, he may resort to the 150% additional time, established by the standard for Satisfactory Academic Progress of the Institution. Veterans should be evaluated utilizing both Veteran’s Benefits and Pell Grant criteria, if they are beneficiaries of these.
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 Hospitality and Culinary Arts
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

Off Campus Locations (each is independent at each campus)

Social Work Students Association - Cabo Rojo, Barceloneta, Utuado, and Yauco
Christian Youth University Students Association - Cabo Rojo
Association of Ebenezer Christian Students - Barceloneta
Criminology Association Student Staff - Barceloneta
Pro Health and Physical Fitness Students Association – Barceloneta
Education Students Association - Yauco
Office Systems 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 2009-2010 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 CHEPR 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 non-citizen.
- have a valid Social Security Number.
- not owe a refund on a Federal Grant or be in default on a Federal Educational loan.
- be making Satisfactory Academic Progress.
- be registered with Selective Service (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 otherwise inappropriate; that institutions must obtain the written consent of parents before releasing personally identified data from student records to other than a specified list of exceptions; that parents and students must be notified of these rights; that these rights transfer to students at certain points; and that an office adjudicate complaints and violations of this law.

**Refunds and Adjustments for Active and New Students**

**Refund Policy**

**A. 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:

<table>
<thead>
<tr>
<th>Semester Week</th>
<th>Amount of Refund</th>
</tr>
</thead>
<tbody>
<tr>
<td>First and Second</td>
<td>88 Percent</td>
</tr>
<tr>
<td>Third and Fourth</td>
<td>76 Percent</td>
</tr>
<tr>
<td>Fifth and Sixth</td>
<td>64 Percent</td>
</tr>
<tr>
<td>Seventh and Eighth</td>
<td>52 Percent</td>
</tr>
<tr>
<td>Ninth and Tenth</td>
<td>40 Percent</td>
</tr>
</tbody>
</table>
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:

<table>
<thead>
<tr>
<th>SEMESTER ATTENDANCE</th>
<th>WEEK</th>
<th>PERCENT</th>
<th>WEEKSDAYS</th>
<th>REFUND</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 x 0 = 0 = 0</td>
<td>100%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15 x 10 = 1.50 = 9</td>
<td>90%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15 x 25 = 3.75 = 22</td>
<td>50%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15 x 50 = 7.50 = 45</td>
<td>25%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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) seek 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 $171.00
- Special Programs $176.00
- Technical Programs $151.00

In addition, for each academic term the institution has a general fee of $410.00 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. *All tuition, general fees and service charges are subject to change during the life-term of this catalog (August 2009 to July 2012).

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/une](http://www.suagm.edu/une).

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 over 150,738 titles and over 224,979 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. The Blackboard platform is used.

**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 Barceloneta.

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.(Carolina Campus)

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 Director of the Evening and Weekend Programs

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 a Director and assisted by a Coordinator 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. Some programs offer courses on Sundays from 8:00 a.m. to 12:00 noon.

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

The academic programs offered are certificate, associate and bachelor degrees in Business Administration, Criminal Justice, Social Work, Education, Health 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
• Medical Billing of Medical Plans
• Sales and Marketing
• Clerk/Receptionist
• Tour Guide
• Criminology for Municipal Police
• Associate in Networking of CISCO
• Nursing Technician
• Hydroponics Technician
• Technician in Maintenance of Green Areas and Golf Course
• Banking Operations
• Private Security Guard

Associate degrees in:
• Executive Secretary with Word Processing
• Medical Secretary with Medical Billing
• Criminal Justice with emphases in: Police

Bachelor’s degrees in:
• Management
• Marketing
• Computerized Information Systems
• Administrative Secretary
• Social Work
• Criminal Justice
• Early Childhood and Primary Education

Master’s degrees in:
• Human Resources
• Strategic Management and Leadership
• Social Work - Clinical
• Criminal Justice and Criminology
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  
• Medical Billing of Medical Plans  
• Sales and Marketing  
• Clerk/Receptionist  
• Tour Guide  
• Criminology for Municipal Police  
• Associate in Networking of CISCO  
• Nursing Technician  
• Hydroponics Technician  
• Maintenance of Green Areas and Golf Course Technician  
• Banking Operations  
• Private Security Guard

Associate degrees in:  
• Executive Secretary with Word Processing  
• Medical Secretary with Medical Billing  
• Criminal Justice with emphases in: Police

Bachelor’s degrees in:  
• Management  
• Marketing  
• Computerized Information System  
• Administrative Secretary  
• Social Work  
• Criminal Justice  
• Early Childhood and Primary Education  
• Public Affairs (Municipal Government)

Master’s degrees in:  
• Human Resources  
• Strategic Management and Leadership  
• Social Work - Clinical  
• Criminal Justice and Criminology

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
• Medical Billing of Medical Plans
• Sales and Marketing
• Clerk/Receptionist
• Tour Guide
• Criminology for Municipal Police
• Associate in Networking of CISCO
• Nursing Technician
• Hydroponics Technician
• Technician in Maintenance of Green Areas and Golf Course
• Banking Operations
• Private Security Guard

Associate degrees in:
• Executive Secretary with Word Processing
• Medical Secretary with Medical Billing
• Criminal Justice with emphases in: Police

Bachelor’s degrees in:
• Management
• Marketing
• Computerized Information Systems
• Social Work
• Criminal Justice
• Early Childhood and Primary Education
• Administrative Secretary

Master’s degrees in:
• Strategic Management and Leadership
• Social Work - Clinical
• Criminal Justice and Criminology

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

Certificate Programs in:
• Management
• Teacher’s Aid in Early Education
• Computer Software Application
• Medical Billing of Medical Plans
• Sales and Marketing
• Clerk/Receptionist
• Tour Guide
• Criminology for Municipal Police
• Associate in Networking of CISCO
• Nursing Technician
• Hydroponics Technician
• Technician in Maintenance of Green Areas and Golf Course
• Banking Operations
• Private Security Guard

Associate degrees in:
  • Executive Secretary with Word Processing
  • Medical Secretary with Medical Billing
  • Criminal Justice with emphases in: Police

Bachelor’s degrees in:
  • Management
  • Marketing
  • Computerized Information Systems
  • Social Work
  • Criminal Justice
  • Early Childhood and Primary Education
  • Administrative Secretary

Master’s degrees in:
  • Strategic Management and Leadership
  • Social Work - Clinical
  • Criminal Justice and Criminology

Barceloneta Off-Campus
Carr. P.R. # 2 KM. 59.0 Barrio Florida Afuera
Barceloneta, Puerto Rico 00617

Certificate Programs in:
  • Management
  • Teacher’s Aid in Early Education
  • Computer Software Application
  • Medical Billing of Medical Plans
  • Sales and Marketing
  • Clerk/Receptionist
  • Tour Guide
  • Criminology for Municipal Police
  • Associate in Networking of CISCO
  • Nursing Technician
  • Hydroponics Technician
  • Technician in Maintenance of Green Areas and Golf Course
  • Banking Operations
  • Private Security Guard

Associate degrees in:
  • Executive Secretary with Word Processing
  • Medical Secretary with Medical Billing
  • Criminal Justice with emphases in: Police

Bachelor’s 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 degrees in:
• Strategic Management and Leadership
• Criminal Justice and Criminology

Academic Components of the Programs - General Education, Core, and Major

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 /Professional Component
- 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/Professional 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 certificate programs and master programs are described in a separate catalog. However, the certificate programs in Bartending, Pastry and Baking, and Culinary Arts are included in this catalog under the José A. (Tony) Santana International School of Hospitality and Culinary Arts.

**General Education Component Courses**

**Required General Education Courses by area:**

**Area: Society and Culture**
- SOSC 112 Human Beings 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 II – 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 - 3 credits
- BIOL 252 Life on Planet Earth: Origins, Characteristics and Conditions - 3 credits
- BIOL 301 Human Beings 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:
Note: The Schools have identified in the program sequence some courses by area for students to select from, but students may select another course to meet the requirement of each 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: Quality of Life
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 Caribbean Cultural Perspectives – 3 credits
GEOG 203 Cultural Geography – 3 credits
ITHM 190 History of Gastronomy – 3 credits
Area: Globalization and Diversity
MARK 322 International Markets – 3 credits
POSC 350 Dynamics of International Political Relations – 3 credits
EDUC 230 Education for Peace – 3 credits
PSYC 228 Psychology of Diversity – 3 credits

Assessment Model at UNE

The assessment model of the UNE adopts the assessment features outlined by the Ana G. Méndez University System (SUAGM, 1992). The model is based on the concept of “Talent Development” as defined by Alexander Astin. From this perspective, resources, reputation, do not define our excellence nor by whom we admit to our Institution, but on what we do for the students once they reach us. Thus, excellence is observed starting with institutional effectiveness in the development of talent in the students, and how much value is added in the development process once they are admitted.

The model gathers information about the educational process of the students in three stages: before, during, and after:

Before: Information is gathered regarding the set of knowledge, skills and attitudes of the student before beginning the educational process. A diversity of instruments are used (educational and sociodemographic information, tests, interviews, and others) to know the environmental circumstances and the strengths and limitations of the learner regarding determined competencies considered as necessary and important.

During: It refers to the educational experiences that the university provides for the student through academia, teaching support services, and administrative services. During the educational process the institution creates the necessary conditions in the areas so that students can progressively achieve their educational goal. Information from different areas is gathered to follow the formative process of the students: curriculum, teaching, learning, educational materials, technology, support services, orientation, and others.

After: The main attention of this stage is to know the products achieved by the students after having passed through a planned assessment process. Once the students finish their formative process, we can reach the conclusion of whether or not they have attained their educational objective. With this information, we identify the changes that occurred in student achievement.

Calibrating the student’s talent development allows us to understand the links between before, during and after aimed at promoting experiences that develop their capacities to the maximum. According to Astin (1991), learning involves a change of learning; therefore it is necessary to measure the change in that process. Also, we start with the supposition that learning increases when students are aware of what they must learn, know the means and criteria to attain their educational objectives, and receive corrective follow-up or maintenance to improve learning. In this sense the purpose of assessment is to gather diverse information to improve the students’ learning product. Therefore, the term “outcomes assessment” is closely related to the curriculum (understood as teaching-learning).
Academic Programs offered at the Carolina Campus

Certificates in International Hospitality and Culinary Arts in:
- Bartending
- Culinary Arts
- Pastry and Baking

Certificates in Technical Programs in:
- Computer Software Applications
- Medical Billing 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
- Nursing Technician
- Leader of Recreational and Sports Programs
- Hotel Operations
- Banking Operations
- Hydroponics Technician
- Technician in Maintenance of Green Areas and Golf Course

Associate degree of Science in International Hospitality Management (AS)
- Hotel Operations
- Culinary Arts

Associate degree in Sciences and Technology (AS)
- Natural Sciences
- Engineering Technology in: Networking
- Engineering Technology in: Electronics
- Radiologic Technology
- Pharmacy Technician
- Medical Sonography
- Nursing

Associate degree in Business Administration (ABA)
- Computerized Information Systems in: Programming
- Computerized Information Systems in: Graphic Design
- Computerized Information Systems in: Support Technician

Associate degree in Office Systems (AOS)
- Executive Secretary with Word Processing
- Legal Secretary
- Medical Secretary with Medical Billing

Bachelor’s degree in Public Affairs/Social Sciences/Social Work
- Public Affairs
  - Municipal Government
- Criminal Justice
- Paralegal Studies
• Psychology
• Social Work

Bachelor’s degree in Education (BAEd)
• Early Childhood and Primary Education
• Special Education
• Physical Education at the Elementary Level
• Physical Education at the Secondary Level
• Teaching English as a Second Language at the Elementary Level
• Teaching English as a Second Language at the Secondary Level

Bachelor’s degree in Scientific Education (BS)
• Scientific Education at the Elementary Level
• Scientific Education at the Intermediate Level

Bachelor’s degree in Health Education (BS)
• School Health

Bachelor’s degree in Science (BS)
• Applied Microbiology
• Biology
• Biotechnology
• Environmental Sciences
• Nursing
• Radiology-Digital Angiography with Mammography
• Radiology-Computerized Tomography with Magnetic Resonance
• Medical Sonography-Vascular and Echocardiography Technology
• Health Services Management

Bachelor’s degree in Business Administration (BBA)
• Management
• Accounting
• Computerized Information Systems
• Marketing
• Insurance

Bachelor’s degree in Office Systems (BOS)
• Administrative Secretary

Bachelor’s degree of Science in International Hospitality Management (BS)
• Hotel Management
• Food and Beverage Management
• Events and Convention Planning
• Culinary Arts

Post Graduate Certificate program
• Medical Sonography
• Radiation Therapy Technology

Professional Certificates in:
• Events and Convention Planning
• Earth Sciences
• Infants and Pre-school
• School Violence Deviation
• School Social Work

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

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 Mathematics 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 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 Programs

Air Force and Army Reserve Officers Training Corps (Air Force ROTC) and (Army ROTC)

A formal cross-enrollment agreement was established in 1996 between Universidad del Este and the Air Force ROTC. The Army established a similar agreement in 2007 with the Ana G. Méndez University System.

Students from Universidad del Este are authorized to enroll and attend classes in the ROTC Program that are offered in the Carolina Campus. Those courses will be considered as Universidad del Este resident courses. Credit will be granted and entered on the official academic record.
Students will not be charged for courses taken in the ROTC Program. The Air Force and Army 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 Student Affairs prior to participating in the ROTC cross enrollment. The course offerings and programming schedule of the Air Force ROTC and the Army ROTC are available at the offices of both the Army and Air Force Coordinators located at the Employment Center building.

### Army ROTC Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ROTC 3011</td>
<td>Introduction to Military Sciences</td>
<td>2</td>
</tr>
<tr>
<td>ROTC 3012</td>
<td>Basic Military Skills</td>
<td>2</td>
</tr>
<tr>
<td>ROTC 3021</td>
<td>Fundamentals of Military Tactics I</td>
<td>2</td>
</tr>
<tr>
<td>ROTC 3022</td>
<td>Fundamentals of Military Tactics II</td>
<td>2</td>
</tr>
<tr>
<td>ROTC 3041</td>
<td>Basic English for Today’s Army I</td>
<td>1</td>
</tr>
<tr>
<td>ROTC 3042</td>
<td>Basic English for Today’s Army II</td>
<td>1</td>
</tr>
<tr>
<td>ROTC 3043</td>
<td>Intermediate English for Today’s Army I</td>
<td>1</td>
</tr>
<tr>
<td>ROTC 3044</td>
<td>Intermediate English for Today’s Army II</td>
<td>1</td>
</tr>
<tr>
<td>ROTC 3051</td>
<td>Military Briefing I</td>
<td>2</td>
</tr>
<tr>
<td>ROTC 3052</td>
<td>Military Briefing II</td>
<td>2</td>
</tr>
<tr>
<td>ROTC 4011</td>
<td>Communication and Psychology of Military Leadership</td>
<td>4</td>
</tr>
<tr>
<td>ROTC 4012</td>
<td>Fundamentals of Military Strategy</td>
<td>4</td>
</tr>
<tr>
<td>ROTC 4021</td>
<td>Military History, Leadership and Military Administration</td>
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</tr>
<tr>
<td>ROTC 4022</td>
<td>Seminar: Leadership and Military Administration</td>
<td>4</td>
</tr>
<tr>
<td>ROTC 4041</td>
<td>Military Writing I</td>
<td>2</td>
</tr>
<tr>
<td>ROTC 4042</td>
<td>Military Writing II</td>
<td>2</td>
</tr>
</tbody>
</table>

### Air Force Courses

#### Basic Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESAE 3001 – 3002</td>
<td>Foundations of USAF</td>
<td>4</td>
</tr>
<tr>
<td>ESAE 3011 – 3012</td>
<td>Evolution of USAF Aerospace Power</td>
<td>4</td>
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</tbody>
</table>

#### Advanced Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>ESAE 4001 – 4002</td>
<td>AF Leadership Studies</td>
<td>8</td>
</tr>
<tr>
<td>ESAE 4011 – 4012</td>
<td>National Security Affairs &amp; Preparation for Active Duty</td>
<td>8</td>
</tr>
</tbody>
</table>
Universidad del Este’s Anthem (Institutional Song)

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
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 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, Associate Professor
Universidad del Turabo
DBA, Management of Information Systems

Arvelo López, Israel, Associate Professor
Interamerican University
MBA, Marketing

Berrios Lugo, José, Assistant Professor
Universidad del Turabo
DBA, Management
Camacho García, Margarita, Full Professor
New York University
MA, Business Subject at College Level
University of Phoenix
MBA, Accounting and E- Business
Nova Southeastern University
EdD, (ABD) Distance Education

Candal Vicente, Isabel, Assistant Professor
Jackson State University
MS, Computer Information Systems
Universidad de San Pablo
PhD (ABD) Information Systems

Cotto Vargas, José, Instructor, CPA
Palm Beach University
MBA Accounting

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MA, Counseling and Guidance
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MA, Business Subject at College Level

Espina Romero, Maritza I., Associate Professor
Rensselaer Polytechnic Institute
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Universidad del Turabo
MBA, Management
Universidad Metropolitana
MS, Management and Environmental Management
Universidad de San Pablo
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Lebrón González, Edwin, Assistant Professor  
Interamerican University  
MBA, Accounting

Llorens Gómez, Antonio L., Assistant Professor  
Universidad del Turabo  
DBA, Management of Information Systems

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MBA, Marketing

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

Santiago Blas, Edward, Assistant Professor  
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Torres González, José, Assistant Professor  
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Yglesias Quiñones, Lola, Instructor  
Universidad Metropolitana  
MBA, Management

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PROGRAM DESCRIPTION

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 divided in two specialties, software and hardware. The software specialization is focused on how to solve modern business problems with a computer programming solution. This portion is heavily dependent on mathematical skills since business depends on numbers to operate. In this specialization students will learn to provide solutions utilizing modern high level programming languages.

Our other specialization it is focused on the hardware portion of an information system in which students will acquire real hands on training in our modern business scenarios. Students in this program will learn to analyze, plan, and implement sound computer networks. In addition students will be taught about computer safety, information security, disaster recovery, and project planning.

Depending on the students specialization it will have the necessary skills to lead and manage any IT Department and/or IT Project.

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 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.

**MINORS**

The School of Business Administration also offers the following minors that the student can enroll in at the same time he/she is pursuing a major degree program. The student, who wants to include in his/her official transcription this minor, must declare it at the school before he applies for graduation.

- General Business Administration
- Management
- Marketing
- Accounting
- Secretarial
- Medical Billing
- Insurance
- Computerized Information Systems
- Graphic design
- Computerized Systems Support Technician
- Entrepreneurship

**ADMISSIONS REQUIREMENTS TO BUSINESS ADMINISTRATION AND OFFICE SYSTEMS PROGRAMS**

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

- High School grade point average of 2.0 or above for Associate and Bachelor programs in:
  - Accounting
  - Computerized Information Systems
    - Graphic Design
    - Programming
    - Computer Support Technician
  - Insurance
  - Marketing
  - Management
  - Office Systems
    - Administrative Secretary
    - Executive Secretary
    - Medical Secretary
GRADUATION REQUIREMENTS FOR ALL PROGRAMS

The graduation requirement for the associate degree programs is a general grade point average of 2.0 and for the major component is 2.3.

The graduation requirement for the bachelor degree programs is a general grade point average of 2.0 and for the major component is 2.5.
ASSOCIATE DEGREES IN BUSINESS ADMINISTRATION

Associate in Business Administration in Computerized Information Systems: Programming

<table>
<thead>
<tr>
<th>66 credits</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>General Education</td>
<td>21</td>
</tr>
<tr>
<td>Core Curriculum Courses</td>
<td>21</td>
</tr>
<tr>
<td>Major Courses</td>
<td>24</td>
</tr>
</tbody>
</table>

**General Education**
- *SPAN 115 Reading, Writing & Oral Communication I* 3
- *ENGL 115 College Reading and Writing I* 3
- ENGL 116 College Reading and Writing II 3
- COMP 110 Introduction to Computer & Software 3
- SOCI 215 Culture and Folklore of Puerto Rico 3
- *MATH 118 Fundamentals of Intermediate Algebra* 3
- QYLE 110 Development of Values, Morals and Adaptation to University Life 3

**Core Curriculum Courses**
- 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
- MANA 125 Business Ethics 3

**Major Courses**
- WEBD 101 HTML 3
- COIS 115 Programming Logic 4
- COIS 206 Business Programming in Basic 4
- COIS 207 Visual Basic II 3
- COIS 270 Programming in Visual C++.NET 4
- COIS 303 Data Base 3
- CSST103 PC Troubleshooting and Maintenance 3

* The English, Spanish and Math courses will be offered according to student’s proficiency level.*
**Associate in Business Administration in Computerized Information Systems:**  
**Computer Support Technician**

<table>
<thead>
<tr>
<th>61 credits</th>
<th>Credits</th>
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<td>Final Project</td>
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<td>Elective</td>
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### General Education

- **SPAN 115**  
  Reading, Writing & Oral Communication I  
  3 credits
- **ENGL 115**  
  College Reading and Writing I  
  3 credits
- **ENGL 116**  
  College Reading and Writing II  
  3 credits
- **COMP 110**  
  Introduction to Computer & Software  
  3 credits
- **SOCI 215**  
  Culture and Folklore of Puerto Rico  
  3 credits
- **MATH 118**  
  Fundamentals of Intermediate Algebra  
  3 credits
- **QYLE 110**  
  Development of Values, Morals and Adaptation To University Life  
  3 credits

### Core Curriculum Courses

- **ACCO 110**  
  Quantitative Aspects of Accounting  
  3 credits
- **MANA 101**  
  Introduction to Business  
  3 credits
- **COIS 111**  
  Software Applied to Business Management  
  4 credits
- **MARK 133**  
  Fundamentals of Marketing  
  3 credits
- **MANA 125**  
  Business Ethics  
  3 credits

### Major Courses

- **CSST 103**  
  Pc Troubleshooting and Maintenance  
  3 credits
- **CSST 104**  
  Introduction to Networks  
  3 credits
- **CSST 200**  
  Network Hardware Installation and Maintenance  
  3 credits
- **CSST 201**  
  LAN Administration  
  3 credits
- **CSST 205**  
  Disaster Discovery  
  3 credits
- **COIS 393**  
  Operatives Systems  
  3 credits

### Final Project

- **CAPP 300**  
  Final Project  
  3 credits

### Elective

3 credits

*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. CAPP 300 must be approved with a minimum grade of ‘B’.
## Associate in Business Administration in Computerized Information Systems: Graphic Design

<table>
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<tr>
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<td>COMP110 Introduction to Computer &amp; Software 3</td>
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<tr>
<td>ART 101 Art Appreciation 2</td>
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<tr>
<td>ART 105 History of Art 3</td>
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<td>QYLE 110 Development of Values, Morals and Adaptation To University Life 3</td>
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<tr>
<td><strong>Core Curriculum Courses</strong></td>
<td>12</td>
<td>MARK 133 Fundamentals of Marketing 3</td>
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<tr>
<td>MARK 251 Advertising and Promotion 3</td>
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<tr>
<td>ACCO 110 Quantitative Aspects of Accounting 3</td>
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<tr>
<td>MANA 125 Business Ethics 3</td>
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<tr>
<td><strong>Major Courses</strong></td>
<td>27</td>
<td>CSGD 100 Photography &amp; Computer Components 3</td>
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<td>CSGD 101 Introduction to Graphic Design 3</td>
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<tr>
<td>CSGD 103 Image Design Photoshop 3</td>
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<td>CSGD 201 Publishing Design I 3</td>
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<td>CSGD 202 Publishing Design II 3</td>
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<td>CSGD 210 Advanced Graphic Design 3</td>
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<td>CSGD 220 Portfolio 3</td>
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<td>WEBD 201 Web Programming Tools 3</td>
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<td>WEBD 203 Web Animations 3</td>
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*The English, Spanish and Math courses will be offered according to student’s proficiency level.*
# ASSOCIATE DEGREES IN OFFICE SYSTEMS

## Associate in Office Systems in Executive Secretary with Word Processing

<table>
<thead>
<tr>
<th>66 Credits</th>
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### General Education 21

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<th>Course Title</th>
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<td>*ENGL 115</td>
<td>College Reading and Writing I</td>
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<tr>
<td>ENGL 116</td>
<td>College Reading and Writing II</td>
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<tr>
<td>*SPAN 115</td>
<td>Reading, Writing &amp; Oral Communication I</td>
<td>3</td>
</tr>
<tr>
<td>SPAN 275</td>
<td>Advanced Writing</td>
<td>3</td>
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<tr>
<td>*MATH 118</td>
<td>Fundamentals of Intermediate Algebra</td>
<td>3</td>
</tr>
<tr>
<td>QYLE 110</td>
<td>Developments of Values, Morals and Adaptation to College Life</td>
<td>3</td>
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<tr>
<td>HIST 255</td>
<td>Analysis of Historic Processes</td>
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### Core Curriculum Courses 27

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>OFAS 121-122</td>
<td>Basic Keyboarding I-II</td>
<td>8</td>
</tr>
<tr>
<td>OFAS 125</td>
<td>Secretarial Accounting</td>
<td>3</td>
</tr>
<tr>
<td>OFAS 221</td>
<td>Advanced Word Processing I</td>
<td>4</td>
</tr>
<tr>
<td>OFAS 290</td>
<td>Records Management</td>
<td>3</td>
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<tr>
<td>OFAS 291</td>
<td>Modern Office Procedures</td>
<td>3</td>
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<tr>
<td>OFAS 306</td>
<td>Software Applications in Desktop Publishing and Presentations</td>
<td>3</td>
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<tr>
<td>OFAS 323</td>
<td>Spreadsheet and Database Application</td>
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### Major Courses 14

<table>
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<tr>
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<th>Course Title</th>
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<tbody>
<tr>
<td>OFAS 104</td>
<td>Speedwriting</td>
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<tr>
<td>OFAS 204</td>
<td>Speedwriting Transcription</td>
<td>4</td>
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<tr>
<td>OFAS 303</td>
<td>Documents Production</td>
<td>3</td>
</tr>
<tr>
<td>OFAS 326</td>
<td>Software Integration</td>
<td>4</td>
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</table>

### Office Practice 4

**OFAS 392 Office Internship** 4

*The English, Spanish and Math courses will be offered according to student’s proficiency level. OFAS 121,122,221 and 222 must be approved with a minimum grade of “C”. OFAS 392 must be approved with a minimum grade of “B”.*

**Minimum of one hundred and sixty eight (168) working hours in an Internship during a semester.**
# Associate in Office Systems in Medical Secretary with Medical Billing

<table>
<thead>
<tr>
<th>65 Credits</th>
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<tbody>
<tr>
<td>General Education</td>
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<tr>
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<td>Major Courses</td>
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<td>Office Internship</td>
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## General Education

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td><em>ENGL 115</em></td>
<td>College Reading and Writing I</td>
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<tr>
<td>ENGL 116</td>
<td>College Reading and Writing II</td>
<td>3</td>
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<tr>
<td><em>SPAN 115</em></td>
<td>Reading, Writing &amp; Oral Communication I</td>
<td>3</td>
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<tr>
<td>SPAN 275</td>
<td>Advanced Writing</td>
<td>3</td>
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<tr>
<td><em>MATH 118</em></td>
<td>Fundamentals of Intermediate Algebra</td>
<td>3</td>
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<tr>
<td>QYLE 110</td>
<td>Development of Values, Morals and Adaptation to College Life</td>
<td>3</td>
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## Core Curriculum Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<td>OFAS 121-122</td>
<td>Basic Keyboarding I-II</td>
<td>8</td>
</tr>
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<td>OFAS 125</td>
<td>Secretarial Accounting</td>
<td>3</td>
</tr>
<tr>
<td>OFAS 221</td>
<td>Advanced Word Processing I</td>
<td>4</td>
</tr>
<tr>
<td>OFAS 290</td>
<td>Records Management</td>
<td>3</td>
</tr>
<tr>
<td>OFAS 291</td>
<td>Modern Office Procedures</td>
<td>3</td>
</tr>
<tr>
<td>OFAS 306</td>
<td>Software Applications in Desktop Publishing and Presentations</td>
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## Major Courses

<table>
<thead>
<tr>
<th>Course Code</th>
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<tbody>
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<td>SMED 112</td>
<td>Introduction to Medical Terminology</td>
<td>3</td>
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<tr>
<td>SMED 113</td>
<td>Medical Coding</td>
<td>3</td>
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<tr>
<td>SMED 200</td>
<td>Medical Billing</td>
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<td>SMED 230</td>
<td>Legal and Medical Aspects and Administrative Principles</td>
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<td>SMED 314</td>
<td>Health Education and Personal Safety</td>
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## Office Practice

<table>
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<th>Course Title</th>
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<tbody>
<tr>
<td><strong>OFAS 392</strong></td>
<td>Office Internship</td>
</tr>
</tbody>
</table>

* The English, Spanish and Math courses will be offered according to student’s proficiency level. OFAS 121,122,221 and 222 must be approved with a minimum grade of “C”. OFAS 392 must be approved with a minimum grade of “B”.

**Minimum of one hundred and sixty eight (168) working hours in an Internship during a semester.”
### Bachelor in Office Systems

#### Major in Administrative Secretary

**122 Credits**

<table>
<thead>
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<th>Category</th>
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<tbody>
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<tr>
<td>Electives</td>
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<tr>
<td>Office Internship</td>
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</table>

#### General Education

- **SOSC 113** Analysis of Cultural and Historic Processes 3 credits
- **SPAN 115** Reading, Writing & Oral Communication I 3 credits
- **SPAN 275** Advanced Spanish Writing 3 credits
- **ENGL 115** College Reading and Writing I 3 credits
- **ENGL 116** College Reading and Writing II 3 credits
- **ENGL 246** Conversational English 3 credits
- **MATH 118** Fundamentals of Intermediate Algebra 3 credits
- **QYLE 110** Development of Values, Morals and Adaptation to College Life 3 credits
- **HIST 255** Analysis of Historic Processes 3 credits
- **MANA 217** International Relations 3 credits
- **MENU COURSES** (Menu Selection of courses by students) 18 credits

#### Core Curriculum Courses

- **OFAS 121** Basic Keyboarding I 4 credits
- **OFAS 122** Basic Keyboarding II 4 credits
- **OFAS 125** Secretarial Accounting 3 credits
- **OFAS 221** Advanced Word Processing I 4 credits
- **OFAS 290** Records Management 3 credits
- **OFAS 291** Modern Office Procedures 3 credits
- **OFAS 306** Software Applications in Desktop Publishing and Presentations 3 credits
- **OFAS 323** Spreadsheet and Database Application 3 credits

#### Major Courses

- **OFAS 104** Speedwriting 3 credits
- **OFAS 204** Speedwriting Transcription 4 credits
- **OFAS 208** Management Applications in Office Automation 3 credits
- **OFAS 303** Document Production 3 credits
- **OFAS 230** Machine Transcription 4 credits
- **OFAS 300** Documents Creation 3 credits
- **OFAS 301** Introduction to Telecommunications 3 credits
- **OFAS 324** Development and Planning of Workshop Training 3 credits
<table>
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<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
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<tr>
<td>OFAS 326</td>
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<td>OFAS 491</td>
<td>Administrative Office Procedures</td>
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<td>OFAS 222</td>
<td>Advanced Word Processing II</td>
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</table>

**Electives** 6

**Office Practice** 4
**OFAS 392** Office Practice 4

*The English, Spanish and Math courses will be offered according to student’s proficiency level. OFAS 121, 122, 221 and 222 must be approved with a minimum grade of “C”. OFAS 392 must be approved with a minimum grade of “B”.

**Minimum of one hundred and sixty eight (168) working hours in an Internship during 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**

<table>
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<td>Electives</td>
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</tr>
<tr>
<td>Practicum</td>
<td>4</td>
</tr>
<tr>
<td>Action Research</td>
<td>4</td>
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</table>

### General Education  
**Credits: 48**
- SOCI 215 Culture and Folklore of Puerto Rico  
- *SPAN 115-116 Reading, Writing & Oral Communication I & II  
- *ENGL 115-116 College Reading and Writing I and II  
- COMP 110 Introduction to Computer & Software  
- MANA 217 International Relations  
- HIST 255 Analysis of Historic Processes  
- *MATH 119 Mathematics Applied to Business  
- QYLE 110 Development of Values, Morals and Adaptation to University Life  
- MENU COURSES (Menu Selection of courses by students)  

### Core Curriculum Courses  
**Credits: 37**
- MANA 101 Introduction to Business  
- COIS 111 Software Applied to Business Management  
- ACCO 110 Quantitative Aspects of Accounting  
- ACCO 111-112 Elementary Accounting  
- FINA 202 Business Finance  
- MARK 133 Fundamentals of Marketing  
- MANA 204 Elements of Business Law  
- ECON 123 Fundamentals of Economics  
- STAT 201 Business Statistics  
- MANA 125 Business Ethics  

### Major Courses  
**Credits: 24**
- MANA 210 Management Theory  
- MANA 213 Personnel Administration  
- MANA 230 Organizational Behavior  
- MANA 316 Small Business  
- MANA 340 Operations and Productions Management  
- MANA 401 Business Policy  
- MANA 404 Labor Relations  
- MANA 405 International Management
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<td>Action Research</td>
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* The English, Spanish and Math courses will be offered according to student's proficiency level. MANA 282 and BAOS 499 must be approved with a minimum grade of "B".

** Prerequisite for the Practicum: 24 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**

<table>
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<td>Major Courses</td>
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<td>Electives</td>
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</tr>
<tr>
<td>Practicum</td>
<td>4</td>
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<tr>
<td>Action Research</td>
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**General Education**  
- QYLE 110 Development of Values, Morals and Adaptation to University Life  
- SOCI 215 Culture and Folklore of Puerto Rico  
- *SPAN 115 Reading, Writing & Oral Communication I  
- *ENGL 115-116 College Reading and Writing I and II  
- COMP 110 Introduction to Computer & Software  
- FINA 204 Personal Finances Planning  
- MANA 204 International Relations  
- HIST 255 Analysis of Historic Processes  
- *MATH 119 Mathematics Applied to Business  
- MENU COURSES (Menu Selection of courses by students)  

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<thead>
<tr>
<th>Core Curriculum Courses</th>
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<tr>
<td>MANA 101 Introduction to Business</td>
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<td>COIS 111 Software Applied to Business Management</td>
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<td>ACCO 110 Quantitative Aspects of Accounting</td>
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<td>ACCO 111-112 Elementary Accounting</td>
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<td>FINA 202 Business Finance</td>
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<td>MARK 133 Fundamentals of Marketing</td>
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<tr>
<td>MANA 204 Elements of Business Law</td>
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<td>ECON 123 Fundamentals of Economics</td>
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<tr>
<td>STAT 201 Business Statistics</td>
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<td>MANA 125 Business Ethics</td>
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**Major Courses**  
- 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 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. MANA 282 and BAOS 499 must be approved with a minimum grade of “B”.

** 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

<table>
<thead>
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<td>General Education 48</td>
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<td>Electives 3</td>
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**General Education**

<table>
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<th>Title</th>
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<tbody>
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<td>Culture and Folklore of Puerto Rico</td>
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<td>*SPAN 115-116</td>
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<tr>
<td>*ENGL 115-116</td>
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<td>COMP 110</td>
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<tr>
<td>*MATH 118</td>
<td>Fundamentals of Intermediate Algebra</td>
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<td>*MATH 119</td>
<td>Mathematics Applied to Business</td>
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<tr>
<td>QYLE 110</td>
<td>Development of Values, Morals and Adaptation to University Life</td>
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<tr>
<td>HIST 255</td>
<td>Analysis of Historic Processes</td>
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<tr>
<td>MANA 217</td>
<td>International Relations</td>
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<tr>
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**Core Curriculum Courses**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
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<tbody>
<tr>
<td>MANA 101</td>
<td>Introduction to Business</td>
<td>3</td>
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<tr>
<td>COIS 111</td>
<td>Software Applied to Business Management</td>
<td>4</td>
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<tr>
<td>ACCO 110</td>
<td>Quantitative Aspects of Accounting</td>
<td>3</td>
</tr>
<tr>
<td>ACCO 111-112</td>
<td>Elementary Accounting</td>
<td>8</td>
</tr>
<tr>
<td>FINA 202</td>
<td>Business Finance</td>
<td>3</td>
</tr>
<tr>
<td>MARK 133</td>
<td>Fundamentals of Marketing</td>
<td>3</td>
</tr>
<tr>
<td>MANA 204</td>
<td>Elements of Business Law</td>
<td>4</td>
</tr>
<tr>
<td>ECON 123</td>
<td>Fundamentals of Economics</td>
<td>3</td>
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<tr>
<td>STAT 201</td>
<td>Business Statistics</td>
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<tr>
<td>MANA 125</td>
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**Major Courses**

<table>
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<th>Course</th>
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<tr>
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<tr>
<td>CSST 103</td>
<td>PC Troubleshooting and Maintenance</td>
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<td>COIS 115</td>
<td>Programming Logic</td>
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<tr>
<td>COIS 206</td>
<td>Programming in BASIC</td>
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<td>COIS 207</td>
<td>Visual Basic II</td>
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<td>COIS 270</td>
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<td>COIS 350</td>
<td>System Analysis and Design</td>
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<td>Programming in JAVA</td>
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</table>
Electives          3
Final Project       3

** CAPP 400       Final Project 3

* The English, Spanish and Math courses will be offered according to student’s proficiency level. CAPP 400 must be approved with a minimum grade of ‘B’.

** Prerequisite for the Final Project: 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 Marketing

<table>
<thead>
<tr>
<th>120 credits</th>
<th>Credits</th>
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<tr>
<td>General Education</td>
<td>48</td>
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<tr>
<td>Core Curriculum Courses</td>
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<td>Major Courses</td>
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<td>Electives</td>
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<tr>
<td>Practicum</td>
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<td>Action Research</td>
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### General Education

<table>
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<tbody>
<tr>
<td>SOSC 230</td>
<td>Economic &amp; Politics Systems</td>
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<tr>
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<td>College Reading and Writing I and II</td>
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<tr>
<td>COMP 110</td>
<td>Introduction to Computer &amp; Software</td>
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<td>Development of Values, Morals and Adaptation to University Life</td>
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<tr>
<td>MANA 217</td>
<td>International Relations</td>
<td>3</td>
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<tr>
<td>HIST 255</td>
<td>Analysis of Historic Processes</td>
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</tr>
<tr>
<td>*MATH 119</td>
<td>Mathematics Applied to Business</td>
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<tr>
<td>MENU COURSES</td>
<td>(Menu Selection of courses by students)</td>
<td>18</td>
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</tbody>
</table>

### Core Curriculum Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MANA 101</td>
<td>Introduction to Business</td>
<td>3</td>
</tr>
<tr>
<td>COIS 111</td>
<td>Software Applied to Business Management</td>
<td>4</td>
</tr>
<tr>
<td>ACCO 110</td>
<td>Quantitative Aspects of Accounting</td>
<td>3</td>
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<tr>
<td>ACCO 111-112</td>
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<tr>
<td>MARK 133</td>
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</tr>
<tr>
<td>MANA 125</td>
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### Major Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
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<tr>
<td>MARK 205</td>
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<td>MARK 206</td>
<td>Consumer Behavior</td>
<td>3</td>
</tr>
<tr>
<td>MARK 251</td>
<td>Advertising and Promotion</td>
<td>3</td>
</tr>
<tr>
<td>MARK 204</td>
<td>International Marketing</td>
<td>3</td>
</tr>
<tr>
<td>MARK 302</td>
<td>Service Marketing</td>
<td>3</td>
</tr>
<tr>
<td>MARK 320</td>
<td>Marketing Research</td>
<td>3</td>
</tr>
<tr>
<td>MARK 324</td>
<td>Telemarketing &amp; Consumer Services</td>
<td>3</td>
</tr>
<tr>
<td>MARK 401</td>
<td>Strategic Marketing</td>
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</table>
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. MANA 282 and BAOS 499 must be approved with a minimum grade of “B”.

** 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

<table>
<thead>
<tr>
<th>120 credits</th>
<th>Credits</th>
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<tbody>
<tr>
<td>General Education</td>
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<td>Major Courses</td>
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<td>Electives</td>
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**General Education**

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<tbody>
<tr>
<td>SOCI 215</td>
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<tr>
<td>*SPAN 115</td>
<td>Reading, Writing &amp; Oral Communication I</td>
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<tr>
<td>*ENGL 115-116</td>
<td>College Reading and Writing I and II</td>
<td>6</td>
</tr>
<tr>
<td>COMP 110</td>
<td>Introduction to Computer &amp; Software</td>
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<tr>
<td>QYLE 110</td>
<td>Development of Values, Morals and Adaptation to University Life</td>
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</tr>
<tr>
<td>MANA 217</td>
<td>International Relations</td>
<td>3</td>
</tr>
<tr>
<td>HIST 255</td>
<td>Analysis of Historical Processes of PR</td>
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<tr>
<td>*MATH 119</td>
<td>Mathematics Applied to Business</td>
<td>3</td>
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<tr>
<td>MENU COURSES</td>
<td>(Menu Selection of courses by students)</td>
<td>18</td>
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</tbody>
</table>

**Core Curriculum Courses**

<table>
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<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MANA 101</td>
<td>Introduction to Business</td>
<td>3</td>
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<tr>
<td>COIS 111</td>
<td>Software Applied to Business Management</td>
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<td>ACCO 110</td>
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<td>ACCO 111-112</td>
<td>Elementary Accounting</td>
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<td>FINA 202</td>
<td>Business Finance</td>
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<tr>
<td>MARK 133</td>
<td>Fundamentals of Marketing</td>
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<td>MANA 125</td>
<td>Business Ethics</td>
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**Major Courses**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>INSU 101</td>
<td>Introduction to Insurance</td>
<td>3</td>
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<tr>
<td>INSU 201</td>
<td>Life Insurance and Disability Insurance</td>
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<tr>
<td>INSU 202</td>
<td>Property and Miscellaneous Insurance</td>
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<td>INSU 203</td>
<td>Accident Insurance and Bonding</td>
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</tr>
<tr>
<td>INSU 301</td>
<td>Microeconomics in Insurance</td>
<td>3</td>
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<tr>
<td>INSU 302</td>
<td>Legal Environment in Insurance</td>
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<tr>
<td>INSU 303</td>
<td>Re-Insurance</td>
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<td>INSU 401</td>
<td>Seminar: Obtaining Designation</td>
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<tr>
<td>INSU 402</td>
<td>Advanced Solutions in Insurance</td>
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</table>
Electives

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

*** 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.
MINORS

- General Business Administration
  - A minimum of 15 credits selected from the following courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<th>Pre-requirements</th>
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<tbody>
<tr>
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<td>MANA 204</td>
<td>Elements of Business Law</td>
<td>4</td>
<td>MANA 101</td>
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<tr>
<td>MARK 133</td>
<td>Fundamentals of Marketing</td>
<td>3</td>
<td>MANA 101</td>
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<td>MANA 230</td>
<td>Organizational Behavior</td>
<td>3</td>
<td>MANA 101</td>
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<tr>
<td>STAT 201</td>
<td>Business Statistics</td>
<td>3</td>
<td>MATH 111</td>
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<tr>
<td>FINA 202</td>
<td>Business Finance</td>
<td>3</td>
<td>MANA 101</td>
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<tr>
<td>ACCO 111</td>
<td>Elementary Accounting I</td>
<td>4</td>
<td>ACCO 111</td>
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<tr>
<td>ACCO 112</td>
<td>Elementary Accounting II</td>
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- Management
  - A minimum of 12 credits selected from the following courses:

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<th>Course Title</th>
<th>Credits</th>
<th>Pre-requirements</th>
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<tbody>
<tr>
<td>MANA 101</td>
<td>Introduction to Business</td>
<td>3</td>
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<tr>
<td>MANA 213</td>
<td>Personnel Administration</td>
<td>3</td>
<td>MANA 101</td>
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<tr>
<td>MANA 210</td>
<td>Management Theory</td>
<td>3</td>
<td>MANA 101</td>
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<td>MANA 404</td>
<td>Labor Relations</td>
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<td>MANA 101</td>
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<td>MANA 230</td>
<td>Organizational Behavior</td>
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<td>MANA 101</td>
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<td>MANA 401</td>
<td>Business Policies</td>
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- Marketing
  - A minimum of 12 credits selected from the following courses:

<table>
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<tr>
<td>MARK 133</td>
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<td>MARK 205</td>
<td>Creative Selling</td>
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<td>MARK 133</td>
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<tr>
<td>MARK 206</td>
<td>Consumer Behavior</td>
<td>3</td>
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<tr>
<td>MARK 204</td>
<td>International Marketing</td>
<td>3</td>
<td>MARK 133</td>
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<tr>
<td>MARK 251</td>
<td>Advertising and Promotion</td>
<td>3</td>
<td>MARK 133</td>
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<td>MARK 302</td>
<td>Service Marketing</td>
<td>3</td>
<td>MARK 133</td>
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<tr>
<td>MARK 320</td>
<td>Marketing Research</td>
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<td>MARK 133, STAT 201</td>
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- Accounting
  - A minimum of 18 credits selected from the following courses:

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<tbody>
<tr>
<td>ACCO 111</td>
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<tr>
<td>ACCO 112</td>
<td>Elementary Accounting II</td>
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<td>ACCO 112</td>
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<tr>
<td>ACCO 201</td>
<td>Intermediate Accounting I</td>
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<td>ACCO 112</td>
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<tr>
<td>ACCO 203</td>
<td>Cost Accounting</td>
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<td>ACCO 112</td>
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</table>
ACCO 297 Funds Accounting 3 ACCO 112
ACCO 205 Puerto Rico Income Tax 3 ACCO 112
ACCO 304 Auditing 4 ACCO 450
ACCO 450 Advanced Accounting 4 ACCO 201

- Secretarial
  - A minimum of 17 credits selected from the following courses:

<table>
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<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Pre-requirements</th>
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<tbody>
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<td>Basic Keyboarding I</td>
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<tr>
<td>OFAS 122</td>
<td>Basic Keyboarding II</td>
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<tr>
<td>OFAS 306</td>
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<td>Presentation and Editing</td>
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<tr>
<td>OFAS 323</td>
<td>Spreadsheet and Database Applications</td>
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<td>OFAS 122</td>
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<tr>
<td>OFAS 290</td>
<td>Record Management</td>
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</table>

- Medical Billing
  - A minimum of 13 credits selected from the following courses:

<table>
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<th>Course Title</th>
<th>Credits</th>
<th>Pre-requirements</th>
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<tbody>
<tr>
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<td>Introduction to Medical Terminology</td>
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<tr>
<td>SMED 113</td>
<td>Medical Coding</td>
<td>3</td>
<td>SMED 112</td>
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<td>SMED 200</td>
<td>Medical Billing</td>
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<td>SMED 113</td>
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<tr>
<td>SMED 314</td>
<td>Health Education and Personal Safety</td>
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</table>

- Insurance
  - A minimum of 15 credits selected from the following courses:

<table>
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<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Pre-requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>INSU 101</td>
<td>Introduction to Insurance</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>INSU 201</td>
<td>Life Insurance and Disability Insurance</td>
<td>3</td>
<td>INSU 101</td>
</tr>
<tr>
<td>INSU 202</td>
<td>Property and Miscellaneous Insurance</td>
<td>3</td>
<td>INSU 101</td>
</tr>
<tr>
<td>INSU 203</td>
<td>Accident Insurance and Bonding</td>
<td>3</td>
<td>INSU 101</td>
</tr>
<tr>
<td>INSU 302</td>
<td>Reinsurance</td>
<td>3</td>
<td>INSU 101</td>
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<tr>
<td>INSU 303</td>
<td>Legal Environment</td>
<td>3</td>
<td>INSU 101</td>
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</table>

- Computerized Information Systems
  - A minimum of 15 credits selected from the following courses:

<table>
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<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Pre-requirements</th>
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</thead>
<tbody>
<tr>
<td>COIS 115</td>
<td>Programming Logic</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>CSST 103</td>
<td>PC Troubleshooting and Maintenance</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>COIS 206</td>
<td>Business Programming in Basic</td>
<td>4</td>
<td>COIS 115</td>
</tr>
<tr>
<td>COIS 207</td>
<td>Visual Basic II</td>
<td>3</td>
<td>COIS 206</td>
</tr>
<tr>
<td>COIS 270</td>
<td>Visual C++ .NET Programming</td>
<td>4</td>
<td>COIS 115</td>
</tr>
<tr>
<td>COIS 303</td>
<td>Database</td>
<td>3</td>
<td>COIS 270</td>
</tr>
</tbody>
</table>
- **Graphic Design**
  - A minimum of 15 credits selected from the following courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Pre-requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSGD 100</td>
<td>Photography and Computer Components</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>CSGD 101</td>
<td>Introduction to Graphic Design</td>
<td>3</td>
<td>CSGD 101</td>
</tr>
<tr>
<td>CSGD 103</td>
<td>Image Design</td>
<td>3</td>
<td>CSGD 101</td>
</tr>
<tr>
<td>CSGD 201</td>
<td>Publishing Design I</td>
<td>3</td>
<td>CSGD 101</td>
</tr>
<tr>
<td>CSGD 202</td>
<td>Publishing Design II</td>
<td>3</td>
<td>CSGD 201</td>
</tr>
<tr>
<td>CSGD 210</td>
<td>Advanced Graphic Design</td>
<td>3</td>
<td>CSGD 201</td>
</tr>
<tr>
<td>CSGD 220</td>
<td>Portfolio</td>
<td>3</td>
<td>CSGD 210</td>
</tr>
<tr>
<td>WEBD 201</td>
<td>WEB Programming Tools</td>
<td>3</td>
<td>WEBD 201</td>
</tr>
<tr>
<td>WEBD 101</td>
<td>HTML</td>
<td></td>
<td>WEBD 101</td>
</tr>
<tr>
<td>WEBD 203</td>
<td>WEB Animations</td>
<td>3</td>
<td>WEBD 201</td>
</tr>
</tbody>
</table>

- **Computerized Systems Support Technician**
  - A minimum of 15 credits selected from the following courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Pre-requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>COIS 111</td>
<td>Software Applications for Business Administration</td>
<td>4</td>
<td>COMP 110</td>
</tr>
<tr>
<td>CSST 103</td>
<td>PC Troubleshooting and Maintenance</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>CSST 104</td>
<td>Introduction to Networks</td>
<td>3</td>
<td>CSST 103</td>
</tr>
<tr>
<td>CSST 200</td>
<td>Network Hardware Installation and Maintenance</td>
<td>3</td>
<td>CSST 104</td>
</tr>
<tr>
<td>CSST 201</td>
<td>LAN Administration</td>
<td>3</td>
<td>CSST 200</td>
</tr>
<tr>
<td>CSST 205</td>
<td>Disaster Recovery</td>
<td>3</td>
<td>CSST 200</td>
</tr>
<tr>
<td>COIS 393</td>
<td>Operating Systems</td>
<td>3</td>
<td>CSST 200</td>
</tr>
</tbody>
</table>

- **Entrepreneurship**
  - A minimum of 15 credits selected from the following courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Pre-requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENTR 101</td>
<td>Introduction to Entrepreneurship</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>ENTR 201</td>
<td>New Venture Creation</td>
<td>3</td>
<td>ENTR 101</td>
</tr>
<tr>
<td>ENTR 230</td>
<td>Legal, tax and Environmental Responsibility</td>
<td>3</td>
<td>ENTR 101</td>
</tr>
<tr>
<td>ENTR 240</td>
<td>Marketing and Sales for the Entrepreneur</td>
<td>3</td>
<td>ENTR 101, ENTR 201</td>
</tr>
<tr>
<td>ENTR 250</td>
<td>Management of New Ventures</td>
<td>3</td>
<td>ENTR 101, ENTR 201</td>
</tr>
</tbody>
</table>
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.

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 worksheet and financial statements. Includes inventory accounting and accounts receivable, voucher systems, concepts and principles of bank statement reconciliation.

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. 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. 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. 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. 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. 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 hour of laboratory practice is required. Elective course Prerequisites: ACCO 112 and COIS 111

ACCO 295  Managerial Accounting
3 Credits
This course reviews the accounting process and financial statements. Analysis of financial information and accounting reports as a managerial tool such as sources of funds, analysis ratios, working capital and forecasting. It also prepares the student within the analytical skills of planning, organization and control of the business activities within the organization. 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. 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. 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 hour of laboratory practice is required.

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. 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. 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. 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. 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. 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.

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.

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.
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.  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. 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. 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. 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. 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. 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. Prerequisites: MANA 210, STAT 201

MANA 401  Business Policies  
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. 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. 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. 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. 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. 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. 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. 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. 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. 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 analysis 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.

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. 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. Prerequisite: MARK 133

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. 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. Prerequisite: MARK 133

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 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. Prerequisite: COMP 110
COIS 115  Programming Logic  
4 Credits  
Introduction to the development of algorithms and computer programming, including problem solving and programming concepts; the mathematical concepts required to solve problems using the computer; and the tools that are used to develop solutions, such as: IPO Charts, pseudo-code, and flow charts. Study of the basic elements of programming, such as basic data types, control structures and routines. The concepts of structured programming are also covered. It includes experience in laboratory.

COIS 206  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. Prerequisite: COIS 115

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. Prerequisite: COIS 206: Minimum grade: B.

COIS 270  Visual C++ Programming  
4 Credits  
Introduction to the development of algorithms, flow diagrams and computers programs using the Visual C++ programming language. Study of the basic elements of the Visual C++ language, such as basic data types, control structures, and routines. The concepts are covered with structured programming. It includes experience in the laboratory. Pre-requisite: COIS 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. The course requires laboratory. Prerequisite: COIS 206

COIS 350  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, database 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. Prerequisite: COIS 270, COIS 303
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 archives, “backup” and operating systems such as Linux, DOS, Windows, MacOS and others. Prerequisite: CSST 103

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 APPLET 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. Prerequisite: COIS 270

CAPP 300  Final Project
3 Credits
Supervised computer project. The student is provided with the requirements of a computer program; he/she develops the design and implementation of the program. It serves as evidence of learning assessment. Students must present the algorithm, program listing and executable as the requirements for the degree. Three hours weekly in a computer laboratory. Pre-requisite: 15 credits approved in the major.

CAPP 400  Project: Information System Design
3 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. Three hours weekly in a computer laboratory. Pre-requisite: 25 credits approved in the major.

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.
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. 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. 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. 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. 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. Prerequisite: CSGD 210

COMPUTERIZED SYSTEMS SUPPORT TECHNICIAN

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.

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. Prerequisite: CSST 103
CSST 200         Network Hardware Installations 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. Prerequisite: CSST 104

CSST 201         LAN Administrations
3 Credits
This course teaches the students how to install and configure Windows 2000 Advanced Server in an
Active Directory. 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. Prerequisite: CSST 200

WEB DESIGN

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. Prerequisite: COMP 110

WEBD 201         WEB Programming Tools
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
Dreamweaver, and other programs that help the development of web sites and site administration.

WEBD 203         WEB Animations
3 Credits
This course includes the use of advanced computerized programs (Adobe Flash) for the creation of
animated and interactive web sites. It covers techniques to create professional Flash animations,
animated GIF, interactive documents, advertisements, web page components and full animated and
interactive web sites.
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. Prerequisite: MATH 119

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. Prerequisite: MATH 111

INSURANCE

INSU 101       Introduction to Insurance
3 Credits
The course studies the scientific, technical and professional principles of the discipline. It identifies participants in industry and the fundamental aspects of the prevalent regulatory environment. It analyzes particular cases of social security and bonding insurance. After studying the insurance contract, the defining areas of the industry are studied separately: life insurance and disability insurance and miscellaneous and liability insurance.

INSU 201       Life Insurance and Disability Insurance
3 Credits
The course begins with a review of the basic concepts of insurance, emphasizing those most relevant to life insurance. The historic development of life insurance is studied. We will identify the types and uses of life and health insurance. The course also studies the aspects of the analysis of the contract, mathematical principles and risk selection. Prerequisite: INSU 101

INSU 202       Property and Miscellaneous Insurance
3 Credits
The course begins with a review of the basic concepts of insurance. We will study the historic development of miscellaneous insurance products. We will identify the types of miscellaneous insurance and the determining factors for their premium. The course studies reinsurance and its modalities. It then studies property, maritime, agriculture, vehicle, and title and mortgage insurance. Prerequisite: INSU 101

INSU 203       Accident Insurance and Bonding
3 Credits
The course identifies the particular aspects of the type of insurance for bonding as compared to other types of insurance. It studies multiple applications, emphasizing those that facilitate business negotiations and minimize risks. It also studies accident insurance, integrated to property policies as well as those that are not integrated. Individual and institutional liability risks are studied, along with their impact and the existing mechanisms to handle them. Prerequisite: INSU 101
INSU 301  Microeconomics in Insurance: Corporation, Insurer, and Agency
3 Credits
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. Prerequisite: INSU 201, 202 or 203

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. 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. 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. Prerequisite: INSU 301, 302 or 303

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. Prerequisite: 301, 302 or 303
COURSE DESCRIPTIONS IN OFFICE SYSTEMS

OFAS 104        Speedwriting
3 Credits
Designed to develop skills in the speedwriting system through practice in reading, writing and dictation. Students will transcribe form abbreviated material. The student is expected to acquire speedwriting skills of 30 words per minute. The course emphasizes the use of grammar rules.

OFAS 107         Medical Transcription
4 Credits
The course develops the students’ skills to transcribe medical information through transcribing equipment. Emphasis is given to the production of medical reports applying medical terminology. Prerequisites: OFAS 221.

OFAS 121        Basic Keyboarding I
4 Credits
Designed for the beginning students in Office Systems. Its major objectives are to develop touch control of the keyboard and proper techniques, to build speed and accuracy, and to provide practice in applying those basic skills to the formatting of basic parts of e-mails and one page business report. This course introduces students in the use of computer and word processing skills.

OFAS 122        Basic Keyboarding II
4 Credits
This course continues developing basic skills and proper techniques to build speed and accuracying the keyboard. Provide practice in applying those basic skills to the formatting of multiple rough-draft business and academic reports with paragraph and side headings, bullets and numbered lists, and indented displays. Also basic skills are applied in formatting business letters in block style, interoffice memos and tables. An introduction to Power Point will be applied. The course also develops good team working habits, and the use of technology and analysis. Prerequisite: OFAS 121

OFAS 125        Secretarial Accounting
3 Credits
Designed to introduce 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.

OFAS 204        Speedwriting Transcription
4 Credits
The course is an in-depth review of the theory of the speedwriting system, where the student develops speedwriting skills of 40 words per minute. 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. Prerequisites: OFAS 104 approved, OFAS 221 approved or concurrently
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>OFAS 208</td>
<td>Management Applications in the Office Automation</td>
<td>3</td>
<td>Students will analyze the principles and goals of the automated office system from the point of view of an administrator. It studies the administrative point of view in establishing and implementing a plan for an automated office system. The course emphasizes the analysis of situations and decision making.</td>
</tr>
<tr>
<td>OFAS 221</td>
<td>Advanced Word Processing I</td>
<td>4</td>
<td>The course emphasizes the development of advanced skills and knowledge to produce information using a microcomputer with a word processing program. The course continues developing of basic skills and emphasizes the formatting of various kind of business correspondence, reports, tables, electronic forms, and desktop publishing projects from arranged, unarranged, and rough-draft sources. 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 hour of practice per week in an open lab. Prerequisite: OFAS 122</td>
</tr>
<tr>
<td>OFAS 222</td>
<td>Advanced Word Processing II</td>
<td>4</td>
<td>The course continues developing advanced skills and knowledge to produce information integrating Word, Excel, Power Point, and Internet. The student use their knowledge and skills in producing and solving problems in different offices such as, Word Processing Centers, Public Relations and Marketing Department, Human Resources Department, Accounting, Legal and Medical Departments. Students provide solutions to problems within a minimum period of time without direct supervision. Proofreading, good work habits and good interpersonal relations are emphasized. Prerequisites: OFAS 221, OFAS 291</td>
</tr>
<tr>
<td>OFAS 230</td>
<td>Machine Transcription</td>
<td>4</td>
<td>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. Prerequisite: OFAS 221 approved or concurrently</td>
</tr>
<tr>
<td>OFAS 290</td>
<td>Record Management</td>
<td>3</td>
<td>Application of the systematic analysis and control of business records from their creation up to their final disposition. 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 applying technology, problem solving and interactive activities.</td>
</tr>
<tr>
<td>OFAS 291</td>
<td>Modern Office Procedures</td>
<td>3</td>
<td>Develops the essential office skills for effective performance in the business world. Emphasizes the need for develop good working habits, decision making and work organization. The course emphasizes the development of business vocabulary and the application of office procedures. Prerequisite: OFAS 122</td>
</tr>
</tbody>
</table>
OFAS 300        Document Generation
3 Credits
The course examines the varied and different methods utilized to create and produce documents (correspondence) by administrative personnel. Emphasis is placed in the development of different types of documents utilizing common means of creation, such as machine dictation, handwritten and rough drafts and computer keyboarding composition. Prerequisite: OFAS 221 approved or concurrently

OFAS 301        Introduction to Telecommunications
3 Credits
An introduction to theory and practical concepts of telecommunications in the office. Emphasis is given to technology, equipments and services that transfer distance information and that are essentials in the electronic office. The course utilized as the means to develop skills application, searching exercises, searching in Internet, cooperative work, case analysis, discussion, among others. Prerequisite: OFAS 221 approved or concurrently

OFAS 303        Document Production
3 Credits
The course develops keyboarding skills in the production of business documents at its highest level. It includes the preparation of complex rough drafts documents such as: business letters with two or more pages, circular letters, memorandums, reports, administrative communications, business forms and tables. In-basket exercises will be used as the means to develop skills in the decision-making process and skills in how to establish priorities. Prerequisite: OFAS 221 approved or concurrently

OFAS 306        Software Applications in Desktop Publishing
3 Credits
The course provides the students with the skills and techniques to create pages with all kinds of design elements, such as formatted text, lines, photographs and pictures using 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 effective presentations integrating texts, photographs, tables, graphic and sound. Prerequisite: OFAS 122

OFAS 307        Legal Transcription
4 Credits
The course develops skills for legal transcription of documents, and handled dictation from a computer. Includes legal terminology. Emphasis is placed on the production of legal documents using up to date technology. Prerequisites: OFAS 221 approved or concurrently

OFAS 323        Spreadsheet and Database Applications
3 Credits
This course is designed to introduce the students to 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 working habits, organization of work, use of technology and good working interpersonal skills. Prerequisite: OFAS 122
OFAS 324 Development and Planning of Workshop Training
3 Credits
Introduces the students in the planning and implementation of workshops within an office setting. The course includes planning activities for a simple orientation of new employees, development of workshops for employees in the use of new technologies, and development of administrative systems for the office as well as the workplace. Prerequisite: OFAS 306

OFAS 326 Applications Integration
4 Credits
Application of advanced functions for the Microsoft Office programs integration for the creation of documents. Includes word processing, data sheet and database, presentations as well as e-mail skills. The course is developed by means of cooperative work, supported critics, investigations and oral presentations. Prerequisites: OFAS 221, 323 y 306

OFAS 392 Office Practice
4 Credits
Application of concepts and skills related to the Office System career through supervised work within a community office. It requires a minimum of 168 hours in office internship during the semester. Emphasis is given in developing initiative and assuming responsibility. Includes seminar course to reinforce interpersonal skills such as: cooperative work, good manners, soft skills, create oral presentations and effective Internet skills.

Prerequisites:
BACHELOR: OFFICE SYSTEMS ASSOCIATE: EXECUTIVE SECRETARY

OFAS 222
OFAS 290
OFAS 326
OFAS 491
OFAS 221
OFAS 290
OFAS 291

ASSOCIATE: MEDICAL SECRETARY WITH HEALTH INSURANCE BILLING

OFAS 221
OFAS 290
OFAS 291
SMED 200

OFAS 491 Administrative Office Procedures
3 Credits
The course studies the process of administration, organization and communication. It emphasizes the following areas of office administration: personnel selection, professional development, supervision, motivation, performance-assessment, analysis of positions, job evaluation, salaries, measuring work performed and employee productivity. The course is developed through the analysis of situations, case evaluations and decision-making. Prerequisites: OFAS 221 approved or concurrently
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 118
OFAS 392 or concurrently

ENTREPRENEURSHIP

ENTR 101 Introduction to Entrepreneurship
3 Credits
This course is designed to provide the student with a broad vision of an entrepreneurial career. It covers the principles and procedures of creative thinking and leadership. Creative Problem Solving research and application will be used to develop creative leadership. By internalizing creativity principles and procedures students will develop a mindset and skills essential to leadership and entrepreneurship. Pre-requisites 6 credits of concentration courses approved

ENTR 201 New Venture Creation
3 Credits
This course is about the translation of ideas into innovation, and ultimately into a product or service that may be commercialized through a new venture, either in an existing firm or in a startup company. A better understanding of the creative thinking processes behind innovation and entrepreneurship are developed during the course through exercises, readings, discussions, lectures, and guest speakers. A common thread throughout this class is a focus on strategic applications of innovations to the entrepreneurship processes. Pre requisite ENTR 101

ENTR 230 Legal, tax and Environmental Responsibility
3 Credits
Legal, tax and environmental perspectives that rule entrepreneurial activities. The students will learn about the ethics, social and economic implications of municipal, state and federal regulations to businesses. Pre-requisites ENTR 101
ENTR 240  
Marketing and Sales for the Entrepreneur  
3 Credits  
Covers the concept of Market Creation, which refers to selling new products to new customers. This course is for students who expect to start a business, help an established company to create a new market, or take a sales or marketing job at an entrepreneurial firm. The case method will be used to demonstrate essential aspects of marketing execution: marketing leadership in cross-functional teams; economic analysis to assess the value of marketing activities; and ethical responsibilities to customers, investors, and the community. Subjects discussed include: targeting markets and customers, product marketing and management, sales and negotiation, partners and distribution, and outbound marketing. Pre-requisites ENTR 101 and ENTR 201

ENTR 250  
Management of New Ventures  
3 Credits  
This course covers a systematic approach on how to manage a growing venture more efficiently. Introduces methods for measuring financial and strategic factors on an on-going basis and examines a management control system for entrepreneurial ventures. Provides the student with management knowledge, frameworks, analytic skills, decision making techniques and motivational tools to anticipate and manage problems associated with business growth. Also discusses special needs of entrepreneurial organizations in the approach to human resource management, marketing and operations. Pre-requisites ENTR 101 and ENTR 201

MEDICAL SECRETARY

SMED 112  
Introduction to Medical Terminology  
3 Credits  
Introduction to the study of technical vocabulary including prefixes, suffixes, roots of medical terms as well as definitions and analysis. Also, studies the most common diseases its etiology signs and symptoms, diagnostic and evaluation, procedures and treatment.

SMED 113  
Medical Coding  
3 Credits  
In this course the student learns to assign numeric or alphanumeric codes to identify medical diagnoses and procedures on patient records. They also study standard code classification manuals. Emphasis is given to the application of coding techniques and medical billing. Prepares the student to work in different areas such as; clinics, medical private offices, dental offices, nursing care facilities, non-profit agencies, hospital finance departments, third-party billing firms and insurance companies. The course is developed through team work, case studies and practice exercises application.

SMED 200  
Codification and Medical Plan Billing  
3 Credits  
This course will provide the skills necessary in completing HCEA forms and mastering the insurance claim form cycle. Practical information will be given on the features that are common to all insurance carriers and the features specific to Medicare, Medicaid, blue cross and others. It includes coding practices in prospective payment and current procedural coding, using Current Procedural Terminology (CPT).
SMED 230  Administrative and Medico-legal Aspects
3 Credits
The course emphasizes one of the many uses of medical records: its use as legal protection to the patient and to the institution that provides the health care services. It also offers the use of requirements and legal principals of medical records in relation to its retention, security controls, and maintenance and divulges the confidential information regarding treatments, within the institution as well as outside. It also includes the use of professional ethics and legal medical aspects in the health information systems.

SMED 314  Health Education and Personal Safety
3 Credits
It studies personal safety procedures that have to be considered to promote, prevent and maintain good health. Students will apply concepts of protection and health promotion and disease prevention, as well as prevention and safety in reducing accidents. It includes training in cardiopulmonary resuscitation techniques. The course is developed through analysis of situations, case studies, practice and oral presentations.
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 certification (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 foundations of education inherent to the educational effort. The philosophical, sociological and psychological foundations 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 foundations of education (theoretical and applied) that are inherent and essential to its effort, which is to educate. Each of the foundations of education is projected in some manner in the organization of the School, especially in its curriculum and educational activities. The foundations 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 & Pfieffer, 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 it 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 formal educational preparation, 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.

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Becoming a Future Teacher at UNE and in Puerto Rico:

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 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 officials 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.

The Department of Education of the Commonwealth of Puerto Rico establishes that the future teacher candidate must possess a 2.50 Graduation Index on 2009-2011 and 2.80 on 2011-2013, and 3.00 for Academic year 2013- 2014, and so on (in addition of PCMAS approval) to apply for a teaching position in the public educational system.

4. 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.

5. All courses must be approved with a minimum of a “B”. Courses with C or less can be repeated at least twice. This requirement is subject to change by the School of Education especially in the General Education courses.

**Important Notice:** Starting Academic Year 2008-2009, all 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 time. The general and the major point average required for graduation is 2.50 for Academic Year 2008-2011, and 2.80 for Academic Year 2011-2013, and 3.00 for Academic year 2013- 2014, and so on.

6. All Practicum and Seminar courses shall be taken concurrently. School’s officials and faculty staff would assign practicum centers and schools.

7. All Education students who are going to take (Puerto Rico Teacher Examination Certification Prueba de Certificación de Maestros – PCMAS given in March of each year, must take and approve two capstones courses: EDUC 435-Interdisciplinary Seminar and EDUC 436-
Pedagogical Integration Seminar in order to enroll last Practicum course. Approval of this course means complies with course syllabi and the approval of School’s Comprehensive Test administered by The College Board.

8. The School is not responsible for students taking the Teaching license certification Pruebas de Certificación de Maestros PCMA’S- without the necessary prerequisites and authorization by the Dean.

9. Simulated or mock tests could be given at any time, especially after the completion of the second year.

10. 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 (Resource Center for Educational Excellence-CREE, Spanish acronym).

IMPORTANT NOTICE: Each term student’s enrollment gives knowledge and approval of the School’s norms mentioned above or any new one emerge from external and/or internal forces. The academic programs and norms are aligned according to the requirements, legislation and in compliance with the Puerto Rico’s Department of Education and other agencies in Puerto Rico and United States and shall be change for the School of Education. 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 Third 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 preschools and public and private pre-school centers. Alumni will also develop knowledge and experience in order to be qualified to establish their own pre-school center.

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.

This model allows 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.

Teaching English as a Second Language
Elementary and Secondary levels

The student who graduates from this program (either level) will be an academically well-prepared professional that will perform with success and will contribute favorably to the development of ESL teaching in the nation. The student’s profile is based on legislation and the public policy documents that correspond to the program along with the NCLB regulations for Highly Qualified Teachers. In order to be considered highly qualified, teachers must have a bachelor’s degree, full state certification or licensure, and prove that they know each subject they teach. To demonstrate competency, teachers must prove that they know the subject they teach by having a major in the subject they teach, credit equivalent to a major in the subject, passage of a state developed test, an advanced certification, or a graduate degree. Before certification, each candidate must take and pass an English Language Proficiency test administered by the Puerto Rico Department of Education. High, Objective, Uniform State Standard of Evaluation (HOUSSSE) is an additional way that teachers have to demonstrate subject matter competency. This proof may consist of a combination of teaching experience, professional development, and knowledge in the subject achieved over time in the profession.

Special Education
Elementary and Secondary levels

The student who graduates from this program will be academically well prepared to work as a special educator in elementary and secondary level. This program will form a citizen with a base on knowledge about the behavior and development of the human being, especially on exceptional children and adolescents. The student who pursue this major, develops the necessary skills, competencies, knowledge and values to manage the professional demands of this field according to the sensibility, law and legislations that protect this population. Through this program, it is expected that the educator contributes to improve the quality of life of the exceptional population, to develop effective communication skills and identify solutions for social problems. Also, it is expected that the educator develops a comprehensive and tolerance attitude towards the cultural diversity and respect to the human being.

POST GRADUATE CERTIFICATES:

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.

**MINORS/SPECIAL CERTIFICATIONS:**

**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.

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

**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.

**School Social Work**
Universidad del Este offers the necessary education courses for Social Workers to be certified as School Social Worker. 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.
ADMISSIONS REQUIREMENTS TO TEACHER EDUCATION PROGRAMS*

These are in addition to the general admissions requirement to enter at UNE.
- High School grade point average of 2.50 starting in August 2009 thru 2010.
- Starting in August 2011 thru 2013, the minimum grade point average will be 2.80.
- Starting in August 2013 thru 2014, the minimum grade point average will be 3.00.

- Teaching English as a Second Language majors have an additional requirements:
  1. A score of 575 or more in the College Board Examination Test or English Component of the College Entrance Examination.
  2. Acquiring Middle or Senior level in the ELLIS Placement Test administered by the Resource Center for Educational Excellence (CREE, Spanish acronym).

* All the Admissions requirements are subject to change from one academic year to the next in accordance to state mandatory regulations. The Institution must meet and comply with these regulations in order to offer the academic programs in education.

GRADUATION REQUIREMENTS OF ALL TEACHER EDUCATION PROGRAMS**

They must have satisfactorily completed the prescribed number of credits with a grade point average of 2.50 (B) or higher for Academic Year 2008-2009, and 2.80 for Academic Year 2009-2010, and 3.00 for Academic Year 2010-2011.

** All graduation requirements are subject to change from one academic year to the next in accordance to state mandatory regulations. The Institution must meet and comply with these regulations in order to graduate the student from the education degree program he/she is studying.
BACHELOR’S DEGREES

Bachelor in Arts in Education
Major in Early Childhood and Primary Education

139 Credits

<table>
<thead>
<tr>
<th>Component</th>
<th>Credits</th>
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<tbody>
<tr>
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<td>Educational Component</td>
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<td>Major Courses</td>
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<td>Electives</td>
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</tbody>
</table>

**General Education Component**  
QYLE 110  Formative Integral Development  
SPAN 115  Reading, Writing and Oral Communication in Spanish I  
SPAN 275  Advanced Writing in Spanish  
ENGL 115-116  College Reading and Writing I and II  
ENGL 307  Professional Writing  
MATH 107  Basic Fundamentals of Mathematics  
MATH 118  Fundamentals of Intermediate Algebra  
BIOL 252  Life on Planet Earth: origins, characteristics…  
UNRE 101  Concepts and Principles of Research  
SOSC 113  Analysis of the Historical and Cultural Processes  
SOSC 242  Political and socio-economic principles of Globalization  
HUMA 230  Appreciation of the Arts and Music  
PHED 105  Physical Aptitude and General Wellness  
HIST 255  Analysis of the Puertorrican Historical Process  
HIST 274  History of United States of America  
HUMA 224  Contributions of the Great World Civilizations  
EDUC 230  Education for Peace

**Professional Educational Component**  
EDUC 171  Human Growth and Development I  
EDUC 172  Human Growth and Development II  
EDUC 202  Integration of Computer and Technology for Teaching and Learning  
EDUC 205  Introduction to Assistive Technology  
EDUC 300  Psychological Foundations of Education  
EDUC 305  Sociological Foundations of Education  
EDUC 406  Seminario de Investigación en la Sala de Clases  
EDUC 409  Planning and Evaluation of the Learning Process  
EDUC 410**  Teaching of Mathematics at Primary level (K-3)  
EDUC 411**  Teaching of Science at Primary level (K-3)  
EDUC 412**  Teaching of Social Studies at Primary level (K-3)  
EDUC 413**  Teaching of English as a Second Language at Primary level (K-3)
EDUC 420  Philosophical Foundations of Education  3
EDUC 435  Interdisciplinary Seminar  3
EDUC 436  Seminar in 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 with Inclusion  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 409  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, or  3
ECED 444***  Practicum in Primary Level Education (K-3)  3

**Electives**  3

1 In all teacher preparation programs the English, Spanish, and Math courses will be assigned according to the student's proficiency level evidenced by the results of the College Entrance Examination Board or UNE's Placement Test.

2 All courses must be passed with a minimum grade of B and a 2.50 GPA.

** Requirement courses for the Teachers Certification Elementary Level (K-3) by the P.R. Department of Education.

*** Practice Courses according to the student level of interest. ECED 443: Early Childhood and ECED 444: Elementary Level (k-3th).
Bachelor of Science in Science Education  
Major in Science Education at the Elementary Level (grades 4-6)

137 Credits

<table>
<thead>
<tr>
<th>Category</th>
<th>Credits</th>
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<tr>
<td>General Education</td>
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<td>Major Courses</td>
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<tr>
<td>Electives</td>
<td>3</td>
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</table>

**General Education Component**  
QYLE 110  Formative Integral Development  
SPAN 115  Reading, Writing and Oral Communication in Spanish I  
SPAN 275  Advanced Writing in Spanish  
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HIST 255  Analysis of the Puertorrican Historical Process  
HIST 274  History of United States of America  
HUMA 224  Contributions of the Great World Civilizations  
EDUC 230  Education for Peace

**Professional Educational Component**  
EDUC 171  Human Growth and Development I  
EDUC 172  Human Growth and Development II  
EDUC 202  Integration of Computer and Technology for Teaching and Learning  
EDUC 204  Education for Children with Exceptional Needs, and Inclusion  
EDUC 205  Introduction to Assistive Technology  
EDUC 300  Psychological Foundations of Education  
EDUC 305  Sociological Foundations of Education  
EDUC 406  Seminario de Investigación en la Sala de Clases  
EDUC 409  Planning and Evaluation of the Learning Process  
EDUC 420  Philosophical Foundations of Education  
EDUC 435  Interdisciplinary Seminar  
EDUC 436  Seminar in Pedagogical Integration

**Professional Courses**  
SCED 203  History, Philosophy and Sociology of Science: Educational Implications
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>SCED 215</td>
<td>Development of the Conceptual Frameworks and Knowledge, Construction in the Biological and Environmental Sciences at the Elementary and Middle Levels</td>
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<tr>
<td>SCED 216</td>
<td>Development of the Conceptual Frameworks and Knowledge, Construction in the Physics, Earth and Chemistry Sciences at the Elementary and Middle Levels</td>
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<tr>
<td>SCED 310</td>
<td>Models, Strategies, Resources, and Scientific Research in Science Education at Elementary and Middle Levels</td>
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**Major Courses**  

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<th>Course Title</th>
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<td>CHEM 121</td>
<td>Basic Concepts in Chemistry</td>
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<tr>
<td>PHSC 101-102</td>
<td>Introduction to the Study of Physical Sciences I &amp; II</td>
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<td>MAED 201</td>
<td>Mathematics in the Elementary School</td>
<td>3</td>
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<td>EASC 123</td>
<td>Basic Concepts of Earth Sciences</td>
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<td>EDUC 215</td>
<td>Social Studies in the Elementary School</td>
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<td>EDUC 221</td>
<td>The Language Arts in the Elementary School</td>
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<td>EDUC 222</td>
<td>English as a Second Language at the Elementary School Level</td>
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<td>EDUC 226</td>
<td>Arts and Recreation at the Elementary School Level</td>
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<td>SCED 416</td>
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<td>SCED 417</td>
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<td>SCED 419</td>
<td>Seminar in Science Education</td>
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<tr>
<td>SCED 420</td>
<td>Science Education Practicum in Elementary School Level</td>
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</table>

**Electives**  

3

1 In all teacher preparation programs the English, Spanish, and Math courses will be assigned according to the student's proficiency level evidenced by the results of the College Entrance Examination Board or UNE's Placement Test.

2 All courses must be passed with a minimum grade of B and a 2.50 GPA.
Bachelor of Science in Science Education  
Major in Science Education at the Intermediate Level (grades 7-9)

144 Credits

<table>
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<tr>
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<td>General Education</td>
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**General Education Component**  
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 115-116  College Reading and Writing I and II 6
ENGL 307  Professional Writing 3
MATH 107  Basic Fundamentals of Mathematics 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
HIST 255  Analysis of the Puertorrican Historical Process 3
HIST 274  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**  
EDUC 171  Human Growth and Development I 3
EDUC 172  Human Growth and Development II 3
EDUC 202  Integration of Computer and Technology for Teaching and Learning 3
EDUC 204  Education for Children with Exceptional Needs, and Inclusion 3
EDUC 205  Introduction to Assistive Technology 3
EDUC 300  Psychological Foundations of Education 3
EDUC 305  Sociological Foundations of Education 3
EDUC 406  Seminario de Investigación en la Sala de Clases 3
EDUC 409  Planning and Evaluation of the Learning Process 3
EDUC 420  Philosophical Foundations of Education 3
EDUC 435  Interdisciplinary Seminar 3
EDUC 436  Seminar in Pedagogical Integration 3

**Professional Courses**  
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 3
Construction in the Physics, Earth and Chemistry Sciences at Elementary and Middle Levels

SCED 310 Models, Strategies, Resources, and Scientific Research in Science Education at Elementary and Middle Levels 3

<table>
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<tr>
<th>Major Courses</th>
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<tr>
<td>BIOL 203-204</td>
<td>General Biology I&amp;II 8</td>
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<tr>
<td>CHEM 203-204</td>
<td>General Chemistry I&amp;II 8</td>
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<tr>
<td>PHSC 203-204</td>
<td>General Physical Sciences I&amp;II 8</td>
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<tr>
<td>EASC 123</td>
<td>Basic Concepts of Earth Sciences 4</td>
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<tr>
<td>MATH 118</td>
<td>Foundations of Intermediate Algebra 3</td>
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<td>MATH 130</td>
<td>Integrated Algebra and Trigonometry I (Pre-Calculus I) 4</td>
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<td>EDUC 400</td>
<td>Language Arts in the Middle Level 3</td>
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<td>SCED 421</td>
<td>Clinical Experiences 1 0</td>
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<td>SCED 422</td>
<td>Clinical Experiences 2 0</td>
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<tr>
<td>SCED 425</td>
<td>Science Education Practicum in Middle School Level 3</td>
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</table>

| Electives | 3 |

1 In all teacher preparation programs the English, Spanish, and Math courses will be assigned according to the student’s proficiency level evidenced by the results of the College Entrance Examination Board or UNE’s Placement Test.

2 All courses must be passed with a minimum grade of B and a 2.50 GPA.
### Bachelor of Science in Science Education

**Major in Earth/Terrestrial Sciences**

**139 Credits**

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<tr>
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<td>Educational Component</td>
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<td>Electives</td>
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#### General Education Component 54

- **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 115-116** College Reading and Writing I and II 6
- **ENGL 307** Professional Writing 3
- **MATH 107** Basic Fundamentals of Mathematics 3
- **MATH 118** Fundamentals of Intermediate Algebra 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
- **HIST 255** Analysis of the Puertorrican Historical Process 3
- **HIST 274** 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 36

- **EDUC 171** Human Growth and Development I 3
- **EDUC 172** Human Growth and Development II 3
- **EDUC 202** Integration of Computer and Technology for Teaching and Learning 3
- **EDUC 204** Education for Children with Exceptional Needs, and Inclusion 3
- **EDUC 205** Introduction to Assistive Technology 3
- **EDUC 300** Psychological Foundations of Education 3
- **EDUC 305** Sociological Foundations of Education 3
- **EDUC 406** Seminario de Investigación en la Sala de Clases 3
- **EDUC 409** Planning and Evaluation of the Learning Process 3
- **EDUC 420** Philosophical Foundations of Education 3
- **EDUC 435** Interdisciplinary Seminar 3
- **EDUC 436** Seminar in Pedagogical Integration 3

#### Professional Courses 12

- **SCED 203** History, Philosophy and Sociology of Science: Educational Implications 3
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<tr>
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<td>EASC 123</td>
<td>Basic Concepts in Earth Sciences</td>
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<tr>
<td>EASC 126</td>
<td>Fundamentals of Atmospheric and Space Sciences</td>
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<td>EASC 226</td>
<td>History and Evolution of Life</td>
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<td>EASC 230</td>
<td>Ecological Aspects of Puerto Rico</td>
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<td>EASC 241</td>
<td>Introduction to Oceanography</td>
<td>3</td>
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<td>EASC 300</td>
<td>Rocks and Minerals</td>
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<td>EASC 311</td>
<td>Geomorphology</td>
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<td>EASC 315</td>
<td>Carbonate Geology</td>
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<td>EASC 406</td>
<td>General Geology of Puerto Rico</td>
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Bachelor of Science in Physical Education
Major in Physical Education at the Elementary Level (K-6)

138 Credits

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- HUMA 224 Contributions of the Great World Civilizations 3
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Professional Educational Component 36
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- EDUC 409 Planning and Evaluation of the Learning Process 3
- EDUC 420 Philosophical Foundations of Education 3
- EDUC 435 Interdisciplinary Seminar 3
- EDUC 436 Seminar in Pedagogical Integration 3

Professional Courses 8
- BIOL 103 Anatomy & Physiology I 4
- BIOL 104 Anatomy & Physiology II 4
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<th>Major Courses</th>
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<tr>
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<tr>
<td>PHED 213  Foundations of Kinesiology and Physical Education</td>
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<td>PHED 311  Curriculum and Methodology of Physical Education (K-6)</td>
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1 In all teacher preparation programs the English, Spanish, and Math courses will be assigned according to the student’s proficiency level evidenced by the results of the College Entrance Examination Board or UNE’s Placement Test.

2 All courses must be passed with a minimum grade of B and a 2.50 GPA.
Bachelor of Science in Physical Education
Major in Physical Education at the Secondary Level (7-12)

138 Credits

General Education 54
Educational Component 36
Professional Component 8
Major Courses 37
Electives 3

General Education Component 54
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 115-116 College Reading and Writing I and II 6
ENGL 307 Professional Writing 3
MATH 107 Basic Fundamentals of Mathematics 3
MATH 118 Fundamentals of Intermediate Algebra 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
HIST 255 Analysis of the Puertorrican Historical Process 3
HIST 274 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 36
EDUC 171 Human Growth and Development I 3
EDUC 172 Human Growth and Development II 3
EDUC 202 Integration of Computer and Technology for Teaching and Learning 3
EDUC 204 Education for Children with Exceptional Needs, and Inclusion 3
EDUC 205 Introduction to Assistive Technology 3
EDUC 300 Psychological Foundations of Education 3
EDUC 305 Sociological Foundations of Education 3
EDUC 406 Seminario de Investigación en la Sala de Clases 3
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Professional Courses 8
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| Electives                                        | 3  |

1 In all teacher preparation programs the English, Spanish, and Math courses will be assigned according to the student’s proficiency level evidenced by the results of the College Entrance Examination Board or UNE’s Placement Test.

2 All courses **must** be passed with a minimum grade of B and a 2.50 GPA.
Bachelor in Arts in Education  
Major in Special Education (K-12 levels)

133 Credits

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<td>Integration of Computer and Technology for Teaching and Learning</td>
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<tr>
<td>SPED 101</td>
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<td>Assistive Technology and other Resources in Special Education</td>
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<td>Nature, Needs and Behavior Modification in the Special Ed Student With Attention Disorder Deficit</td>
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<td>SPED 207</td>
<td>Methodology, Adaptations and for the Special Ed Student in Science and Mathematics Teaching at the Elementary Level</td>
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<td>Methodology, Adaptations and for the Special Ed Student in Science and Mathematics Teaching at the Secondary Level</td>
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<td>Language Development and the Reading-Writing Processes in the Special Ed Student I</td>
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<td>Brain and Learning</td>
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<td>Clinical Experience in Special Education I</td>
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**Electives** 3

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2 All courses must be passed with a minimum grade of B and a 2.50 GPA.
Bachelor in Arts in Education  
Teaching English as a Second Language (Elementary Level)  

127 Credits  

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**Electives** 3

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2 All courses must be passed with a minimum grade of B and a 2.50 GPA.

3 Admission requisite: A score of 575 or more in the College Board Examination Test or English Component of the College Entrance Examination or acquiring middle or senior level in the ELLIS Placement Test administered by the Resource Center for Educational Excellence (CREE, Spanish acronym).
Bachelor in Arts in Education  
Teaching English as a Second Language (Secondary Level)

127 Credits

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</thead>
<tbody>
<tr>
<td>EDUC 171</td>
<td>Human Growth and Development I</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 172</td>
<td>Human Growth and Development II</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 202</td>
<td>Integration of Computer and Technology for Teaching and Learning</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 204</td>
<td>Education for Children with Exceptional Needs, and Inclusion</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 205</td>
<td>Introduction to Assistive Technology</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 300</td>
<td>Psychological Foundations of Education</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 305</td>
<td>Sociological Foundations of Education</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 406</td>
<td>Seminario de Investigación en la Sala de Clases</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 409</td>
<td>Planning and Evaluation of the Learning Process</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 420</td>
<td>Philosophical Foundations of Education</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 435</td>
<td>Interdisciplinary Seminar</td>
<td>3</td>
</tr>
<tr>
<td>EDUC 436</td>
<td>Seminar in Pedagogical Integration</td>
<td>3</td>
</tr>
</tbody>
</table>

**Major Courses**

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<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>ENGL 225</td>
<td>Introduction to Linguistics</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 226</td>
<td>Grammatical Structures of English</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 230</td>
<td>Introduction to Literary Genres</td>
<td>3</td>
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<tr>
<td>Course Code</td>
<td>Course Title</td>
<td>Credits</td>
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<tr>
<td>ENGL 405</td>
<td>English Phonetics</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 360</td>
<td>Contrastive Analyses of English and Spanish</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 410</td>
<td>Advanced Composition</td>
<td>3</td>
</tr>
<tr>
<td>ENED 105</td>
<td>Introduction to TESL</td>
<td>3</td>
</tr>
<tr>
<td>ENED 205</td>
<td>Adolescent Literature in the ESL Classroom</td>
<td>3</td>
</tr>
<tr>
<td>ENED 320</td>
<td>Teaching Reading and Writing in a Second Language</td>
<td>3</td>
</tr>
<tr>
<td>ENED 323</td>
<td>English Curriculums and Teaching at the Secondary Level</td>
<td>3</td>
</tr>
<tr>
<td>ENED 402</td>
<td>Diagnoses and Correction of Oral and Written Communication</td>
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<tr>
<td></td>
<td>in English in the Secondary Level</td>
<td>3</td>
</tr>
<tr>
<td>ENED 432</td>
<td>Secondary School Supervised Field Experience 1</td>
<td>0</td>
</tr>
<tr>
<td>ENED 433</td>
<td>Secondary School Supervised Field Experience 2</td>
<td>0</td>
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<tr>
<td>ENED 434</td>
<td>Secondary School Supervised Field Experience 3</td>
<td>0</td>
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<tr>
<td>ENED 435</td>
<td>Secondary Level Practicum Seminar</td>
<td>1</td>
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<tr>
<td>ENED 436</td>
<td>Secondary Level Practicum</td>
<td>3</td>
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<tr>
<td>Electives</td>
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<td>3</td>
</tr>
</tbody>
</table>

1. In all teacher preparation programs the English, Spanish, and Math courses will be assigned according to the student’s proficiency level evidenced by the results of the College Entrance Examination Board or UNE’s Placement Test.

2. All courses must be passed with a minimum grade of B and a 2.50 GPA.

3. Admission requisite: A score of 575 or more in the College Board Examination Test or English Component of the College Entrance Examination or acquiring middle or senior level in the ELLIS Placement Test administered by the Resource Center for Educational Excellence (CREE, Spanish acronym).
MINORS / PROFESSIONAL CERTIFICATE

Teaching of Infant and Toddlers (twelve credits)
ECED 330 Design and management of physical and socio-emotional environments in infant and toddlers
ECED 331 Integration and participation of family in infants and toddlers care centers
ECED 332 Development of language and early literacy in infant and toddlers
ECED 333 Establishment and management of educational centers for infants, toddlers and preschoolers

Kinder thru Third Grade (K-3) (twelve credits)
EDUC 410 Teaching of Mathematics at Primary level (K-3)
EDUC 411 Teaching of Science at Primary level (K-3)
EDUC 412 Teaching of Social Studies at Primary level (K-3)
EDUC 411 Teaching of English as a Second Language at Primary level (K-3)

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

School Health (twelve credits)
PUHE 101 Introduction to Public Health
HEED 201 Biostatistics
HEED 310 Health Education and Human Sexuality
HEED 316 Education for the Prevention of Alcohol, Tobacco and Drugs

School Social Work (twenty-one credits)
EDUC 171-172 Human Growth and Development I & II
EDUC 204 Nature and Needs of Exceptional Children
EDUC 300 Psychological Foundations of Education
EDUC 305 Sociological Foundations of Education
ECED 329 Education for Children with Exceptional Needs and Abilities
EDUC 420 Philosophical Foundations of Education

Earth / Terrestrial Sciences (thirty credits)
EASC 123 Basic Concepts in Earth Sciences
EASC 126 Fundamentals of Atmospheric and Space Sciences
EASC 226 History and Evolution of Life
EASC 230 Ecological Aspects of Puerto Rico
EASC 241 Introduction to Oceanography
EASC 300 Rocks and Minerals
EASC 311 Geomorphology
EASC 315 Carbonate Geology
EASC 406 General Geology of Puerto Rico
EDUCATIONAL PROFESSIONAL COMPONENT AND SPECIAL COURSES

EDUC 135    Foundations of Education
3 Credits
Studies the philosophical, sociological and psychological foundations that affect human behavior and how these apply to the teaching learning process.

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.

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.

EDUC 202    Use of Computer and Technology 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. Prerequisites: Gatekeeper courses at each academic program.

EDUC 204    Nature and Needs of Exceptional Children and Inclusion
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. For all programs except Early Childhood Education. Prerequisites: Gatekeeper courses at each academic program.

EDUC 205    Introduction To Assistive Technology
3 credits
General knowledge about Assistive Technology for persons with disabilities. Analysis of legal foundations and theoretical considerations in which equipment availability and Assistive Technology services are the resources to promote the participation of independent living at home, school, or work or community. Identification, description and classification of Assistive Technology equipment and services. Identification and classification of Assistive Technology equipment with the purpose of improving the
functional capabilities of this person in order to improve their quality of life. Field and laboratory experiences are required.

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<thead>
<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>EDUC 215</td>
<td>Social Sciences at the Elementary School Level</td>
<td>3</td>
<td>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. Prerequisites: SOSC 113.</td>
</tr>
<tr>
<td>EDUC 221</td>
<td>The Language Arts in the Elementary School</td>
<td>3</td>
<td>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. Prerequisite: SPAN 215; 275.</td>
</tr>
<tr>
<td>EDUC 222</td>
<td>English as a Second Language at the Elementary School Level</td>
<td>3</td>
<td>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. Prerequisites: ENGL 115; 307.</td>
</tr>
<tr>
<td>EDUC 226</td>
<td>Arts and Recreation at the Elementary School level</td>
<td>3</td>
<td>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.</td>
</tr>
<tr>
<td>EDUC 300</td>
<td>Psychological Foundations of Education</td>
<td>3</td>
<td>Analysis of the fundamentals psychological aspects related to education and the teaching-learning process. The course emphasize in human development, individual variations, theoretical and practical aspects of learning and motivation, assessment of intelligence and effective classroom instructional strategies that are important for the teaching-learning process.</td>
</tr>
<tr>
<td>EDUC 305</td>
<td>Sociological Foundations of Education</td>
<td>3</td>
<td>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. Prerequisites: SOSC 113</td>
</tr>
</tbody>
</table>
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. 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. 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. 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 118; 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 puertorri can 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 435    Interdisciplinary Seminar  
3 Credits  
Professional seminar blending socio-humanistic and scientific academic knowledge that students has developed during their teacher preparation courses. Discussion and analysis of trends, methods and innovations related to fundamental knowledge and communication competencies of the future teacher in his/her local and global context. Emphasis in case studies, problem solving, themes discussion and application of technology. Pre-requisites: Authorization of the School. Be a last year student.

EDUC 436    Pedagogical Integration 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. 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. 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 Departments’ 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. 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. 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. 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. For teachers who want to perform as preceptor / tutor teacher. Pre-requisite: School’s authorization

**EARLY CHILDHOOD EDUCATION**

**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. 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. Prerequisites: ECED 173; EDUC 171
<table>
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<tr>
<th>Course Code</th>
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<th>Credits</th>
<th>Description</th>
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<tbody>
<tr>
<td>ECED 210</td>
<td>Observation, Planning and Educational Evaluation</td>
<td>3</td>
<td>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. Prerequisites: ECED 173; EDUC 171-172</td>
</tr>
<tr>
<td>ECED 308</td>
<td>Management of the Early Childhood Education Environment</td>
<td>3</td>
<td>Provides a strong foundation about design, management and interpersonal relationship in the learning environment. Interaction between environment and significant learning is addressed. Prerequisites: ECED 173; EDUC 171-172.</td>
</tr>
<tr>
<td>ECED 309</td>
<td>Infant and Toddler Curriculum</td>
<td>3</td>
<td>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. ECED 173; EDUC 171-172</td>
</tr>
<tr>
<td>ECED 310</td>
<td>Perceptual Motor- Development, Learning and the Brain</td>
<td>3</td>
<td>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. ECED 173; EDUC 171-172</td>
</tr>
<tr>
<td>ECED 311</td>
<td>Cognitive and Logic – Mathematical Development</td>
<td>3</td>
<td>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. ECED 173; 210, 308; EDUC 171-172</td>
</tr>
<tr>
<td>EDUC 322</td>
<td>Health, Nutrition and Preventive Medicine</td>
<td>3</td>
<td>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. Prerequisites: ECED 173; EDUC 171-172; BIOL252</td>
</tr>
<tr>
<td>ECED 329</td>
<td>Education for Children with Exceptional Needs and Abilities</td>
<td>3</td>
<td>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</td>
</tr>
</tbody>
</table>
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. 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 child 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 care centers*  
3 Credits  
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. Prerequisite: ECED 173; EDUC 171; ECED 309.

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

**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. Prerequisite: 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. 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. Prerequisite: ECED 173, 409; EDUC 171-172.

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

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. This course is for third year student.

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

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. This course is for third year student; ECED 439.

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

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. 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. 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

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. 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. 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. 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. 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. Prerequisite: PUHE 101; HEED 301

HEED 316      Education for the Prevention of Tobacco, Alcohol and Drugs
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. 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. 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. 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.

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.

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 are done. 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. 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. 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. 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.

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.

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.

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.

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. Pre-requisites: 15 credits in concentration
### HEED 405  Clinical Experiences in School Health Education 1  0 Credits
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. Prerequisite: be a third year student.

### HEED 406  Clinical Experiences in School Health Education 2  0 Credits
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. Prerequisite: be a third year student; HEED 405.

### HEED 407  Clinical Experience in School Health Education 3  0 Credits
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. Prerequisite: be a fourth year student; HEED 406.

### HEED 408  Curriculums and Methodology in the Teaching of Health Education  3 Credits
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. Prerequisites: 15 credits in concentration.

### HEED 409  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. 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. 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. Prerequisites: 15 credits in concentration.
PHYSICAL EDUCATION

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..
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..
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.
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.
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.
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.
Pre-requisites: PHED 100; 213; BIOL 103; 104.
PHED 311  Methodologies and Curriculum in Physical Education (K-6)
3 Credits

PHED 321  Methodologies and Curriculum in Physical Education (7-12)
3 Credits

PHED 331  Evaluation and Measurement in Physical Education
3 Credits

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. 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. Pre-requisites: PHED 100; 213; BIOL 103, 104.

PHED 401  Clinical Experiences in Physical Education Elementary 1
0 Credits
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. Prerequisites: be a third year student.
**PHED 402**  Clinical Experiences in Physical Education Elementary 2  
0 Credits  
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 Credits  
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 Credits  
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.

**PHED 405**  Clinical Experiences in Physical Education: Secondary 2  
0 Credits  
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. Prerequisites: be a third year student; PHED 404.

**PHED 406**  Pre-practicum in Physical Education: Secondary  
0 Credits  
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. 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. 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. 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 SCIENCES

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.

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.

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.

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.
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. 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 none 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. 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. 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 digenesis, 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. 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. Pre-requisite: EASC 123; 241, 300 AND 311.
<table>
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<tr>
<th>Course Code</th>
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<th>Credits</th>
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</tr>
</thead>
<tbody>
<tr>
<td>EASC 420</td>
<td>Clinical Experiences 1</td>
<td>0</td>
<td>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. Pre-requisite: be a third year student.</td>
</tr>
<tr>
<td>EASC 421</td>
<td>Clinical Experiences 2</td>
<td>0</td>
<td>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. Pre-requisite: be a third year student; EASC 420.</td>
</tr>
<tr>
<td>EASC 422</td>
<td>Pre-practicum</td>
<td>0</td>
<td>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. Pre-requisite: be a fourth year student; EASC 422.</td>
</tr>
<tr>
<td>EASC 423</td>
<td>Practice Seminar</td>
<td>1</td>
<td>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. Prerequisite: be a fourth year student; concurrent with EASC 424.</td>
</tr>
<tr>
<td>EASC 424</td>
<td>Practicum</td>
<td>3</td>
<td>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.</td>
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**SCIENCE EDUCATION**  
**ELEMENTARY AND INTERMEDIATE LEVELS**

<table>
<thead>
<tr>
<th>Course Code</th>
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<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>SCED 203</td>
<td>History, Philosophy and Sociology of Science: Educational Implications</td>
<td>3</td>
<td>Analysis of the basic elementals 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.</td>
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<tr>
<td>Course</td>
<td>Title</td>
<td>Credits</td>
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<tr>
<td>SCED 215</td>
<td>Development of the Conceptual Frameworks and Knowledge</td>
<td>3</td>
<td>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. Prerequisites: SCED 203.</td>
</tr>
<tr>
<td>SCED 216</td>
<td>Development of the Conceptual Frameworks and Knowledge</td>
<td>3</td>
<td>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. Prerequisites: SCED 215.</td>
</tr>
<tr>
<td>SCED 310</td>
<td>Models, Strategies, Resources and Scientific Research in Science Education at Elementary and Middle Levels</td>
<td>3</td>
<td>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. Prerequisites: SCED 203,215,216.</td>
</tr>
<tr>
<td>SCED 416</td>
<td>Clinical Experiences 1</td>
<td>0</td>
<td>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. Pre-requisite: be a third year student.</td>
</tr>
<tr>
<td>SCED 417</td>
<td>Clinical Experiences 2</td>
<td>0</td>
<td>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. Pre-requisite: be a third year student; SCED 416.</td>
</tr>
<tr>
<td>SCED 418</td>
<td>Pre-practicum</td>
<td>0</td>
<td>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</td>
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</table>
the student. Evaluations and periodic meetings with a school cooperative director-teacher and the university supervisor. 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. 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. Prerequisites: 15 credits in the concentration and 15 credits in education courses.

**SCED 421**  
*Clinical Experiences 1*  
0 Credits  
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. Pre-requisite: be a third year student.

**SCED 422**  
*Clinical Experiences 2*  
0 Credits  
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. Prerequisite: be a third year student; SCED 421.

**SCED 423**  
*Pre-practicum*  
0 Credits  
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. 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, 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.

SPECIAL EDUCATION
ELEMENTARY AND SECONDARY LEVELS

SPED 101 Teacher Preparation in Special Education
3 Credits
History of the special education and its legal bases, the concept of inclusion and assistive technology, as well as the procedures to identify and to serve students with impairments. Critical discussion of the legislative, judicial, and present matters that belong to the special education process. Self-reflection of personal and necessary professionals attributes for the work with students with impairments. Evaluation of experiences designed to help in the learning of the students with impairments. Application, observations, analysis and development of assessment instruments and planning lessons; also, responsible use of technology.

SPED 102 Assistive Technology and other Resources in Special Education
3 Credits
Exploration and familiarization with the development of the field of assistive technology as a mean to promote the independent participation of the exceptional student in the school environment and in its community. Analysis of the role of the assistive technology in the extension of the social, cognitive, physical and communication abilities of the student with special needs, as established in the law IDEA (1997). Application and evaluation of assistive technologies used for students with different impairments, mainly those recommended by The Assistive Technology Industry Association. Practices applied with these equipment and accessories. Application, observations, analysis and development of assessment instruments and planning lessons; also, responsible use of technology.

SPED 103 Learning Disabilities
3 Credits
Study of concepts, theories, discipline standards, characteristics and issues related to students who display specific learning disabilities. Analysis of foundation knowledge essential to understanding the nature and needs of individuals with learning disabilities and contextual influences, specially for pre- and in-service classroom teachers and related professionals. Reflection of recent developments and research findings, current issues, and the general structure of educational intervention programs. Application, observations, analysis and development of assessment instruments and planning lessons; also, responsible use of technology.

SPED 203 Nature, Needs and Behavior Modification in the Special Ed Student with Attention Disorder Deficit
3 Credits
Analysis of the strengthens and social, psychological, physiological, and emotional weaknesses that characterize a student with deficit of attention. Emphasis in the development of individualized educational programs Appropriate educational practices in the special education classrooms and/or in the
regular setting. Study of the interdisciplinary contribution required for the effective transition of the student to the school life and work. Application, observations, analysis and development of assessment instruments and planning lessons; also, responsible use of technology.

**SPED 204**  
**Nature, Needs and Behavior Modification of the Gifted Student Ed**  
3 Credits  
Study of the social, emotional, and cognitive characteristics of the gifted student. Analysis of the diverse programs and theories related to the education of this population. Emphasis in the development of projects for its education. Field observations experiences in schools specialized in the education of gifted students with talents. Application, observations, analysis and development of assessment instruments and planning lessons; also, responsible use of technology.

**SPED 205**  
**Integration of the Fine Arts in Special Education**  
3 Credits  
Application of music, theater, corporal movements, visual arts and other manifestations of the fine arts in the design of effective educational planning and strategies for special education students. Practice, case studies, curriculum development and field observation experiences. Application, observations, analysis and development of assessment instruments and planning lessons; also, responsible use of technology.

**SPED 207**  
**Methodology, Adaptations and for the Special Ed Student in Science and Mathematics Teaching at the Elementary Level**  
3 Credits  
Methodology, adaptations and accommodation in the teaching of the sciences and math for the student of special education in the Elementary Level. Emphasis in the application of instructional methods and techniques of teaching and learning. Development-design of curriculum in sciences and math with attention to the individual differences. Application, observations, analysis and development of assessment instruments and planning lessons; also, responsible use of technology.

**SPED 208**  
**Methodology, Adaptations and for the Special Ed Student in Science and Mathematics Teaching at the Secondary Level**  
3 Credits  
Methodology, adaptations and accommodation in the teaching of the sciences and math for the student of special education in the Secondary Level. Emphasis in the application of instructional methods and techniques of teaching and learning. Development-design of curriculum in sciences and math with attention to the individual differences. Practice, case studies, curriculum development and field observation experiences. Application, observations, analysis and development of assessment instruments and planning lessons; also, responsible use of technology.

**SPED 210**  
**Language Development and the Reading-Writing Process in the Special Ed Student I**  
3 Credits  
Analysis of the basic cognitive processes (attention, perception and memory) that intervene in the development of the language of the student with special needs. Exam of the development of the reading and the writing from the linguistic enriched environments, and inside the integral language approach. Evaluation of the meta linguistic and meta cognitive processes and its importance in the development of the language. Use of semantics maps, cases studies, problem solving, distance learning, thematic discussions and portfolio.
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<tbody>
<tr>
<td>SPED 211</td>
<td>Language Development and the Reading-Writing Process in the Special Ed Student II</td>
<td>3</td>
<td>Design of instructional strategies that facilitate the reading and writing for students with special needs. Evaluation of interactive equipment that support the instruction and that facilitate the development of the linguistic skills. Use of semantics maps, cases studies, problem solving, distance learning, thematic discussions and portfolio.</td>
</tr>
<tr>
<td>SPED 215</td>
<td>Curricular Foundations for Special Education</td>
<td>3</td>
<td>Analysis of the foundations, elements and curricular concepts in the special education field. Process of curriculum adaptations for the exceptional population. Management of approaches, techniques, strategies and instructional methods adapted to the special education. Evaluation of educational experiences that stems from the appropriate practices for the attention of the special needs. Curricular models for the attention of the special education children supported from the federal regulation. Use of semantics maps, cases studies, problem solving, distance learning, thematic discussions and portfolio.</td>
</tr>
<tr>
<td>SPED 295</td>
<td>Evaluation and Assessment in Students with Special Needs</td>
<td>3</td>
<td>Study of the evaluation methods of the student with special needs. Analysis and evaluation protocols of the exceptional student for the development of assessment process at the initial and during the school year. Study of the relation of the processes of evaluation and assessment, the federal and state laws of academic achievement and the development of the Individualized Educational Program (PEI). Application, observations, analysis and development of assessment instruments and planning lessons; also, responsible use of technology.</td>
</tr>
<tr>
<td>SPED 300</td>
<td>Brain and Learning</td>
<td>3</td>
<td>Introduction to the study of the most recent research about neurophysiological phenomena that have bearing on learning. Analysis of the role played by cerebral activity in the different learning styles, specially learning disabilities at K-12 levels. Analysis of the curricular design that is most compatible with these neurophysiologic phenomena. Application, observations, analysis and development of assessment instruments and planning lessons; also, responsible use of technology.</td>
</tr>
<tr>
<td>SPED 304</td>
<td>Clinical Experience in Special Education I</td>
<td>3</td>
<td>Part one of a introductory teaching experience under a supervised scenario for the future special educator. Application of theories, methods and strategies to improve the learning environment at the classroom. Application, observations, analysis and development of assessment instruments and planning lessons; also, responsible use of technology. One semester, minimum of three hours per week</td>
</tr>
<tr>
<td>SPED 305</td>
<td>Clinical Experience in Special Education II</td>
<td>3</td>
<td>Part two of a introductory teaching experience under a supervised scenario for the future special educator. Application of theories, methods and strategies to improve the learning environment at the classroom. Application, observations, analysis and development of assessment instruments and planning lessons; also, responsible use of technology.</td>
</tr>
</tbody>
</table>
SPED 404  Teaching Pre-practicum in Special Education
3 Credits
First stage of a teaching-practice field experience in which the candidate assumes the duties and responsibilities of a teacher in a specialized scenario with students with special impairments. It offers to teacher candidate the opportunity to promote physical, emotional, social and intellectual development of children and youth in special education. Students work under the supervision of a regular teacher from an accredited school and a college supervisor appointed by the School of Education. One semester, minimum of eight hours per week.

SPED 405  Teaching Practicum in Special Education
3 Credits
Final stage of a practice field experience in which the candidate assumes the duties and responsibilities of a teacher in a specialized scenario. It offers to teacher candidate the opportunity to promote physical, emotional, social and intellectual development of children and youth in special education. Students work under the supervision of a regular teacher from an accredited school and a college supervisor appointed by the School of Education. Application, observations, analysis and development of assessment instruments and planning lessons; also, responsible use of technology. Concurrent with SPED 406.

SPED 406  Seminar on Teaching Practicum in Special Ed
3 Credits
Discussion, analysis and evaluation of the responsibilities and situations arising in the student teaching practice. Designed to enrich and complement the practicum experience. Application, observations, analysis and development of assessment instruments and planning lessons; also, responsible use of technology. One semester, two hours biweekly.

ENGLISH EDUCATION: TEACHING ENGLISH AS A SECOND LANGUAGE
ELEMENTARY AND SECONDARY LEVELS

ENGL 225  Introduction to Linguistics
3 Credits
Scenic view of basic language theories and approaches and their effects on the thought processes. It includes fundamental phonological, morphological, and syntactical concepts, and their application in second language learners. Moreover, special emphasis will be placed on the application of teaching activities and strategies according to each theory or approach. Research projects will be developed through the responsible use of technology.

ENGL 226  Grammatical Structure of English
3 Credits
In depth study of linguistic principles. Syntactic functions, parts of speech, clause patterns and punctuation will be studied. It also covers linguistic processes. Designed for English teachers. The course will be developed through practical exercises, research, and drills in order to strengthen the students’ proficiency level.
ENGL 230    Introduction to Literary Genres
3 Credits
Introduction to literature through the study of the different literary genres. Emphasis is placed on reading and analysis of an extensive variety of authors and types of literature. Intensive reading course. Provides for response writing and discussion as teaching and learning techniques. Research projects will be developed through the responsible use of technology.

ENGL 310    English Phonetics
3 Credits
The study of the phonetic system of the English language. Identification of the organs used in the production of sounds. The International Phonetic Alphabet is used in discussing the consonant and vowel system. Techniques and methods used to correct deficiencies in pronunciation are also discussed in detail. (Not an Independent Study course.)

ENGL 360    Contrastive Analysis of English and Spanish
3 Credits
Phonemic and phonetic systems of English compared to Spanish. Correction techniques and methods in pronunciation problems of students learning English as a Second Language. Class discussions, simulations, and question and answer sessions will be stressed. (Not an Independent Study course)

ENGL 410    Advanced Composition
3 Credits
Intensive writing course. Basic principles of exposition and persuasion. Students will be guided to enhance their own written communication skills, as they also prepare to enhance the written communication of their future students by studying real cases. Course includes discussions and simulations. Technology and web-enhanced techniques will be used for this course.

ENED 105    Introduction to Teaching English as a Second Language
3 Credits
This course is introductory to the teaching of English to English Language Learners (ELLs). It provides basic teaching elements for professionals to be successful in the teaching of English as a Second Language. It includes the history of methodologies used to teach English as a Second Language; contemporary approaches to teaching and assessing reading, writing, listening, and speaking; and the design of instructional units and lesson plans. Research projects will be developed through the responsible use of technology. (Not an Independent Study course)

ENED 204    Children’s Literature in the ESL Classroom
3 Credits
The study and analysis of different genres for children from ancient folklore to modern works. Methods, strategies and techniques for the teaching of reading in English as a Second Language. Criteria used to select readings for teaching English as a Second Language. Emphasis is given to children’s literature to teach and assess reading with the balanced literacy approach. Research projects will be developed through the responsible use of technology. Intensive reading and discussion course.
ENED 205    Adolescent Literature in the ESL Classroom
3 Credits
Study and analysis of literature directed to adolescent readers. Criteria used to select readings to teach English as a Second Language. Methods, strategies, and assessment techniques for the using appropriate age related readings in English. Emphasis on the balanced literacy method. Research projects will be developed through the responsible use of technology. Intensive reading and discussion course.

ENED 320    Teaching Reading and Writing in a Second Language
3 Credits
This course emphasizes methods for teaching reading and writing in a second language (English). The whole language, phonics, and balanced literacy approaches, as well as, new emerging techniques are studied and used. Assessment strategies for reading and writing are discussed in detail. Group discussions, simulations and case studies will be emphasized. (Not an Independent Study course)

ENED 322    English Curriculum and Teaching at the Elementary Level
3 Credits
This course includes the application of teaching-learning theories and instructional models in the process of planning and developing educational activities in the ESL classroom at the elementary level. Students will work with the formulation of objectives, selection of content and planning teaching units in the elementary level based on student’s needs along with the elaboration of grade appropriate materials. The relation of academic testing and language skills is emphasized with special focus on the on-going assessments of the development of language skills. Research projects will be developed through the responsible use of technology. (Not an Independent Study course.)

ENED 323    English Curriculum and Teaching at the Secondary Level
3 Credits
This course includes the application of teaching-learning theories and instructional models in the process of planning and developing educational activities in the ESL classroom at the secondary level. Students will work with the formulation of objectives, selection of content and planning teaching units in the elementary level based on student’s needs along with the elaboration of grade appropriate materials. The relation of academic testing and language skills is emphasized with special focus on the on-going assessments of the development of language skills. Research projects will be developed through the responsible use of technology. (Not an Independent Study course.)

ENED 401    Diagnostic and Correction of Student’s Oral and Written Language in the Elementary School
3 Credits
Oral and written deficiencies of the elementary school students with emphasis on the means of diagnosing and correcting them. Study available tests and techniques to correct deficiencies. Teaching strategies will include assessing, diagnosing and correcting “real” communications among students. As part of the course, students will be asked to visit a classroom listen to oral interaction among students as well as study written student pieces and simulate correction activities. Research projects will be developed through the responsible use of technology. (Not an Independent Study course).
ENED 402  Diagnostic and Correction of Student's Oral and Written Language in the Secondary School
3 Credits
Oral and written deficiencies of the Secondary School students with emphasis on the means of diagnosing and correcting them. Study available tests and techniques to correct deficiencies. Teaching strategies will include assessing, diagnosing and correcting “real” communications among students. As part of the course, students will be asked to visit a classroom listen to oral interaction among students as well as study written student pieces and simulate correction activities. Research projects will be developed through the responsible use of technology. (Not an Independent Study course).

ENED 427  Elementary School Field Experience I
0 Credits
Part one of an introductory teaching experience under a supervised scenario for the future English educator at the Elementary Level. Application of theories, methods and strategies to improve the learning environment at the classroom. Application, observations, analysis and development of assessment instruments and planning lessons; also, responsible use of technology. One semester, minimum of three hours per week.

ENED 428  Elementary School Field Experience 2
0 Credits
Part two of an introductory teaching experience under a supervised scenario for the future English educator at the Elementary Level. Application of theories, methods and strategies to improve the learning environment at the classroom. Application, observations, analysis and development of assessment instruments and planning lessons; also, responsible use of technology. One semester, minimum of three hours per week.

ENED 429  Elementary School Field Experience 3
0 Credits
Part three of an introductory teaching experience under a supervised scenario for the future English educator at the Elementary Level. Application of theories, methods and strategies to improve the learning environment at the classroom. Application, observations, analysis and development of assessment instruments and planning lessons; also, responsible use of technology. One semester, minimum of three hours per week.

ENED 430  Practice Seminar in the Elementary Level
1 Credit
Discussion, analysis, and evaluation of the responsibilities and situations arising in the English classroom in the elementary level. Research projects will be developed through the responsible use of technology. Designed to enrich and complement the practicum experience.

ENED 431  Practicum in TESL in the Elementary Level
3 Credits
Final requirement in the TESL Program. Student works under the supervision of a college supervisor and a certified teacher from an accredited elementary school. The student carries out teacher duties and demonstrates competencies acquired through the study program. 220 hours are required. (Not an Independent Study course).
ENED 432  Secondary School Field Experience I
0 Credits
Part one of an introductory teaching experience under a supervised scenario for the future English educator at the Secondary Level. Application of theories, methods and strategies to improve the learning environment at the classroom. Application, observations, analysis and development of assessment instruments and planning lessons; also, responsible use of technology. One semester, minimum of three hours per week.

ENED 433  Secondary School Field Experience 2
0 Credits
Part two of an introductory teaching experience under a supervised scenario for the future English educator at the Secondary Level. Application of theories, methods and strategies to improve the learning environment at the classroom. Application, observations, analysis and development of assessment instruments and planning lessons; also, responsible use of technology. One semester, minimum of three hours per week.

ENED 434  Secondary School Field Experience 3
0 Credits
Part three of an introductory teaching experience under a supervised scenario for the future English educator at the Secondary Level. Application of theories, methods and strategies to improve the learning environment at the classroom. Application, observations, analysis and development of assessment instruments and planning lessons; also, responsible use of technology. One semester, minimum of three hours per week.

ENED 435  Practice Seminar for the Secondary Level
1 Credits
Discussion, analysis, and evaluation of the responsibilities and situations arising in the English classroom in the secondary level. Research projects will be developed through the responsible use of technology. Designed to enrich and complement the practicum experience.

ENED 436  Practicum in TESL in the Secondary School
3 Credits
Final requirement in the TESL Program. Student works under the supervision of a college supervisor and a certified teacher from an accredited Secondary School. The student carries out teacher functions and demonstrates competencies acquired through the study program. 220 hours are required. (Not an Independent Study course)

POSSIBLE ELECTIVES FOR ESL STUDENTS

ENGL 370  Advanced Oral Communication
3 Credits
Preparation and presentation of conferences and formal/informal discussions. Critical ability development in oral comprehension. Emphasis on techniques for pronunciation correction. Students will be guided to enhance their own communication, as they also prepare to enhance the oral communication of their future students by studying real cases. Course includes oral discussions and simulations. (Not an Independent Study course)
ENGL 362    American and British Literature
3 Credits
Reading and analysis of the principal American and British authors. The evolution of American and British thoughts and literary styles are studied. Intensive reading course. Provides for response writing and discussion as teaching and learning techniques. Research projects will be developed through the responsible use of technology.

ENED 360    Methods, Materials, and Assessment in the ESL Classroom
3 Credits
This course includes a review of methodologies and instructional material available, and the instruction of techniques of development and/or adaptation of existing or supplementary materials. The relation of academic testing and language skills is emphasized with special focus on the on-going assessments of the development of language skills.

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.

GENERAL EDUCATION MENU COURSES

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.

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.
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  Philosophical and Sociological Foundations of Science
3 Credits
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.
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,
Associate Professor
Radiology

**Córdova Acosta, Ynés**, RT, BHSA, MPH, University of Puerto Rico,
Assistant Professor
Radiology

**Fernández Mora, Rosa M.**, RT, BHSE, RDMS, MPH, University of Puerto Rico,
Associate Professor
Sonography, Radiology, Epidemiology

**Figueroa Sánchez, Ivis**, DrPh, Universidad de Puerto Rico, Ciencias Medicas
Assistant Professor
Investigator

**Nazario Pagán, Denise**, RT, MPH, University of Puerto Rico,
Assistant Professor
Radiology, Epidemiology

**Rivera Ortiz, Migna**, MSN University of Puerto Rico
Instructor
Nursing

**Román González, Clara**, MSN, University of Puerto Rico
Instructor
Nursing
Torres Ayala, Aleida, RN, MSN, CNM, DHSc
Assistant Professor
Nursing

Torres Negron, Ivette, BS, MS, Ph.D. University of Puerto Rico
Associate Professor
Pharmacy Technician

Torres Tirado, Ada Lily, MA, Bridgeport University, (MRSD and RRA),
Assistant Professor

Yulfo Hoffman, Jessica, Pharm.D., Nova Southeastern University
Assistant Professor
Pharmacy

ADMINISTRATIVE STAFF

Justo Lugo Cáceres, MHSA, MT (ASCP), University of Puerto Rico
Acting Dean

Díaz Colón, Carmen I., RN, MSN, University of Puerto Rico
Director, Nursing Program

Fernández Mora, Rosa M., BS, RDMS, University of Puerto Rico
Associate Professor
Director, Medical Sonography and Radiology Programs

Yulfo Hoffman, Jessica, Pharm.D., Nova Southeastern University
Assistant Professor
Coordinator Pharmacy Technician Program
PROGRAM DESCRIPTION

Radiologic Technology

The increase in the use of diagnostic imaging in medicine requires specialized personnel to guarantee the quality of the health services provided. The mission of the Radiologic Technology Program at the Universidad Del Este is to prepare professional in the radiologic technology field that can work effectively as part of a health services interdisciplinary team, during routine and specialized procedures under doctor’s supervision.

Our goal is to prepare high quality radiologic technologist through two academic offerings, an Associate Degree in Science in Radiologic Technology and a Baccalaureate Degree in Radiological Sciences with two major: (1) Computerized Tomography with Magnetic Resonance Imaging, or (2) Digital Angiography with Mammography. Our faculty specializes in radiologic technology, anatomy and physiology, and physics, with vast teaching and clinical experience. Our students practice in private and public institutions throughout Puerto Rico.

Our curriculum combines didactic and practical education meeting the highest competency standards by professional accreditation institutions. Our graduates can opt for the Commonwealth of Puerto Rico Licensing Exam and/or the national exam offered by the American Registry of Radiologic Technologist (ARRT).

Medical Sonography

The program of Associate Degree in Medical Sonography prepares students to be professionals within the health area, enabled to work with highly technological equipment and with a certified physician, be able to contribute to the diagnosis of different medical conditions. Through this program the student will acquire the competencies necessary to work in different medical scenarios and will be enabled to perform ultrasound studies of the abdominal, gynecological, obstetrical area and of small parts. In the of Baccalaureate in Medical Sonography the student will acquire the competencies necessary to work in different hospital scenarios and will be able to perform ultrasound studies of the abdominal, gynecological, obstetrical area, of small parts, blood vessels and adult heart.

Pharmacy Technician

The Program of Associate Degree in Pharmacy Technician of UNE aspires to develop students with the knowledge and necessary skills to perform as an important component of the teamwork of a pharmacy. The students will have the opportunity to acquire knowledge through didactic courses directed to know the most important aspects of this field. The program will also provide the opportunity to develop the techniques and skills that will enable the student to work with a high level of competitiveness.

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.

The dispatch of meds implies a series of activities in sequence that consists among others in: taking care of the patient; receive and interpret the received prescription; select the product, as well as the appropriate delivery package; to verify dose; to prepare simple solutions, ointments and other
pharmaceutical preparations; to carry out suitable labeling using computerized systems and computation of prices.

**Nursing**

The Bachelor in Nursing Sciences Program with concentration 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.

**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.

**Post Graduate Certificate in Radiation Therapy Technology**

Pre-requisite: Associate in Sciences Degree in Radiologic Technology. Duration: One full natural year 22 credits.

**ADMISSIONS REQUIREMENTS**

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
  - Nursing
- High School grade point average of 2.3 for Associate programs in:
  - Pharmacy Technician
- High School grade point average of 2.5 for Bachelor programs in:
  - Digital Angiography and Mammography
  - Computerized Tomography with Magnetic Resonance
  - Medical Sonography
  - Nursing
- Attend an Orientation meeting with representatives of the School.
GRADUATION REQUIREMENTS FOR ALL PROGRAMS

The graduation requirement for the associate degree programs is a general grade point average of 2.0 and for the major component is 2.3.

The graduation requirement for the bachelor degree programs is a general grade point average of 2.0 and for the major component is 2.5.
## Associate Degrees in Science

### Associate in Science in Radiologic Technology

<table>
<thead>
<tr>
<th>Credits</th>
<th>General Education</th>
<th>21</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Core Professional Courses</td>
<td>14</td>
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<td></td>
<td>Major Courses</td>
<td>31</td>
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<tr>
<td></td>
<td>Practicum</td>
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</table>

### General Education

- *SPAN 115-116 College Reading and Writing in Spanish* 6
- *ENGL 115-116 College Reading and Writing in English I and II* 6
- *MATH 118 Fundamentals of Intermediate Algebra* 3
- QYLE 110 Attitudes Development and Univ. Adaptation 3
- COMP 110 Introduction to programs and applications in computers 3

### Core Professional Courses

- HESC 125-126 Human Anatomy and Physiology I & II 8
- HESC 121 Patient Care and Emergency Procedures in Radiological Sciences 3
- PSYC 212 Health Psychology 3

### Major courses

- 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 2
- RADI 380 Professional Review Sciences 4

### Practicum

- RADI 230 Clinical Education I 1
- RADI 231 Clinical Education II 1
- RADI 330 Clinical Education III 1
- RADI 331 Clinical Education IV 1

*English, Spanish and mathematics courses will be assigned according to the student’s proficiency level.*

**All Biology, Mathematics, Major Courses must be approved with “C”, with the exception of RADI 101, RADI 380 and all Clinical Education Courses which must be approve with “B” or higher*
# Associate in Science in Medical Sonography

<table>
<thead>
<tr>
<th>71 credits</th>
<th>Credits</th>
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<tbody>
<tr>
<td>General Education</td>
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<td>Core Professional Courses</td>
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<td>Major Courses</td>
<td>27</td>
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<td>Practicum</td>
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### General Education 18
- *SPAN 115*  Reading, Writing and Oral Comm. in Spanish  
- *ENGL 115-116*  College Reading and Writing I and II  
- QYLE 110  Attitudes Development and Univ. Adaptation  
- PSYC 225  Social Psychology  
- MATH 118  Fundamentals of Intermediate Algebra

### Core Professional Courses 23
- HESC 125-126  Human Anatomy and Physiology For Health Profession  
- BIOL 231-232  Cross Sectional Anatomy I and II  
- SONO 110  Compendium of General Physics  
- HESC 121  Patient Care and Emergency Procedures  
- HESC 200  Computers Image Creation and Analysis

### **Major Courses** 27
- SONO 101  Introduction to Medical Sonography  
- SONO 102  Techniques and Protocols in Sonography  
- SONO 234-235  Ultrasound Physics and Instrumentation  
- SONO 238  Abdomen Sonography with Lab.  
- SONO 240  Small Parts Sonography with Lab.  
- SONO 242  Gynecology Sonography with Lab.  
- SONO 250  Sonography in Obstetrics  
- SONO 252  Pathology and Medical Terminology  
- SONO 256  Seminar and Student Project in Medical Sonography

### Practicum 3
- SONO 247  Pre-Clinical Observation (Clinical Education I)  
- SONO 248-249**  Clinical Education II and III

*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.

Certificate in Radiation Therapy Technology
Duration: One full natural year
Pre-requisite: Associate in Sciences Degree in Radiologic Technology

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<td>Major Courses</td>
<td>11</td>
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<tr>
<td>Practicum</td>
<td>10</td>
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</table>

Core Curriculum
RADI 255 Introduction to Modalities in Radiological Sciences 1

Major Courses
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
RADI 252-253 Clinical Education I and II 10

*Courses and practicum are offered at the Rio Piedras Oncologic Hospital, Dr. Isaac González Martinez.
## Associate in Science in Pharmacy Technician

<table>
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<tr>
<th>Credits</th>
<th>72 credits</th>
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</tr>
<tr>
<td><strong>Practicum</strong></td>
<td>9</td>
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</table>

### General Education

- **SPAN 115** Reading, Writing and Oral Comm. in Spanish I  
  3 credits
- **SPAN 116** Reading, Writing and Oral Comm. in Spanish II  
  3 credits
- **ENGL 115** College Reading and Writing in English I  
  3 credits
- **ENGL 116** College Reading and Writing in English II  
  3 credits
- **QYLE 110** Attitudes Development and Univ. Adaptation  
  3 credits
- **MATH 118** Fundamentals of Intermediate Algebra  
  3 credits
- **COMP 110** Introduction to computers and Software Applications  
  3 credits

### Major Courses

- **PHAR 210** Pharmaceutical Calculations I  
  3 credits
- **PHAR 211** Pharmaceutical Calculations II  
  3 credits
- **PHAR 212** Pharmacy Administration  
  3 credits
- **PHAR 217** Pharmaceutical Chemistry  
  3 credits
- **PHAR 226** Pharmacotherapy for Pharmacy Technicians I  
  3 credits
- **PHAR 227** Pharmacotherapy for Pharmacy Technicians II  
  3 credits
- **PHAR 228** Pharmacotherapy for Pharmacy Technicians III  
  3 credits
- **PHAR 230** Pharmaceutical Technology I  
  4 credits
- **PHAR 231** Pharmaceutical Technology II  
  4 credits
- **PHAR 233** Posology  
  3 credits
- **PHAR 250** Hospital Pharmacy  
  2 credits
- **PHAR 251** Prescription Dispensing and Pharmaceutical Specialties I  
  3 credits
- **PHAR 252** Prescription Dispensing and Pharmaceutical Specialties II  
  3 credits
- **PHAR 255** Pharmaceutical Legislation  
  2 credits

### Practicum

- **PHAR 256** Supervised Practice in Pharmacy I  
  3 credits
- **PHAR 257** Supervised Practice in Pharmacy II  
  4 credits
- **PHAR 258** Practicum Seminar  
  2 credits

---

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

**All major courses, including Math 118, must pass with a minimum of a “C”.*
# Associate in Science in Nursing

<table>
<thead>
<tr>
<th>Course Category</th>
<th>credits</th>
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<td>QYLE 110 Attitudes development and Univ. Adaptation</td>
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<td></td>
<td>*SPAN 115 – 116 + Reading, writing and oral comm. in Spanish I - II</td>
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<td></td>
<td></td>
<td>*ENGL 115 – 116 + College reading and writing I - II</td>
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<tr>
<td></td>
<td></td>
<td>MATH 118 Fundamentals of Intermediate Algebra</td>
</tr>
<tr>
<td></td>
<td></td>
<td>COMP 110 Introduction to computers and software</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PSYC 228 Psychology of Diverse Populations</td>
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<td>Core Curriculum Courses</td>
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<td>HESC 125-126 + Anatomy and Physiology for Health Science Prof. I - II</td>
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<td>HESC 207 + Microbiology for Health Allied Sciences</td>
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<td>34</td>
<td>NURS 101 Introduction to Nursing</td>
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<td>NURS 102 + Fundamentals of Nursing</td>
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<tr>
<td></td>
<td></td>
<td>NURS 103 Basic Principles of Pharmacology</td>
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<td>NURS 104 Maternal-Child Nursing</td>
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<td>NURS 201 + Pediatric Nursing</td>
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<td>NURS 202 + Medical-Surgical Nursing I</td>
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<tr>
<td></td>
<td></td>
<td>NURS 203 + Medical-Surgical Nursing II</td>
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<tr>
<td></td>
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<td>NURS 204 + Psychiatric Nursing</td>
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</table>

*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 in Radiological Sciences**

**Major in Digital Angiography and Mammography**

116 credits

<table>
<thead>
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<th>General Education</th>
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<tbody>
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<td>Core Professional Courses</td>
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<td>Major Courses</td>
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<td>Practicum</td>
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**General Education**

<table>
<thead>
<tr>
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<tr>
<td>*SPAN 115-116</td>
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<td>*ENGL 115-116</td>
<td>College Reading and Writing in English</td>
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<tr>
<td>*MATH 118</td>
<td>Fundamentals of Intermediate Algebra</td>
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<tr>
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<tr>
<td>COMP 110</td>
<td>Introduction to programs and applications in computers</td>
<td>3</td>
</tr>
<tr>
<td>HIST 255</td>
<td>Analysis of Historic Processes in PR</td>
<td>3</td>
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<tr>
<td>SOSC 112</td>
<td>Human Being and its Environment</td>
<td>3</td>
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<td>SOSC 216</td>
<td>Contemporary Social Problems</td>
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<td>MENU Courses</td>
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**Core Professional Courses**

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Credits</th>
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<tbody>
<tr>
<td>HESC. 125-126</td>
<td>Human Anatomy and Physiology I-II</td>
<td>8</td>
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<tr>
<td>HESC. 121</td>
<td>Patient Care and Emergency Procedures</td>
<td>3</td>
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<tr>
<td>PSYC 212</td>
<td>Health Psychology</td>
<td>3</td>
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<tr>
<td>BIOL 231-232</td>
<td>Cross Sectional Anatomy I-II</td>
<td>6</td>
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**Major courses**

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Credits</th>
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<tbody>
<tr>
<td>RADI 101</td>
<td>Introduction to radiological Sciences and Professional Ethics</td>
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<tr>
<td>RADI 102</td>
<td>Introduction to Radiological Physics</td>
<td>3</td>
</tr>
<tr>
<td>RADI 103</td>
<td>Pathology and Medical Terminology</td>
<td>2</td>
</tr>
<tr>
<td>RADI 105</td>
<td>Radiographic Chemistry and Processing</td>
<td>2</td>
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<tr>
<td>RADI 107</td>
<td>Radiographic Positioning and Techniques I</td>
<td>2</td>
</tr>
<tr>
<td>RADI 108</td>
<td>Radiographic Positioning and Techniques II</td>
<td>2</td>
</tr>
<tr>
<td>RADI 109</td>
<td>Radiographic Positioning and Techniques III</td>
<td>2</td>
</tr>
<tr>
<td>RADI 200</td>
<td>Radiation Physics and Radiobiology</td>
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<tr>
<td>RADI 210</td>
<td>Quality Assurance in Radiology</td>
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<tr>
<td>RADI 213</td>
<td>Principles of Radiographic Exposures</td>
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</tr>
<tr>
<td>RADI 243</td>
<td>Special procedures and Radiographic Film Critique</td>
<td>2</td>
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<tr>
<td>RADI 255</td>
<td>Introduction to Modalities in Radiological Sciences</td>
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<tr>
<td>Course Code</td>
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<td>RADI 380</td>
<td>Professional Review</td>
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<td>RADI 301</td>
<td>Quality Control in Mammography</td>
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<tr>
<td>RADI 302</td>
<td>Breast Pathology</td>
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<tr>
<td>RADI 401</td>
<td>Digital Angiography and Cardiovascular Procedures</td>
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<tr>
<td>RADI 402</td>
<td>Cardiovascular Pathology</td>
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<tr>
<td>HESC 200</td>
<td>Computer Image Creation and Analysis</td>
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<td><strong>Practicum</strong></td>
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<tr>
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<td>RADI 330</td>
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<tr>
<td>RADI 330</td>
<td>Clinical Education IV</td>
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<td>RADI 430</td>
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<tr>
<td>RADI 431</td>
<td>Clinical Education with seminars IX</td>
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*English, Spanish and mathematics courses will be assigned according to the student’s proficiency level.

**All Biology, Mathematics, Major Courses must be approved with “C”, with the exception of RADI 101, RADI 380 and all Clinical Education Courses which must be approved with “B” or higher
# Bachelor of Science in Radiological Sciences

**Major in Computerized Tomography and Magnetic Resonance Imaging**

<table>
<thead>
<tr>
<th>121 credits</th>
<th>Credits</th>
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<td>Core Professional Courses</td>
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<tr>
<td>Major Courses</td>
<td>46</td>
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<tr>
<td>Practicum</td>
<td>7</td>
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</table>

## General Education

- **48 credits**
  - *SPAN 115-116 College Reading and Writing in Spanish** | 6 |
  - *ENGL 115-116 College Reading and Writing in English** | 6 |
  - *MATH 118 Fundamentals of Intermediate Algebra** | 3 |
  - QYLE 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** | 18 |

## Core Professional Courses

- **20 credits**
  - HESC. 125-126 Human Anatomy and Physiology 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 |

## Major Courses

- **46 credits**
  - 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 380 Professional Review | 4 |
  - RADI 311 Computerized Tomography Physics | 2 |
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<td>RADI 313</td>
<td>Compared Pathology I</td>
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<tr>
<td>RADI 314</td>
<td>Compared Pathology II</td>
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<tr>
<td>RADI 315</td>
<td>Imaging Protocols and Procedures in CT and MRI</td>
<td>4</td>
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<tr>
<td>HESC 200</td>
<td>Computer Image Creation and Analysis</td>
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<td><strong>Practicum</strong></td>
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<tr>
<td>RADI 230</td>
<td>Clinical Education I</td>
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<td>RADI 231</td>
<td>Clinical Education II</td>
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<td>RADI 330</td>
<td>Clinical Education III</td>
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<tr>
<td>RADI 330</td>
<td>Clinical Education IV</td>
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<td>RADI 441</td>
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<td>RADI 442</td>
<td>Clinical Education with seminars VIII</td>
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</tbody>
</table>

*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, RADI 380 and all Clinical Education Courses which must be approve with “B” or higher
Bachelor of Science
Major in Medical Sonography (Vascular and Echocardiography Technology Specialties)

120 Credits

<table>
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<th>Course Category</th>
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<td>General Education</td>
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<td>Major Courses</td>
<td>49</td>
</tr>
<tr>
<td>Practicum</td>
<td>7</td>
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</tbody>
</table>

**General Education**

- *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 118  Fundamentals of Intermediate Algebra 3
- 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**

- 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
- SONO 110  Compendium of General Physics 3
- HESC121  Patient Care and Emergency Procedures 3

**Major Courses**

- SONO 101  Introduction to Medical Sonography 3
- SONO 102  Techniques and Protocols in Sonography 2
- 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 260  General Review of Sonography 2
- 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
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<tr>
<td>SONO 247</td>
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<td>Pre-Clinical Observation</td>
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<td>Clinical Education I</td>
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<td>SONO 248 – 249**</td>
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<td>Clinical Education II and III</td>
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<td>SONO 347 – 348**</td>
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<td>Clinical Education in Vascular Technology I and II</td>
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<td>SONO 349 – 350**</td>
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<td>Clinical Education in Adult Echocardiography I – II</td>
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</tbody>
</table>

*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**

129 credits

<table>
<thead>
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<th>Category</th>
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<tbody>
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<td>General Education Courses</td>
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<tr>
<td>Core Curriculum Courses</td>
<td>19</td>
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<tr>
<td>Major Courses</td>
<td>63</td>
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</table>

**General Education Courses**  
48 credits

- QYLE 110  Attitudes Development and Univ. Adaptation  
- *SPAN 115  Reading, Writing and Oral Comm. in Spanish I  
- *ENGL 115-116 College Reading and Writing I and II  
- ENGL 217  English for Allied Health Professions  
- MATH 118  Fundamentals of Intermediate Algebra  
- COMP 110  Introduction to Computers and Software  
- PSYC 228  Psychology of Diverse Populations  
- SOSC 112  The Human Social Environment  
- HIST 255  Analysis of PR Historical Processes  
- MENU COURSES (Select 6 courses from the Categories listed)  

**Core Curriculum Courses**  
19 credits

- HESC 125-126+  Anatomy and Physiology for Health Science Prof. I-II  
- HESC 207+  Microbiology for Health Allied Sciences  
- CHEM 122  Chemistry for the Health Professions  
- PUHE 201  Introduction to Biostatistics  

**Major Courses**  
63 credits

- NURS 101  Introduction to Nursing  
- NURS 102+  Fundamentals of Nursing  
- NURS 103  Basic Principles of Pharmacology  
- NURS 104  Maternal-Child Nursing  
- NURS 201+  Pediatric Nursing  
- NURS 202+  Medical-Surgical Nursing I  
- NURS 203+  Medical-Surgical Nursing II  
- NURS 204+  Psychiatric Nursing  
- NURS 300  Physical Assessment  
- NURS 320  Community Nursing  
- NURS 380  Basic Principles of Research  
- NURS 400  Intensive Care Nursing  
- NURS 420  Emergency Care Nursing  
- NURS 440  Administration and Leadership in Nursing  
- NURS 480  Practicum  

*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
time 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.
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 semester, 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 thorough 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 habitués 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 thorough 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 habitués 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, 4 Credits and Magnetic Resonance
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 cranial 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 380  Professional Seminar
4 Credits
This Course offers the student a review of the knowledge and skills needed for the production of radiographies. The course includes the review of concepts in radiation protection, production and evaluation of images, anatomy and physiology, pathology, radiographic procedures, patient care and the operation and maintenance of equipment among others.

RADI 401  Digital Subtraction Angiography and Cardiovascular Procedures
2 Credits
Development of the new technologies in the field of Digital Subtraction 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. Prerequisite: 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 plantom, 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 plantom, 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 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 resuscitation, legal aspects, cardiac arrest, technologists role with injury patients and management of contrast media are emphasized. One (l) semester, 3 (3) hours per week. Prerequisites: Official admission to Radiologic Technology, Medical Sonography or Computerized Tomography Programs.

HESC 125 Anatomy and Physiology for Health Professions I
4 Credits
The course offers fundamental concepts of anatomy and human physiology. The relationship between structure, function and its integration within the different systems of the human body are emphasized. The course covers the basic principles of biochemistry and cellular biology including the integumentary, skeletal, muscular nervous and endocrine systems. The course incorporates pathological conditions, medical terminology and other more common diagnostic exams for different conditions. One semester, 3 hours of lecture and 3 hours of Laboratory per week.

HESC 126 Anatomy and Physiology for Health Professions II
4 Credits
The course offers fundamental concepts of anatomy and human physiology. The relationship between structure, function and its integration within the different systems of the human body are emphasized.
Pathological conditions, diagnostic exams and diagnosis and treatment will be discussed. The course covers the basic principles of biochemistry and cellular biology, the circulatory (cardiovascular and lymphatic), respiratory, digestive, immune, reproductive and urinary systems. The course incorporates medical terminology and exams in order to recognize structures, pathologies or illnesses. The responsible use of technology is encouraged. One semester, 3 hours of lecture and 3 hours of Laboratory per week.

**HESC 200  Computer Image Creation And Analysis**

3 Credits

This course offers an introduction to information literacy. It covers computer history, its component and infections. It describes the use and applications of computers in the different diagnostic imaging modalities; as well as the production and data processing used. Emphasis will be given to data acquisition and analysis of images in Computed Tomography, Magnetic Resonance Imaging, Medical Sonography, Radiologic Technology, and Nuclear Medicine. One semester, 3 hours per week.

**HESC 207  Microbiology for Health Sciences**

4 Credits

The course provides students with microbiology fundamentals and their relationship to individual health. The course permits the student to develop skills and competencies necessary for effective and safe performance in the clinical-hospital setting. Through the theoretic component the student familiarizes himself with different groups of microorganisms, paying major attention to those which affect human health. Attention is focused on the basic principles of microbiology such as morphology, physiology, identification and bacterial afflictions, molds, viruses and their relationship to diseases. In addition, infection epidemiology, host defenses and immunological principles and the application of this knowledge in the prevention of disease are developed in this course. The laboratory component provides the student with skills related to aseptic techniques, disinfection, tincture, isolation and culture of microorganisms. Methods of bacterial growth control are also emphasized. One semester, three hours of lecture and 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 102  Techniques and Protocols in Sonography**

2 Credits

This course presents the basic concepts and terminology, as well as guidelines protocols for the ultrasound examination. Topics include scanning techniques, patient position, images and diagnostic criteria used to make a preliminary report.
SONO 110  Compendium of General Physics
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 focuses primarily on physics concepts, although it includes numerical problems and simple application exercises. Prerequisites: MATH 118

SONO 234  Ultrasound Physics and Instrumentation I
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 II
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 observe 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 260  General Sonography Review
2 Credits
This course serves as a review in preparation for the American Registry of Diagnostic Medical Sonography (ARDMS) examinations. Students will be given exercises in the areas of Abdomen, OB/Gyn and Small parts. The student will take "mock registries" of the different specialties.

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, apothecary and avorsepois 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 226    Pharmacotherapy for Pharmacy Technicians I
3 Credits
This is the first of a three parts course that integrates the basic knowledge in anatomy, physiology, pathophysiology and pharmacology necessary to carry out effectively the functions of a pharmacy technician described in the Puerto Rico Law # 247 as of September 2004. Emphasis is given not only to the pharmacologic part where the student is familiarized with the generic and trade names of the drug, but also safe and effective use of medicines of more demand today. One semester, 3 hours of lecture per week. Prerequisites: none
PHAR 227  Pharmacotherapy for Pharmacy Technicians II
3 Credits
This is the second of a three parts course that integrates the basic knowledge in anatomy, physiology, pathophysiology and pharmacology necessary to carry out effectively the functions of a pharmacy technician described in the Puerto Rico Law # 247 as of September 2004. Emphasis is given not only to the pharmacologic part where the student is familiarized with the generic and trade names of the drug, but also safe and effective use of medicines of more demand today. One semester, 3 hours of lecture per week. Prerequisites: Phar 226

PHAR 228  Pharmacotherapy for Pharmacy Technicians III
3 Credits
This is the third of a three parts course that integrates the basic knowledge in anatomy, physiology, pathophysiology and pharmacology necessary to carry out effectively the functions of a pharmacy technician described in the Puerto Rico Law # 247 as of September 2004. Emphasis is given not only to the pharmacologic part where the student is familiarized with the generic and trade names of the drug, but also safe and effective use of medicines of more demand today. One semester, 3 hours of lecture per week. Prerequisites: Phar 226

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
4 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.
PHAR 258  Practicum Seminar
2 Credits
This seminar-style course is intended to provide the student the opportunity to review all the knowledge acquired in approved courses and during the first phase of practical experience to prepare them to take their state exam. Emphasis will be on those aspects relevant to the state exam for pharmacy technicians such as mathematics pharmaceutical, pharmacotherapy, technical, administrative and legal aspects of pharmacy practice. Prerequisite: Phar 256

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, pharmokinetics and pharmodynamics 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, somatomorphic, 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
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 successful accomplishments in his/her social, spiritual, political, and economical environment. The school is committed to foster responsibility with the human morals and ethics, as well as a comprehensive attitude and an appreciation of diversity and respect of human dignity.

The School encourages strengthening, enriching, and continuing the academic development of the faculty and student body, as well as, research and assessment in all its graduate and undergraduate programs. The school also promotes the integration of information skills and the proper use of technology.

The curriculum is focused on stimulating 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 presented by the social, cultural, political, and economical circumstances of the changing world.

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  
Associate Professor  
Spanish

Camuñas Madera, Ricardo Roberto, Ph D., Universidad de Valladolid, Spain  
Full Professor  
History and Humanities

Concepción Wilches, 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  
Full Professor  
Criminology and Spanish

Esposito, John Mark, MA Ed. Teachers College, Columbia University  
Instructor  
English and Italian

López Figueroa, Yolanda, Ph.D, Universidad Nacional Autónoma de México  
Assistant Professor  
History

Lugo Morales, Evelyn, Ed.D, University of Puerto Rico  
Assistant Professor  
English

Mercado Cruz, Daniel, MA Ed., University of Phoenix  
Instructor  
English
**Mirabal, Sandra**, MEd., University of Puerto Rico
Associate Professor
English

**Molina Morgado, Evelyn**, MPA, University of Puerto Rico
Full Professor
Sociology, Social Sciences, and Public Affairs

**Muñoz Berrios, Maria S.**, Psy D, Carlos Albizu University
Full Professor
Clinical Psychology, Criminology, and Social Sciences

**Nieves Colón, Ibis**, MA, University of Puerto Rico
Assistant Professor
Spanish

**Ortiz Rosa, Margarita**, MSW, Universidad de Puerto Rico
Instructor
Social Work

**Pagán Morales, Manuel**, MA, Interamerican University
Associate Professor
Spanish

**Pérez Cordero, Gladys**, Ed.D, Dowling College
Assistant Professor
English

**Piñeiro Ocasio, Iris**, MA, Seminario Evangélico de Puerto Rico
Assistant Professor
Humanities and Religion

**Pomales Rivera, Margarita**, MA, University of Puerto Rico
Assistant Professor
Spanish

**Rivera Moret, Maritza**, MSW, Universidad de Puerto Rico
Instructor
Social Work

**Rivera Rivera, Carmen Belén**, PhD, Universidad de Puerto Rico
Assistant Professor
Social Work

**Rodríguez Cancel, Jaime L.**, PhD, Centro de Estudios Avanzados del Puerto Rico y el Caribe
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Rosado Figueroa, Nilda I., MA and M Ed., Interamerican University of Puerto Rico
Full Professor
English

Santiago Orria, Astrid E. PhD, Universidad de Puerto Rico
Assistant Professor
Social Work

Shaw Oppenheimer, Kathleen, MA, University of Puerto Rico
Associate Professor
English

Toledo López, Angel A., Ph.D, Pennsylvania State University, J.D. Universidad de Puerto Rico
Assistant Professor
Politics and Social Sciences

Umpierre Rodríguez, Casilda, Juris Doctor, Catholic University of Puerto Rico
Associate Professor
Criminology and Paralegal Studies

Vázquez Hernández, Zulma, MA, Interamerican University of Puerto Rico
Associate Professor
Economics, Social Work, and Social Sciences

Villamil Rodríguez, Myria, PsyD., Carlos Albizu University
Associate Professor
Clinical Psychology

Villanueva Pérez, José, PsyD., Carlos Albizu University
Full Professor
Clinical Psychology

ADMINISTRATIVE STAFF

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Administrative Secretary  
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PROGRAM DESCRIPTIONS

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 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 investigation and 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 looking for the etiology of criminal conduct. It emphasizes in the role the citizen plays in the judicial 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, and to continue studies in law enforcement.
Psychology

A graduate with a major in psychology will have developed 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 continue studies on the principles of human behavior. The curriculum emphasizes prevention and mental health care services. The program develops responsible leaders who will participate in fostering community education geared towards finding a solution for social problems.

MINORS

The School of Social and Human Sciences also offers the following minor concentration that the students must declare before they graduate in order to reflect the minor concentration in their official transcript. These minors are:

- Investigative and Legal Writing
- Legal Assistant
- Administration of the Criminal Justice System
- Investigative Procedures in Criminal Justice
- Social Work

ADMISSIONS REQUIREMENTS TO THE VARIOUS PROGRAMS OFFERED AT THE SCHOOL

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

- High School grade point average of 2.0 for all programs in:
  - Criminal Justice, Criminology and Paralegal Studies
- High School grade point average of 2.5 for the program in:
  - Psychology

GRADUATION REQUIREMENTS FOR ALL PROGRAMS

The graduation requirement for the associate degree programs is a general grade point average of 2.0 and for the major component is 2.3.

The graduation requirement for the bachelor degree programs is a general grade point average of 2.0 and for the major component is 2.5.
ASSOCIATE DEGREES

Associate of Arts in Criminal Justice with emphasis on Police

<table>
<thead>
<tr>
<th>63 Credits</th>
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<tbody>
<tr>
<td>General Education</td>
<td>24</td>
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<td>Core Curriculum Courses</td>
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<tr>
<td>Major Courses</td>
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<td>Electives</td>
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**General Education**  
24

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<td>COMP 110</td>
<td>Introduction to Computers and Software</td>
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<td>*ENGL 115</td>
<td>College Reading and Writing I</td>
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<td>ENGL 116</td>
<td>College Reading and Writing II</td>
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<td>*MATH 118</td>
<td>Fundamentals of Intermediate Algebra</td>
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<tr>
<td>QYLE 110</td>
<td>Development of Values, Attitude, and Adaptation to University Life</td>
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<tr>
<td>SOSC 112</td>
<td>The Human Being and His Environment</td>
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<td>*SPAN 115</td>
<td>Reading, Writing, and Oral Communication in Spanish I</td>
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<td>SPAN 275</td>
<td>Advanced Writing in Spanish</td>
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**Core Curriculum Courses**  
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<tr>
<td>CRIM 203</td>
<td>General Principles of Penal Law and Crimes Against Individuals and Property</td>
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<td>CRIM 210</td>
<td>Criminal Procedures and Evidence</td>
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<td>CRIM 220</td>
<td>Ethics and Human Relations</td>
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**Major Courses**  
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<tr>
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<td>CRIM 201</td>
<td>Criminal Investigation</td>
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<tr>
<td>CRIM 204</td>
<td>Special Penal Laws</td>
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<tr>
<td>CRIM 205</td>
<td>Police Organization, Administration, and Supervision</td>
<td>3</td>
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<tr>
<td>CRIM 216</td>
<td>Ethics and Civil Rights</td>
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<td>CRIM 218</td>
<td>Police and Community Relations</td>
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<td>CRIM 240</td>
<td>Report Writing</td>
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<td>CRIM 340</td>
<td>Juvenile Delinquency</td>
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**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

<table>
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### General Education 27

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<td>Compendium of Human Biology</td>
<td>3</td>
</tr>
<tr>
<td>COMP 110</td>
<td>Introduction to Computers and Software</td>
<td>3</td>
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<tr>
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<td>QYLE 110</td>
<td>Development of Values, Attitude, and Adaptation to University Life</td>
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<tr>
<td>SOSC 112</td>
<td>The Human Being and His Environment</td>
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<tr>
<td>*SPAN 115</td>
<td>Reading, Writing, and Oral Communication in Spanish I</td>
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### Core Curriculum Courses 18

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<td>Introduction to Criminal Justice</td>
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<tr>
<td>CRIM 203</td>
<td>General Principles of Penal Law and Crimes</td>
<td>3</td>
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<tr>
<td></td>
<td>Against Individuals and Property</td>
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<tr>
<td>CRIM 210</td>
<td>Criminal Procedures and Evidence</td>
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<td>CRIM 220</td>
<td>Ethics and Human Relations</td>
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<td>Psychopathology</td>
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### Major Courses 23

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<tr>
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<td>CRIM 232</td>
<td>Correctional Administrative System</td>
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<tr>
<td>CRIM 234</td>
<td>Management and Supervision of Inmates</td>
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<td>CRIM 236</td>
<td>Probation, Bail, and Community Treatment</td>
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<td>Development and Treatment of Inmates</td>
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<td>MDED 101</td>
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### 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.
## BACHELOR’S DEGREES

**Bachelor of Social Sciences**  
Major in Criminal Justice

### 126 Credits

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<td>Electives</td>
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<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>COMP 110</td>
<td>Introduction to Computers and Software</td>
</tr>
<tr>
<td>*ENGL 115</td>
<td>College Reading and Writing I</td>
</tr>
<tr>
<td>ENGL 116</td>
<td>College Reading and Writing II</td>
</tr>
<tr>
<td>HIST 255</td>
<td>Analysis of the Historical Processes of Puerto Rico</td>
</tr>
<tr>
<td>*MATH 118</td>
<td>Fundamentals of Intermediate Algebra</td>
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<tr>
<td>QYLE 110</td>
<td>Development of Values, Attitudes, and Adaptation to University Life</td>
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<tr>
<td>SOSC 112</td>
<td>The Human Being and His Social Environment</td>
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<tr>
<td>SOSC 230</td>
<td>Economic and Political Systems</td>
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<td>Political and Socioeconomic Principles of Globalization</td>
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<td>Reading, Writing, and Oral Communication in Spanish I</td>
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<td>Advanced Writing in Spanish</td>
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<tr>
<td>ECON 123</td>
<td>Elementary Principles and Problems of Economics</td>
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<td>PALE 105</td>
<td>Constitutional Principles</td>
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<td>General Psychology II</td>
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<td>Elementary Principles of Sociology</td>
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<td>SOCI 216</td>
<td>Contemporary Social Problems</td>
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<td>SOSC 250</td>
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<td>Research Techniques in Social Sciences</td>
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<tbody>
<tr>
<td>PALE 205</td>
<td>Introduction to Private Law I</td>
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<td>PALE 206</td>
<td>Introduction to Private Law II</td>
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<td>Introduction to Criminal Justice</td>
</tr>
<tr>
<td>CRIM 203</td>
<td>General Principles of Penal Law and Crimes Against Individuals and Property</td>
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<td>Course Code</td>
<td>Course Title</td>
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<td>CRIM 204</td>
<td>Special Penal Laws</td>
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<td>CRIM 206</td>
<td>Criminal Procedure</td>
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<tr>
<td>CRIM 320</td>
<td>Criminal Investigation</td>
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<td>CRIM 331</td>
<td>Organization, Administration, Supervision and Police Reports</td>
</tr>
<tr>
<td>CRIM 335</td>
<td>Ethical Aspects of Justice</td>
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<td>CRIM 336</td>
<td>Substance Use and Abuse</td>
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<td>CRIM 340</td>
<td>Juvenile Delinquency</td>
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<tr>
<td>CRIM 415</td>
<td>Evidence</td>
</tr>
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<td>CRIM 425</td>
<td>Criminalistics</td>
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<td>CRIM 430</td>
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<td>CRIM 475</td>
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**Practicum**  
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. 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

<table>
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<th>Category</th>
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<td><strong>Credits</strong></td>
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<td>COMP 110  Introduction to Computers and Software</td>
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<td>ENGL 116  College Reading and Writing II</td>
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<td>HIST 255  Analysis of the Historical Processes of Puerto Rico</td>
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<td>*MATH 118  Fundamentals of Intermediate Algebra</td>
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<td>51</td>
<td>QYLE 110  Development of Values, Attitudes, and Adaptation to University Life</td>
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<td>菜单课程</td>
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<td>SPAN 275  Advanced Writing in Spanish</td>
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<tr>
<td>ECON 123  Elementary Principles and Problems of Economics</td>
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<td><strong>Credits</strong></td>
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<tr>
<td>PALE 105  Constitutional Principles</td>
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<td>ECON 123  Elementary Principles and Problems of Economics</td>
</tr>
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<td>PSYC 121  General Psychology I</td>
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<td>PSYC 122  General Psychology II</td>
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<td>PSYC 121  General Psychology I</td>
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<td>SOCI 203  Elementary Principles of Sociology</td>
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<td>PSYC 122  General Psychology II</td>
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<tr>
<td>SOCI 216  Contemporary Social Problems</td>
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<td>SOCI 203  Elementary Principles of Sociology</td>
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<tr>
<td>SOCI 250  Statistics in Social Sciences</td>
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<td>SOCI 216  Contemporary Social Problems</td>
</tr>
<tr>
<td>CRIM 203  General Principles of Penal Law and Crimes Against Individuals and Property</td>
<td>3</td>
<td>SOCI 250  Statistics in Social Sciences</td>
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<td>CRIM 206  Criminal Procedure</td>
<td>3</td>
<td>CRIM 203  General Principles of Penal Law and Crimes Against Individuals and Property</td>
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<td>CRIM 340  Juvenile Delinquency</td>
<td>3</td>
<td>CRIM 206  Criminal Procedure</td>
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<td>CRIM 415  Evidence</td>
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<td>CRIM 340  Juvenile Delinquency</td>
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<tr>
<td>PALE 101  Fundamentals of Puerto Rico Law</td>
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<td>CRIM 415  Evidence</td>
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<td>PALE 103  Legal Investigations</td>
<td>3</td>
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<td>PALE 107  Fundamentals of Civil Procedure</td>
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<td>PALE 103  Legal Investigations</td>
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<td>PALE 205  Introductions to Private Law I</td>
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<td>PALE 107  Fundamentals of Civil Procedure</td>
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216
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 311  Professional Responsibility      1
PALE 313  Investigations and Editing of Documents  3
PALE 403  Administration of the Legal Office   2
PALE 405  General Foundations of the Bankruptcy and Immigration Laws

**Practicum** 3

PALE 425  Practicum 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. **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**

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#### General Education 48

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<td>*ENGL 115</td>
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<tr>
<td>HIST 255</td>
<td>Analysis of the Historical Processes of Puerto Rico</td>
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<td>*MATH 118</td>
<td>Fundamentals of Intermediate Algebra</td>
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<td>QYLE 110</td>
<td>Development of Values, Attitudes, and Adaptation to University Life</td>
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<td>SOSC 112</td>
<td>The Human Being and His Social Environment</td>
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<td>SOSC 242</td>
<td>Political and Socioeconomic Principles of Globalization</td>
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<td>*SPAN 115</td>
<td>Reading, Writing, and Oral Communication in Spanish I</td>
<td>3</td>
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<tr>
<td>SPAN 116</td>
<td>Reading, Writing, and Oral Communication in Spanish II</td>
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#### Menu Courses 18

6 Courses Selected from the Menu

#### Core Professional Courses 18

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<td>SOCI 203</td>
<td>Elementary Principles of Sociology</td>
<td>3</td>
</tr>
<tr>
<td>SOCI 216</td>
<td>Social Problems of Puerto Rico</td>
<td>3</td>
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<tr>
<td>SOSC 250</td>
<td>Statistics in Social Sciences</td>
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<tr>
<td>SOSC 258</td>
<td>Investigation Techniques in the Social Sciences</td>
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#### Major Courses 39

<table>
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<td>PSYC 222</td>
<td>Adolescent Psychology</td>
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<td>PSYC 225</td>
<td>Social Psychology</td>
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<td>PSYC 226</td>
<td>Evolational Psychology</td>
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<td>PSYC 321</td>
<td>Personality Theories</td>
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<td>PSYC 322</td>
<td>Theories and Techniques in Psychotherapy</td>
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<td>Gender Psychology</td>
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<td>PSYC 327</td>
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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 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.
MINORS

- Investigative and Legal Writing
  - A minimum of 18 credits selected from the following courses:

<table>
<thead>
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<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
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<td>Fundamentals of Puerto Rican Law</td>
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<tr>
<td>PALE 103</td>
<td>Legal Investigation</td>
<td>3</td>
<td>COMP 110</td>
</tr>
<tr>
<td>PALE 107</td>
<td>Fundamentals of Civil Procedure</td>
<td>3</td>
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<tr>
<td>PALE 301</td>
<td>Aspects of Notary Law and Registration Law</td>
<td>3</td>
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<tr>
<td>PALE 313</td>
<td>Investigation and Editing of Documents</td>
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<td>PALE 103</td>
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<tr>
<td>SOSC 258</td>
<td>Research Techniques in Social Sciences</td>
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<td>COMP 110</td>
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- Legal Assistant
  - A minimum of 20 credits selected from the following courses:

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<th>Course Title</th>
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<th>Pre-requirements</th>
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<tbody>
<tr>
<td>PALE 101</td>
<td>Fundamentals of Puerto Rican Law</td>
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<tr>
<td>PALE 103</td>
<td>Legal Investigation</td>
<td>3</td>
<td>COMP 110</td>
</tr>
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<td>PALE 107</td>
<td>Fundamentals of Civil Procedure</td>
<td>3</td>
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</tr>
<tr>
<td>PALE 301</td>
<td>Aspects of Notary Law and Registration Law</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>PALE 307</td>
<td>Principles of Administrative Law</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>PALE 313</td>
<td>Investigation and Editing of Documents</td>
<td>3</td>
<td>PALE 103</td>
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<td>PALE 403</td>
<td>Administration of the Legal Office</td>
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</table>

- Administration of the Criminal Justice System
  - A minimum of 18 credits selected from the following courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Pre-requirements</th>
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<tbody>
<tr>
<td>CRIM 103</td>
<td>Introduction to Criminal Justice</td>
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<tr>
<td>CRIM 204</td>
<td>Special Penal Laws</td>
<td>3</td>
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<td>CRIM 331</td>
<td>Organization, Administration, Supervision and Police Reports</td>
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<td>CRIM 335</td>
<td>Ethical Aspects of Justice</td>
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<td>CRIM 340</td>
<td>Juvenile Delinquency</td>
<td>3</td>
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<tr>
<td>CRIM 430</td>
<td>Correctional System of Puerto Rico</td>
<td>3</td>
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</table>
- **Investigative Procedures in Criminal Justice**
  - A minimum of 15 credits selected from the following courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Pre-requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRIM 203</td>
<td>General Principles of the Penal Code and Crime Against Individuals and Property</td>
<td>3</td>
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<tr>
<td>PALE 205</td>
<td>Introduction to Private Law</td>
<td>3</td>
<td></td>
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<tr>
<td>CRIM 320</td>
<td>Ethics and Human Relations</td>
<td>3</td>
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<tr>
<td>CRIM 415</td>
<td>Evidence</td>
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<tr>
<td>CRIM 425</td>
<td>Criminalistics</td>
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- **Social Work**
  - A minimum of 15 credits selected from the following courses:

<table>
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<tbody>
<tr>
<td>SOWO 250</td>
<td>Introduction to Social Work</td>
<td>3</td>
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<tr>
<td>SOWO 255</td>
<td>Interviews and Communication in Social Work</td>
<td>3</td>
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<tr>
<td>SOWO 305</td>
<td>Recording Case Studies in Social Work</td>
<td>3</td>
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<tr>
<td>SOWO 321</td>
<td>Social Work with Individuals and Families</td>
<td>3</td>
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<tr>
<td>SOWO 322</td>
<td>Social Work with Group and Communities</td>
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</tbody>
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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 facilities 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 125  Advanced English I**  
*3 Credits*  
This course provides intensive practice at an advanced level of oral and written communication skills. This course also combines intensive reading with critical analysis of representative works, responding to different types of writing styles such as: expository and descriptive. Students will be required to carry out a research project on a current issue. The course requires the integration of technological devices in the production of written texts, critical analysis, and presentations. Advanced English is designed for students who scored 575 or higher on the College Entrance Examination Board or obtained a score of 90% or above on the English Placement Test.

**ENGL 126  Advanced English II**  
*3 Credits*  
This course provides intensive practice at an advanced level of oral and written communication skills. This course also combines intensive reading with critical analysis of representative works, responding to different types of writing styles such as: argumentative and persuasive. Students will be required to carry out a research project on a current issue. The course requires the integration of technological devices in the production of written texts, critical analysis, and presentations. Pre-requisite: ENGL 125

**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 225  Introduction to Linguistics**  
*3 Credits*  
This course offers a scenic view of basic language theories and approaches and their effects on the thought processes. It includes fundamental phonological, morphological, and syntactic concepts, and their application in second language learners. Moreover, special emphasis will be placed on the application of teaching activities and strategies according to each theory or approach. Research projects will be developed through the responsible use of technology.

**ENGL 226  Grammatical Structure of English**  
*3 Credits*  
In depth study of linguistic principles, syntactic functions, parts of speech, clause patterns, and punctuation will be studied. It also covers linguistic processes. Designed for English teachers. The course will be developed through practical exercises, research, and drills in order to strengthen the students’ proficiency level.
ENGL 230  Introduction to Literary Genres
3 Credits
Introduction to literature through the study of the different literary genres. Emphasis is placed on reading and analysis of an extensive variety of authors and types of literature. Intensive reading course. Provides for response writing and discussion as teaching and learning techniques. Research projects will be developed through the responsible use of technology.

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.

ENGL 310  English Phonetics
3 Credits
The study of the phonetic system of the English language. Identification of the organs used in the production of sounds. The International Phonetic Alphabet is used in discussing the consonant and vowel system. Techniques and methods used to correct deficiencies in pronunciation are also discussed in detail. (Not an Independent Study course.)

ENGL 360  Contrastive Analysis of English and Spanish
3 Credits
Phonemic and phonetic systems of English compared to Spanish. Correction techniques and methods in pronunciation problems of students learning English as a Second Language. Class discussions, simulations, and question and answer sessions will be stressed. (Not an Independent Study course)
ENGL 362    American and British Literature
3 Credits
Reading and analysis of the principal American and British authors. The evolution of American and British thoughts and literary styles are studied. Intensive reading course. Provides for response writing and discussion as teaching and learning techniques. Research projects will be developed through the responsible use of technology.

ENGL 370    Advanced Oral Communication
3 Credits
Preparation and presentation of conferences and formal/informal discussions. Critical ability development in oral comprehension. Emphasis on techniques for pronunciation correction. Students will be guided to enhance their own communication, as they also prepare to enhance the oral communication of their future students by studying real cases. Course includes oral discussions and simulations. (Not an Independent Study course)

ENGL 410    Advanced Composition
3 Credits
Intensive writing course. Basic principles of exposition and persuasion. Students will be guided to enhance their own written communication skills, as they also prepare to enhance the written communication of their future students by studying real cases. Course includes discussions and simulations. Technology and web-enhanced techniques will be used for this course.

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.

**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.

**ITALIAN**

**ITAL 101 Basic Italian I**
3 Credits
This is a beginning course in the fundamentals of expression and communication for those who have had no previous contact with the language. The course will provide a basic functional literacy in Italian. In particular, the students will learn proper pronunciation and correct spelling, and they will be able to describe themselves and their surroundings using the present tense and a useful and immediate vocabulary.
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 AND DRAMA

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.

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.

THEA 203  The Study of the Theater  
3 Credits
This course consists of the study of the dramatic texts and character analysis. The students will interpret a character's role in a play and develop one of the components of the theatrical performance. This course includes dramatic training and development of acting and scenic communication techniques. It also
briefly examines the technical aspects of the production as it relates to the actor and actress. The course is developed through group evaluations and auto-evaluations, critiques of plays, collaborative work, research, comments, scene and play presentations and the use of technology.

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 multiculturism, transnationalism globalism, ethnocentricity, transculturation, endoculturation, and cultural relativity, among others. Analysis and ethical and personal appraiisement 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 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. Prerequisites: SOSC 250

**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.

**QUALITY OF LIFE**

**QYLE 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 environments.

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
A compendium course of Psychology 121-122, 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 212 Health Psychology
3 Credits
This course offers the student an introduction to the study of human behavior. Emphasis is placed on the behavior of the organism. Primary prevention techniques that lead to healthy behaviors are discussed, as well as, how to modify these in the treatment scenario. The student will have the opportunity to apply these techniques in his/her clinical scenario.

PSYC 222 Adolescent Psychology
3 Credits
Detailed study of the biological, cognitive, moral, emotional, and social changes that occur during adolescence. The contexts in which these changes occur will be discussed, such as, family, school, community, and how these affect behavior. The principle theories relating to the behavior of the adolescent will be discussed according to the field of psychology. The problems and research relating to adolescence will be discussed throughout the course. The course will be carried out through the use of discussions, research, case studies, case analysis, responsible use of technology and cooperative work.
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  Evolitional 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 324  Gender Psychology
3 credits
Study of myths, theories, and research related to masculinity and femininity. The course examines theoretical perspectives relating to sex and gender. Discussion of topics relating to gender in the world of work, gender and sexuality, double standards, and the way men and women relate to stress. Comparison and contrast of gender concepts from the social, educational, work, cognitive, individual, and the analysis of discourse perspectives. Students will differentiate the concepts of health and mental
illness from the gender and sexuality standpoint. The course will be carried out by case studies, critical analyses of recent research, panel discussions on current topics related to the study of gender and sexuality.

**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.

**PSYC 355    Industrial Psychology**
3 Credits
Analysis of the fundamental theories, approaches, techniques, and procedures relating to human conduct within the workplace. Study of the principles, practices, methodologies, instruments, and strategies inherent to human conduct in the workplace to achieve the success of business in the new Century. The course will be carried out by case studies, critical analyses of recent research, panel discussions on current topics related to industrial psychology in Puerto Rico and other countries.

**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.

**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.
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.

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                          Seminar in Psychology I  
3 Credits                         
Acquisition and development of the basic communication and interview skills. Students will 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                          Seminar in Psychology II  
3 Credits                         
Analysis of the theories and models of crisis intervention used with individuals in different situations from the perspective of psychology. Students will examine the techniques used to deal with crisis intervention in different scenarios. Research of different techniques on trainings for crisis intervention will be carried out. The course will be carried out through the use of discussions, research, case studies, case analysis, responsible use of technology and cooperative work.

ECONOMICS

ECON 123                          Elementary Principles and Problems of Economics  
3 Credits                         
This course places emphasis on microeconomics, particularly the theory of firms and markets. It provides a condensed vision of modern macroeconomic theory, including the problems of physical and monetary policy that are pertinent to economic systems.

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  The 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 is 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.
SOCl 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.

SOCl 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.

SOCl 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.

SOCl 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.

SOCl 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, religious 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.

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 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
3 Credits   Individuals and Property
The general principles of the penal code of Puerto Rico are 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.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRIM 204</td>
<td>Special Penal Laws</td>
<td>3</td>
<td>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.</td>
</tr>
<tr>
<td>CRIM 205</td>
<td>Police Organization, Administration, and Supervision</td>
<td>3</td>
<td>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.</td>
</tr>
<tr>
<td>CRIM 206</td>
<td>Criminal Procedure</td>
<td>3</td>
<td>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.</td>
</tr>
<tr>
<td>CRIM 207</td>
<td>Justice System</td>
<td>3</td>
<td>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.</td>
</tr>
<tr>
<td>CRIM 208</td>
<td>Evidence, Case Preparation, and Testimony</td>
<td>3</td>
<td>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.</td>
</tr>
<tr>
<td>CRIM 210</td>
<td>Criminal Procedures and Evidence</td>
<td>3</td>
<td>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.</td>
</tr>
<tr>
<td>CRIM 214</td>
<td>Foundations of Criminalistics</td>
<td>3</td>
<td>This course is a study of the origin and development of the police sciences. The topics covered in this course include: definition and scope of police sciences, the criminal scene, legal medicine, stains, forensics, hematology, hairs, fibers, semen manipulation, and preservation of physical evidence, ballistics, forensic photography and fingerprints and impressions.</td>
</tr>
</tbody>
</table>
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.

CRIM 331  Organization, Administration, Supervision and Police Reports
3 Credits
This course includes the study and analysis of the history of state and municipal police of Puerto Rico. Emphasis in the organization, administration, supervision, and writing reports. The course also includes the knowledge of the functions, powers, duties, and responsibilities, their administrative procedures, and community relations.

CRIM 335  Ethical Aspects of Justice
3 Credits
This course studies the principles and ethical theories that guide the individual decision making process within the Criminal Justice System. The laws that regulate individual and professional ethical behavior are discussed. This course is carried out by use of conferences and research in jurisprudence.

CRIM 336  Substance Use and Abuse
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.

CRIM 340  Juvenile Delinquency
3 Credits
The course presents a broad vision of juvenile delinquency. The theories relating to the causes of delinquency (nature and extent) are studied in order to analyze the causes of illegal behavior of youths,
within the context of the family, school, and community, are discussed. Delinquent behavior and due process of the law related to the modern social institutions in Puerto Rico will be discussed. The students will analyze the social relations to the problems of juvenile crime (prevention, treatment, and control), as well as, the analysis of the history and role of the juvenile court system.

CRIM 400   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. Prerequisite: CRIM 203

CRIM 415   Evidence
3 Credits
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. Prerequisite: CRIM 320

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. Prerequisites: CRIM 203, 415, 425

PARALEGAL

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

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. Prerequisite: PALE 103

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 405  General Fundamentals of Bankruptcy and Immigration Laws
3 Credits
The main focus of this course will be on bankruptcy law and procedure. It will cover commencement of a case, preparing of schedules, operating and liquidating procedures, adversary matters and litigation in bankruptcy court, debtors' and creditors' rights and obligations, technical terminology, and practical hints for paralegals. Forms utilized in bankruptcy court will be stressed as well as proceedings under Chapter 7, Chapter 13, and to a lesser extent, Chapter 11. Additionally, this course provides students with a basic understanding of the history of Immigration law, as well as the general procedures, terminology, and agencies that are part of Immigration Law. Students will have practice in completing standard immigration forms, researching Immigration Law, accessing government and other web sites for immigration related materials, and reviewing current issues in Immigration Law reviewed.

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. Prerequisites: PALE 103, 107, 205, 206, 301, CRIM 203, 415
VISION
To be recognized as the best Social Work program in Puerto Rico.

MISSION
To produce and disseminate a body of knowledge that encourages the development of Social Work skills and competencies in line with our pursuit of social justice and equality, respect for human rights, and recognition of the importance of human dignity as well as the appreciation of diversity, integrity, personal and professional responsibility, and an unwavering commitment to bring social transformation to Puerto Rico.

FACULTY

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Social Work

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Instructor
Social Work

Rivera Moret, Maritza, MSW, Universidad de Puerto Rico
Instructor
Social Work

Rivera Rivera, Carmen Belén, PhD, Universidad de Puerto Rico
Assistant Professor
Social Work

Santiago Orria, Astrid E. PhD, Universidad de Puerto Rico
Assistant Professor
Social Work

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PROGRAM DESCRIPTION

Social Work

The professional in the Social Work Program promotes social and economic equity and justice and the well being of human and social systems. Social workers utilize theories of human behavior and social systems to intervene at the points where people interact with their environments. Human rights and social justice are fundamental tenants of social work.

Social workers offer a variety of services to individuals, families, groups, organizations and communities. Social workers understand both the public and the private social service systems and how it serves its clientele. Among the services performed by social workers are appropriate referrals, direct services, short term therapies, crisis interventions, information gathering, planning, administration and evaluation of social services. Social workers analyze legislation and social policies in order to make recommendations for improving the quality of life of all citizens. Graduates of Social Work may seek professional licensing from the Social Work Board of Examiners at the State Department of Puerto Rico.

MINOR

- Social Work
ADMISSIONS REQUIREMENTS TO THE PROGRAM

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

- High School grade point average of 2.5 for Bachelor program in:
  - Social Work

GRADUATION REQUIREMENTS THE PROGRAM

The graduation requirement for the general grade point average is of 2.0 and for the major component is 2.5.
# Bachelor in Social Work

<table>
<thead>
<tr>
<th>Course Type</th>
<th>Credits</th>
<th>Description</th>
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<tbody>
<tr>
<td><strong>General Education</strong></td>
<td>51</td>
<td>COMP 110 Introduction to Computers and Software 3</td>
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<tr>
<td></td>
<td></td>
<td>*ENGL 115 College Reading and Writing I 3</td>
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<td>ENGL 116 College Reading and Writing II 3</td>
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<td>HIST 255 Analysis of the Historical Processes of Puerto Rico 3</td>
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<td>*MATH 118 Fundamentals of Intermediate Algebra 3</td>
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<td>QYLE 110 Development of Values, Attitudes, and Adaptation to University Life 3</td>
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<td>SOSC 112 The Human Being an His Social Environmental 3</td>
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<td>SOSC 230 Economic and Political Systems 3</td>
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<td>SOSC 242 Political and Socioeconomic Principles of Globalization 3</td>
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<td>*SPAN 115 Reading, Writing, and Oral Communication in Spanish I 3</td>
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<td>SPAN 275 Advanced Writing in Spanish 3</td>
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<td>Menu Courses 6 Courses Selected from the Menu 18</td>
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<tr>
<td><strong>Core Professional Courses</strong></td>
<td>27</td>
<td>PSYC 121 General Psychology I 3</td>
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<td>PSYC 122 General Psychology II 3</td>
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<td>PSYC 350 Psychopathology 3</td>
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<td></td>
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<td>SOCI 203 Elementary Principles of Sociology 3</td>
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<td>SOCI 216 Contemporary Social Problems 3</td>
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<td>SOCI 330 Sociology of Marriage and Family 3</td>
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<td>SOSC 250 Statistics in Social Sciences 3</td>
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<td>SOSC 258 Research Techniques in Social Sciences 3</td>
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<td>CRIM 336 Substance Abuse and Legal Issues 3</td>
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<tr>
<td><strong>Major Courses</strong></td>
<td>39</td>
<td>SOWO 250 Introduction to Social Work 3</td>
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<tr>
<td></td>
<td></td>
<td>SOWO 255 Interviews and Communication in Social Work 3</td>
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<td>SOWO 305 Recording Case Studies in Social Work 3</td>
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<td>SOWO 321 Social Work with Individuals and Families 3</td>
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<td>SOWO 322 Social Work with Groups and Communities 3</td>
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<td>SOWO 325 Legal and Ethical Aspects of Social Work 3</td>
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</tbody>
</table>
SOWO 340  Crisis Intervention 3
SOWO 360  Administration and Supervision 3
    of Social Services Agencies
SOWO 373  Social Work with Special Populations 3
SOWO 375  Social Policy and Social Services 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

Electives 3

Practicum 8

SOWO 480  Practicum and Seminar I 4
SOWO 481  Practicum and Seminar II 4

5. *The English, Spanish, and Math courses will be assigned according to the results of the College Board Entrance Exam or the CREE Placement Test.
6. A minimum average of “B” is required for all major courses.
7. The following courses must be taken before applying for the Practicum courses: SOSC 250, SOSC 258, SOWO 255, SOWO 260, SOWO 265, SOWO 350, SOWO 360, SOWO 373, SOWO 380, SOWO 385, SOWO 391, SOWO 393, SOWO 450
8. SOWO 480 and SOWO 481 must be passed with a “B” or above.
9. Students transferring from other Universities must comply with the residency requirement at UNE.
COURSE DESCRIPTION

SOCIAL WORK

SOWO 250   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 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 305   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. Prerequisite: SOSC 255

SOWO 321   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 322   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 325   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.

SOWO 340   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.

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>SOWO 360</td>
<td>Administration and Supervision of Social Services Agencies</td>
<td>3</td>
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<tr>
<td></td>
<td>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.</td>
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<tr>
<td>SOWO 373</td>
<td>Social Work with Special Populations</td>
<td>3</td>
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<td>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.</td>
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<tr>
<td>SOWO 375</td>
<td>Social Policy and Social Services</td>
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<tr>
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<td>A study of social issues and the corresponding government policy. Social programs, agencies and services rendered to the community are discussed in depth.</td>
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<tr>
<td></td>
<td>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.</td>
<td></td>
</tr>
<tr>
<td>SOWO 385</td>
<td>Social Work in the Industrial Setting</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>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.</td>
<td></td>
</tr>
<tr>
<td>SOWO 387</td>
<td>Social Work in the Socio-Medical Setting</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Deals with the role of social work in a socio-medical setting as individuals and groups. All local and national legislation 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.</td>
<td></td>
</tr>
<tr>
<td>SOWO 480</td>
<td>Practicum and Seminar I</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>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</td>
<td></td>
</tr>
</tbody>
</table>
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. Prerequisite: SOWO 480
UNIVERSIDAD DEL ESTE

SCHOOL

OF

SCIENCE AND TECHNOLOGY

... a community of learners committed to excellence in higher education

UNDERGRADUATE CATALOG

2009-2012
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 science, 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

Arcelay Gutierrez, Angel, PhD
Ohio State University
Associate Professor
Biochemistry

Colón Guasp, Wilfredo, PhD
University of Florida
Full Professor
Environmental Horticulture

Dávila Lebrón, Gladys, MA
New York University
Emeritus Professor
Mathematics

Castro Simmons, Mónica, MS
Virginia Polytechnic Institute
Assistant Professor
Mathematics

González Rodríguez, Sandra, MS
University of Puerto Rico Río Piedras Campus
Associate Professor
Chemistry

Laham Bauzó, Isis, MS
Boston University
Instructor
Computer Engineering

Lizardi O’Neill, Liliam, PhD
University of Puerto Rico Medical Sciences Campus
Full Professor
Physiology

Méndez Merced, Ana T., PhD
University of Puerto Rico Río Piedras Campus
Assistant Professor
Biology

Pabón Velázquez, Lydia, MPH
University of Puerto Rico
Emeritus Professor
Public Health
Peraza González, Carmen D., PhD  
Universidad Estatal a Distancia de Costa Rica  
Associate Professor  
Research and Evaluation  
Mathematics

Pérez Vélez, Mariel E., PhD  
University of Puerto Rico Medical Sciences Campus  
Assistant Professor  
Microbiology and Medical Zoology

Restrepo, Gerson, MS  
University of Puerto Rico Mayaguez Campus  
Associate Professor  
Physics

Rodríguez Bonano, Nydia, PhD  
University of Puerto Rico Medical Sciences Campus  
Associate Professor  
Microbiology and Medical Zoology

Roig López, José L., PhD  
University of Puerto Rico Río Piedras Campus  
Assistant Professor  
Biology

Santiago Pereira, Carlos, PhD  
Ohio State University  
Associate Professor  
Molecular, Cellular and Developmental Biology

Torres Colón, Jorge, MAEd  
InterAmerican University  
Instructor  
Mathematics

ADMINISTRATIVE STAFF

Colón Guasp, Wilfredo, PhD  
University of Florida  
Dean

Cherry, Rebecca C., PhD  
University of Puerto Rico Medical Sciences Campus  
Associate Dean
Carrasquillo Medina, Alex D., Eng.
Universidad del Turabo
Engineering Program Director

Rivera Rosa, Miriam, MBA
Universidad Metropolitana
Administrative Services Director

Bigio Ferreira, Yazmin, MBA
Universidad del Turabo
Student Coordinator

Cirilo Ramos, Carol, BA
Universidad del Este
Secretary III

Martinez Algarin, Luz T., MBA
Universidad del Turabo
Secretary IV

TECHNICAL STAFF

Hernandez Burgos, Carmen L., MS
University of Puerto Rico Rio Medical Sciences 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 workshops, 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: URGREAT 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 Food Safety Research Laboratory:

This laboratory was created with funds from the Department of Health and Human Services. The laboratory allows faculty and students to undertake research projects related to food safety.

The CECMAT/URGREAT 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:**
- Science Lab. 1 (L-101)
- Food Safety Lab. 2 (L-102)
- Undergraduate research (L-103)
- 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)
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, biology, and biotechnology to environment sciences. 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 and nursing 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’s 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. This degree can also be used to continue graduate studies.

Environmental Sciences

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. This degree can also be used to continue graduate studies.

ADMISSION REQUIREMENTS FOR ALL PROGRAMS

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 FOR ALL PROGRAMS

All professional and concentration courses should be approved with 2.50 of index in order to graduate from all the programs.
ASSOCIATE DEGREE PROGRAMS

Associate in Science in Electronic Engineering Technology

75 credits

<table>
<thead>
<tr>
<th>General Education</th>
<th>21</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core Curriculum Courses</td>
<td>21</td>
</tr>
<tr>
<td>Major Courses</td>
<td>33</td>
</tr>
</tbody>
</table>

General Education | 21
---|---
*SPAN 115-116 | Reading, Writing, and Oral Communication in Spanish I and II | 6
*ENGL 115-116 | College Reading and Writing I and II | 6
*MATH 130-131 | Pre-calculus I and II | 6
QYLE 110 | Development of Values, Attitudes, and Adaptation to University Life | 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
ECON 124 | Basic Economics for Engineers | 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
ETAP 300 | Engineering Technology Application Project | 1

Electives | None
Practicum | None

*The English, Mathematics, and Spanish courses will be assigned according to the student’s proficiency level in College Entrance Examination administered by the College Entrance Examination Board of Puerto Rico.

**All major courses must be approved with minimum final grade of “C”.

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# Associate in Science in Networking Engineering Technology

<table>
<thead>
<tr>
<th>Credits</th>
<th>General Education</th>
<th>Core Curriculum Courses</th>
<th>Major Courses**</th>
</tr>
</thead>
<tbody>
<tr>
<td>21</td>
<td>21</td>
<td>24</td>
<td>33</td>
</tr>
</tbody>
</table>

## General Education
- *SPAN 115-116  Reading, Writing, and Oral Communication in Spanish I and II* 6
- *ENGL 115-116  College Reading and Writing I and II* 6
- *MATH 130-131  Pre-calculus I and II* 6
- QYLE 110  Development of Values, Attitudes, and Adaptation to University Life 3

## Core Curriculum Courses
- 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 393  Computer Operating Systems 3
- ECON 124  Basic Economics for Engineers 3

## Major Courses**
- 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
- ETAP 300  Engineering Technology Application Project 1

## Electives
- None

## Practicum
- None

*The English and Spanish courses will be assigned according to the results of the College Entrance Examination administered by the College Entrance Examination Board of Puerto Rico.

**All major courses must be approved with a minimum final grade of “C”.

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261
### Associate in Natural Sciences with emphasis in Applied Sciences

<table>
<thead>
<tr>
<th>Category</th>
<th>Credits</th>
<th>Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>General Education</strong></td>
<td>21</td>
<td>*SPAN 115-116 Reading, Writing, and Oral Communication in Spanish I&amp; II  <em>6</em>&lt;br&gt;*ENGL 115-116 College Reading and Writing I and II  <em>6</em>&lt;br&gt;MATH 130-131 Pre-calculus I and II  <em>6</em>&lt;br&gt;SOSC 228 Interpersonal Relations  <em>3</em></td>
</tr>
<tr>
<td><strong>Core Curriculum Courses</strong></td>
<td>28</td>
<td>BIOL 203-204 General Biology I and II  <em>8</em>&lt;br&gt;CHEM 203-204 General Chemistry I and II  <em>8</em>&lt;br&gt;MATH 304 Biostatistics  <em>4</em>&lt;br&gt;CHEM 351-352 Organic Chemistry I and II  <em>8</em>&lt;br&gt;or PHSC 203-204 General Physics I and II  <em>8</em></td>
</tr>
<tr>
<td><strong>Major Courses</strong></td>
<td>14</td>
<td>BIOL 228 Introduction to Ecology  <em>3</em>&lt;br&gt;BIOL 240 Modern Genetics  <em>3</em>&lt;br&gt;BIOL 398 Molecular and Cellular Biology  <em>4</em>&lt;br&gt;CHEM 323 Analytical Chemistry  <em>4</em></td>
</tr>
<tr>
<td><strong>Electives</strong></td>
<td>None</td>
<td></td>
</tr>
<tr>
<td><strong>Practicum</strong></td>
<td>None</td>
<td></td>
</tr>
</tbody>
</table>

*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

### 75 -77 credits

<table>
<thead>
<tr>
<th>Category</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Education</td>
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<tr>
<td>Core Curriculum Courses</td>
<td>11</td>
</tr>
<tr>
<td>Major Courses</td>
<td>37-39</td>
</tr>
</tbody>
</table>

### General Education 27

- **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 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** 37-39

- 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 in Sciences
### Major in Applied Microbiology

<table>
<thead>
<tr>
<th>Credit Type</th>
<th>Credits</th>
<th>Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>General Education</strong></td>
<td>48</td>
<td>*SPAN 115-116   Reading, Writing, and Oral Communication in Spanish I and II 6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>*ENGL 115-116  College Reading and Writing I and II                      6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>MATH 130-131  Pre-calculus I and II                                     6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SOSC 113      Analysis of Cultural and Historical Processes             3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SOSC 242      Political and Social Economic Principles of Globalization 3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>HIST 255      Analysis of Historic Puerto Rican Processes                3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>QYLE 110      Development of Values, Attitudes, and Adaptation to University Life 3</td>
</tr>
<tr>
<td><strong>Professional Courses</strong></td>
<td>51</td>
<td>BIOL 203-204  General Biology I and II                                  8</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PHYS 203-204  General Physics I and II                                  8</td>
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<tr>
<td></td>
<td></td>
<td>CHEM 203-204  General Chemistry I and II                                8</td>
</tr>
<tr>
<td></td>
<td></td>
<td>MATH 221      Calculus I                                               4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>MATH 304      Biostatistics                                            4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CHEM 323      Analytical Chemistry                                     4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CHEM 351-352  Organic Chemistry I and II                                8</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CHEM 385      Biochemistry                                             4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>UNRE 201      Undergraduate Research                                   3</td>
</tr>
<tr>
<td><strong>Major Courses</strong></td>
<td>36</td>
<td>BIOL 206      General Microbiology                                      4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>BIOL 208      Microbial Ecology and Diversity                          3</td>
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<tr>
<td></td>
<td></td>
<td>BIOL 220      Microbial Physiology                                      3</td>
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<tr>
<td></td>
<td></td>
<td>BIOL 306      Molecular Genetics of Microorganism                       4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>BIOL 308      General Mycology                                          3</td>
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<tr>
<td></td>
<td></td>
<td>BIOL 309      Industrial Microbiology                                   3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>BIOL 330      Immunology                                               3</td>
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<tr>
<td></td>
<td></td>
<td>BIOL 324      Quality Control in Microbiology                           3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>BIOL 383      Food and Water Microbiology                              3</td>
</tr>
<tr>
<td></td>
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<td>BIOL 385      Epidemiological &amp; Sanitary Microbiology                  3</td>
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</table>

Total Credits: 138
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>BIOL 395</td>
<td>Laboratory Techniques in Biotechnology &amp; Applications</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 400</td>
<td>Internship/Seminar in Applied Microbiology II</td>
<td>1</td>
</tr>
</tbody>
</table>

**Elective Course**

Either BIOL 390, BIOL 398, BIOL 440, BIOL 450 or BIOL 460

3

*The English, Mathematics, and Spanish courses will be assigned according to the results of the College Entrance Examination administered by the College Entrance Examination Board of Puerto Rico.

**All professional and concentration courses (BIOL, MATH, CHEM, and PHYS) must be approved with a minimum final grade of “C”.

A minimum General Index (GPA) and Major Index of 2.50 are required for graduation.
## Bachelor in Sciences
### Major in Biology

<table>
<thead>
<tr>
<th>Credits</th>
<th>Bachelor in Sciences Major in Biology</th>
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</thead>
<tbody>
<tr>
<td>121</td>
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</table>

<table>
<thead>
<tr>
<th>Credits</th>
<th>48</th>
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</table>

<table>
<thead>
<tr>
<th>General Education</th>
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<tbody>
<tr>
<td>*SPAN 115-116</td>
<td>Reading, Writing, and Oral Communication in Spanish I and II</td>
</tr>
<tr>
<td>*ENGL 115-116</td>
<td>College Reading and Writing I and II</td>
</tr>
<tr>
<td>*MATH 130-131</td>
<td>Pre-calculus I and II</td>
</tr>
<tr>
<td>HIST 255</td>
<td>Analysis of Historic Puerto Rican Processes</td>
</tr>
<tr>
<td>SOSC 113</td>
<td>Analysis of Cultural and Historical Processes</td>
</tr>
<tr>
<td>SOSC 242</td>
<td>Political and Social Economic Principals of Globalization</td>
</tr>
<tr>
<td>QYLE 110</td>
<td>Development of Values, Attitudes, and Adaptation to University Life</td>
</tr>
<tr>
<td>MENU Courses</td>
<td>6 courses selection</td>
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</table>

<table>
<thead>
<tr>
<th>Professional Courses</th>
<th>39</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 203-204</td>
<td>General Biology I and II</td>
</tr>
<tr>
<td>PHYS 203-204</td>
<td>General Physics I and II</td>
</tr>
<tr>
<td>CHEM 203-204</td>
<td>General Chemistry I and II</td>
</tr>
<tr>
<td>MATH 304</td>
<td>Biostatistics</td>
</tr>
<tr>
<td>CHEM 351-352</td>
<td>Organic Chemistry I and II</td>
</tr>
<tr>
<td>UNRE 201</td>
<td>Undergraduate Research</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Major Courses</th>
<th>31</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 228</td>
<td>Introduction to Ecology</td>
</tr>
<tr>
<td>BIOL 240</td>
<td>Modern Genetics</td>
</tr>
<tr>
<td>BIOL 330</td>
<td>Immunology</td>
</tr>
<tr>
<td>BIOL 206</td>
<td>General Microbiology</td>
</tr>
<tr>
<td>BIOL 325</td>
<td>General Botany</td>
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<td>BIOL 345</td>
<td>Evolution</td>
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<td>BIOL 395</td>
<td>Laboratory Techniques in Biotechnology</td>
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<td>BIOL 398</td>
<td>Cellular and Molecular Biology</td>
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<td>BIOL 430</td>
<td>Zoology</td>
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<th>Electives</th>
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*Credits and courses are subject to change without notice.*
Elective Course 3

Either BIOL 306 or UNRE 202,203,204

*The English, Mathematics, and Spanish courses will be assigned according to the results of the College Entrance Examination administered by the College Entrance Examination Board of Puerto Rico.

** All professional and concentration courses (BIOL, MATH, CHEM, and PHYS) must be approved with a minimum final grade of “C”.

A minimum General Index (GPA) and Major Index of 2.50 are required for graduation.
Bachelor in Sciences
Major in Biotechnology

133 Credits

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<tr>
<th>Category</th>
<th>Credits</th>
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<tbody>
<tr>
<td>General Education</td>
<td>48</td>
<td>Reading, Writing, and Oral Communication in Spanish I and II</td>
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<td>*SPAN 115-116</td>
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<td>Professional Courses</td>
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<td>Major Courses</td>
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Credits total: 133
BIOL 490 Practical in Biotechnology 1

**Elective Course**

Either BIOL 208, BIOL 309 or UNRE 202, UNRE 203, UNRE 204 3

*The English, Mathematics, and Spanish courses will be assigned according to the results of the College Entrance Examination administered by the College Entrance Examination Board of Puerto Rico.

** All professional and concentration courses (BIOL, MATH, CHEM, and PHYS) must be approved with a minimum final grade of “C”.

A minimum General Index (GPA) and Major Index of 2.50 are required for graduation.
Bachelor in Sciences  
Major in Environmental Sciences

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<td>General Education</td>
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<tr>
<td>Professional Courses</td>
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<td>Major Courses</td>
<td>32</td>
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<td>Elective</td>
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### General Education

- *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
- QYLE 110  Development of Values, Attitudes, and Adaptation to University Life  3
- SOSC 242  Political and Social Economic Principals of Globalization  3
- HIST 255  Analysis of Historic Puerto Rican Processes  3
- MENU Courses 6 courses selection  18

### Professional Courses

- 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

- 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 Sciences  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 at the moment of graduation.
COURSE DESCRIPTIONS

BIOLOGY

BIOL 103 Anatomy and Physiology I
4 Credits
This course studies the fundamental concepts of Human Anatomy and Physiology. It emphasizes the 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 the 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, 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 of lecture per week and 2 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. One Semester, 3 hours of lecture per week.
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 student the opportunity to: a) construct biological concepts that they will need 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 occurred, 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 practices in aseptic 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 of lecture per week and 3 hours of laboratory per week. Prerequisites: BIOL 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 on the importance of microorganisms in different natural ecosystems that include water, soil and air. In the laboratory, there are practices or activities in methods utilized to isolate different types of microorganisms in water, soil, and air. One semester, 2 hours of lecture per week, and 2 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 their 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, 2 hours of lecture per week, and two hours of 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 the interrelation of different resources to species and communities. One semester, 3 hours of lecture per week. Prerequisites: BIOL 204

BIOL 231 Cross Sectional Anatomy I
3 Credits
This course is a general survey of Human Cross-Sectional Anatomy with emphasis on organs of the 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 103, 104 or HESC 125, 126

BIOL 232 Cross Sectional Anatomy II
3 Credits
This course is a general survey of Human Cross-Sectional Anatomy with emphasis on organs of the body amenable to Diagnostic Ultrasound. The course emphasizes pelvic cavity, pelvic vasculature & viscera, perineum and external genitalia and fetal anatomy and development. One semester, four hours of integrated lecture and laboratory per week. Prerequisites: BIOL 103, 104 or HESC 125, 126

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. One semester, 2 hours of lecture and 2 hours of laboratory per week. Prerequisites: BIOL 204

BIOL 255 Environmental Science
3 Credits
This course discusses and applies 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. The course promotes the 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 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 of lecture 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. One semester, 3 hours of lecture per week. Prerequisites: BIOL 115

**BIOL 303**  
Human Biology I  
4 Credits  
Human Biology I supports student’s 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 macroscopic and microscopic structures of the integumentary, skeletal, muscular, nervous and endocrine system, and their relationships. The course facilitates the 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 application of knowledge to solve problems and to make informed individual, social and ethical choices. One semester, 3 hours of lecture and 3 hours of laboratory per week. Prerequisites: BIOL 115, 301, MATH 118

**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 ethical 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 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, 3 hours of lecture per week and 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, 2 hours per week, 2 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 of 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, 2 hours of lecture per week, 2 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 of lecture per week. Prerequisites: BIOL 206

BIOL 325 General 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, 3 hours of lecture per week and 3 hours of laboratory 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 lecture time. One semester, 3 hours of lecture per week. 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**  
**Advanced Cardiovascular Anatomy and Physiology**  
2 Credits  
The course is an in-depth study of cardiovascular anatomy and physiology, with emphasis on venous and arterial hemodynamics. This course also includes discussion of the pathophysiological basis of cardiovascular disease. One semester, 2 hours of lecture and 1 hour of laboratory per week. Prerequisites: BIOL 231, 232

**BIOL 345**  
**Evolution**  
3 Credits  
The study of the mechanisms and pathways of evolution focusing on the ways in which genetic changes in populations lead to adaptation, speciation, and hereditary variation. The course includes discussions on the origin of life and humankind. One semester, 3 hours of lecture per week. Prerequisites: BIOL 203, BIOL 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 208, 220, CHEM 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, 2 hours of lecture per week, 2 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 of lecture per week. Prerequisites: BIOL 206, CHEM 204

BIOL 390 Bioprocesses 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. One semester, 3 hours of lecture per week. Prerequisites: BIOL 240

BIOL 395 Laboratory Techniques in Biotechnology
3 Credits
Introduction to biotechnology techniques and their practical applications in microbiology. Analysis of the principles of molecular biotechnology in prokaryotes and eukaryotes and applications for organism identification, 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 examples include, but are not limited to: restriction endonuclease analysis of DNA, DNA sequencing, cloning and expression, nucleic acid hybridization, gel electrophoresis and protein product isolation and purification. Emphasis on public perception and ethical issues in biotechnology as well as current perspectives. Combined conferences and "in-classroom" laboratory exercises and specific technique demos. One semester, 2 hours of lecture per week and 2 hours of laboratory per week. 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 II
2 Credit
Continue supervised application of knowledge acquired during course work in the microbiology program as it applies to the different work scenarios. Emphasis is placed in modeling the appropriate performance of a professional microbiologist. Includes conferences, seminars and workshops pertaining to initiative, creativity, decision-making, conflict management, problem solving and topics relative to ethics,
organizational behavior, and human relations. One semester, one hundred and sixty (160) hours per semester. Prerequisites: BIOL 372

BIOL 430  
Zoology  
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 relates the study of zoology to ethical problems of environmental conservation and emphasizes 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). One semester, 3 hours of lecture and 3 hours 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 new technologies that have revolutionized the manufacture, synthesis, and biological and engineering processes of biotechnology products using microorganisms, plant and animal cells. Use of biotechnology applications in agriculture including genetic engineering in plants, bacteria that promote plant growth, microbial insecticides, production of agricultural feedstock; and environmental applications including contaminant treatment and the use of biosensors for detecting environmental contaminants will also be examined. Legislations, rules and regulations (including patent requirements) relevant to genetically modified organisms will be discussed. Ethical aspects associated to these processes will be reflected upon. The course is developed through lectures, guided discussions, case studies and oral presentations, among others. One semester, 3 hours of lecture per week. Prerequisites: BIOL 206, BIOL 398

BIOL 450  
Pharmaceutical and Medical Biotechnology  
3 Credits
Study of the production of drug delivery devices and shipping and handling of pharmaceutical products using microorganisms, virus, and plant and animal cells, for treatment of humans and diagnostic tests. The course will discuss the use of genetic engineering to produce transgenic and “knockout” mice, molecular diagnosis, production of monoclonal antibodies, vaccine vectors, antibiotics and human hormones. Novel discoveries and delivery devices of anti-viral drugs, human molecular genetics, genetic therapy, small molecule drugs, cell and tissue therapy, stem cell therapy, genetic bioengineering of organs and tissue, and virotherapy, among others. Ethical aspects associated to these processes will be reflected upon. The course is developed through lectures, guided discussions, case studies and oral presentations, among others. One semester, 3 hours of lecture per week. 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. One semester, 3 hours of lecture per week. 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. One semester, 1 hour of seminar per week. 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 a mentor to gain expertise in the manipulation of living organisms and the applications of basic technologies such as fermentation, molecular genetics and product manufacture. The internship provides an opportunity to improve intellectual and technical skills in research, safety practices, analysis and documentation. The student will master the theory, concepts and skills involving tools, materials, equipment and procedures. They will also master regulations such as Food and Drug Administration (FDA), Environmental Protection
Agency (EPA), Occupational Safety & Health Act (OSHA); and Good Manufacturing Procedures (GMP) associated with the particular occupation of the industry or research laboratory. One semester, one-hundred and sixty (160) hours per semester. 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 122     Chemistry for Health Sciences
4 Credits
Study of the composition and properties of the states of matter, the diverse types of chemical reactions, and energy transformations related to these reactions for inorganic and organic compounds, and biomolecules. The course emphasizes basic concepts of general, organic and biochemistry applicable to the different scenarios of patient healthcare through case studies, search of information through the internet and oral presentations using multimedia, among others. One semester, 3 hours of lecture and 3 hours of laboratory per week. Prerequisites: MATH 118

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 chemistry concepts. 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 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 130

CHEM 323     Analytical Chemistry
4 Credits
Introduction to the 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. One semester, 3 hours of lecture and 4 hours of laboratory per week. Prerequisites: CHEM 204, MATH 131
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 performed. Laboratory practices include techniques required to analyze the chemical properties of organic molecules, reactions, and synthesis. One semester, 3 hours of lecture, and 3 hours of laboratory per week. 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. One semester, 3 hours of lecture and 3 hours in the laboratory per week. 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 of lecture, and 3 hours of laboratory per week. Prerequisites: CHEM 351

ENGENEERING 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 and 2 hours of laboratory per week. Co-requisite: 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 and 2.5 hours of laboratory per week. Co-requisite: 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 and 2.5 hours of laboratory per week. Co-requisite: 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. The student will study number systems, binary codes and code conversions along with flip-flops, multivibrators and circuit applications. One semester, 2.5 hours of lecture and 2.5 hours of laboratory per week. Co-requisite: 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 and 2.5 hours of laboratory per week. Prerequisites: 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. The course stresses transistor modeling and circuit analysis and design along with computer use for circuit analysis. One semester, 2.5 hours of lecture and 2.5 hours of laboratory 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 and 2.5 hours of laboratory per week. Prerequisites: EETP 205.

**EETP 208**  
**Electronic Systems**  
4 Credits  
This course will study electronic system schematics and take into account 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 and 2.5 hours of laboratory 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 and 2.5 hours of laboratory per week. Co-requisites: EETP 207 and EETP 208, Prerequisite: EETP 206

**NETWORKING TECHNOLOGY**

**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 and 2.5 hours of laboratory per week. 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 and 2.5 hours of laboratory 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 and 2.5 hours of laboratory 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 and 2.5 hours of laboratory 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 and 2.5 hours of laboratory 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. One semester, 2 hours of lecture per week. 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. One semester, 3 hours of lecture per week. 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 Stated 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. One semester, 3 hours of lecture per week. 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. One semester, 3 hours of lecture and 3 hours of laboratory per week. 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. One semester, 3 hours of lecture per week. Prerequisites: ENTE 101

ENTE 320  Solid Waste and Hazardous Waste Management and Disposal Technology
3 Credits
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. One semester, 3 hours of lecture per week. 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. One semester, 3 hours of lecture and 3 hours of laboratory per week. 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. One semester, 3 hours of lecture and 3 hours of laboratory per week. 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 include 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. One semester, 3 hours of lecture per week. 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. One semester, 3 hours of lecture and 4 hours of laboratory per week. 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. One semester, one-hundred and sixty (160) hours per semester. 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 of lecture per week. Prerequisites: MATH 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 of lecture 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 of lecture per week. Prerequisites: MATH 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 studies. One semesters, 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 and 2.5 hours of laboratory 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. One semester, 3 hours of lecture per week. Prerequisite: MATH 118

**MATHEMATICS**

**MATH 100**

**Fundamentals of Mathematics**

3 Credits

This course presents the fundamental operations used with numbers, decimals, fractions, percentages, measurements, integers, ratios and proportions. It also covers basic algebra as algebraic expressions, exponential laws, linear equations and inequalities and Cartesian plane. One semester, 3 hours of lecture and one and a half hour of laboratory per week. Prerequisite: College Entrance Examination Score (CEEB) less than 550.

**MATH 116**

**Fundamentals of Mathematical Reasoning**

3 Credits

Comprehension and analysis of fundamental concepts in logical-mathematical reasoning. Emphasis on basic set theory and logic, basic concepts of algebra, geometry, measurement, interpretation of different types of graphs, probability and statistics. Interdisciplinary concepts are integrated through problem solving applications. One semester, 3 hours of lecture per week.

**MATH 118**

**Fundamentals of Intermediate Algebra**

3 Credits

This course presents the use of real numbers and their properties, basic concepts of algebra and equations, rectangular coordinate system, linear equations in two variables, polynomial expressions and operations, rational exponents and expressions, radicals and operations, complex numbers, and quadratic equations. One semester, 4 hours of lecture per week. Prerequisites: MATH 100 or College Entrance Examination Score (CEEB) between 550 up to 649.
MATH 119     Applied Mathematics for Business Administration
3 Credits
Study of fundamental concepts of mathematics applied to management, economics and finance. Includes functions, linear equations and inequalities with one and two variables and matrices. Problem solving techniques will be applied to business administration situations in general. One semester, 3 hours of lecture per week. Prerequisites: MATH 118 or College Entrance Examination Score (CEEB) more than 649.

MATH 130     Pre-Calculus I
3 Credits
Study of relations and functions, graphs, polynomial, rational and inverse functions, linear direct and inverse variation and the binomial theorem. Emphasis is made in applications in biology, chemistry, physics, and engineering, and the use of technology tools to develop mathematical concepts and problems solving. One semester, 3 hours of lecture per week. Prerequisites: MATH 118 or College Entrance Examination Score (CEEB) more than 649.

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 problems solving. One semester, 3 hours of lecture per week. Prerequisite: MATH 130

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, Ralle 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, Legesgue integral and integration methods. One semester, five hours of lecture per week. Prerequisite: MATH 131

MATH 304     Introduction to Biostatistics
4 Credits
Study of theory, sampling methods, summarization and graphic representation of data. Measures of central tendencies, location and spread will be determined. Application of probability, combinations and permutations, probability distributions and the central limit theorem. Study of hypothesis testing, confidence intervals, T or Z test, correlations, linear regressions, Chi-square test, and variance analysis through cooperative learning, research projects, concept mapping, and oral presentations. One semester, 4 hours of lecture per week.
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. One semester, 3 hours of lecture per week. Prerequisites: BIOL 203 or CHEM 203 Co-requisite: MATH 131

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. One semester, 3 hours per week. 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. One semester, 3 hours per week. Pre-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. One semester, 3 hours per week. Pre-requisites: UNRE 203
The José A. (Tony) Santana International School of Hospitality and Culinary Arts (ISHCA) offer Certificates, Associate and Bachelor Degrees. Since 1996, the School has been evolving rapidly and continuously. ISHCA 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.

VISION
To become the leading educational institution for the hospitality industry in the Caribbean

MISSION
Provide highly qualified professionals for the global hospitality industry through excellence in education, training, and research.

GENERAL INFORMATION: The José A (Tony) International School of Hospitality and Culinary Arts

- The José A. (Tony) Santana International School of Hospitality and Culinary Arts (ISHCA) is located at Universidad del Este, which is part of the Ana G. Méndez University System.
- ISHCA programs provide a full menu of 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, ISHCA had developed a global orientation with its faculty, curriculum and students.
- Improvements in the curriculum with new concentrations and interactivity between program offerings had provided incentives to students to continue their education and to focus on specific career development tracks.
- The web-based courses instruction will enhance our student’s use and application to computer technology.
- All of the professional courses in ISHCA are conducted in English.

PROGRAMS

ISHCA offers Bachelor Degrees in Hotel Management, Event and Conventions Planning, Food and Beverage Management and Culinary Management, and a Post-Graduated certificate in Events & Conventions Planning. We also offer associate degrees in Hotel Operations and Culinary Arts and certificates in Bartending & Foodservice, Pastry & Baking, and Culinary Arts.

The Bachelor Degree in Hotel Management and the Associate Degree in Hotel Operations were recently revised. Majors in Food & Beverage Management and Events and Conventions Planning were created in January 2003. The first Associate Degree in Culinary Arts in Puerto Rico initiated in August 2003 and in 2007 the Bachelor Degree in Culinary Management.

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.

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Méndez López, Nannette
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Culinary Arts  
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Tanco, Joel
Activities and Events Assistant
Programing course, Instituto de Banca,

Figueroa, Joel
Steward Assistant
High School Diploma
PROGRAM DESCRIPTION

Certificates

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 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.

Associates

Associate in Science 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 in Science 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.
Bachelors

Bachelor of Science in Culinary Management

This program will combine the professional courses of culinary arts and the management functions required to operate and manage a kitchen or restaurant. It is the ideal program for those who want to manage his/her own business or a restaurant kitchen. Emphasis is given in cost control and increasing profits.

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.

MINORS

Students from ISHCA and other majors from different schools can opt for one of the following MINORS and must comply with the requirements: Complete 18 credit hours of the courses. The minors are in:

- Hotel Management
- Events & Conventions
- Food & Beverage
ADMISSIONS REQUIREMENTS TO THE 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
- Bachelor Degrees have an additional requirement:
  - College Board results of at least 450 in each area: Spanish, English, and Mathematics

GRADUATION REQUIREMENTS OF ALL PROGRAMS
All professional and major courses must be approved with a minimum final grade of “C.” or above. Practicum courses must be approved with a minimum of a “B”.
ASSOCIATE OF SCIENCE DEGREE

Associate of Science in International Tourism and Hospitality Management in Hotel Operations

<table>
<thead>
<tr>
<th>73 Credits</th>
<th>Credits</th>
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<tbody>
<tr>
<td>General Education</td>
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<tr>
<td>Core Professional Courses</td>
<td>31</td>
</tr>
<tr>
<td>Major Courses</td>
<td>9</td>
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</table>

**General Education**

SOSC 113 Analysis of Cultural & Historical Process 3
COMP 110 Introduction to Computers & Software 3
*ENGL 115-116 College Reading and Writing I and II 6
*SPAN 115 Reading, Writing & Oral Communications I 3
*MATH 119 Mathematics Applied to Business 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**

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 201 Introduction to Food and Beverage Management 3
ITHM 250 Hospitality Internship 3
ITHM 280 Guest Service 3
ITHM 290 Applied Spreadsheet & Database Application 3
ITHM 320 Guest Lecture Series 1

**Major Courses**

ITHM 300 Rooms Division Management 3
ITHM 301 Rooms Division Management II 3
ITHM 306 Casino Operations 3

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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 and the developmental English course requires a minimum passing grade of B or "P" All ITHM courses are taught in English
Associate of Science in Culinary Arts

<table>
<thead>
<tr>
<th>Credits</th>
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<td>34</td>
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**General Education**

<table>
<thead>
<tr>
<th>Credits</th>
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<tr>
<td>3</td>
<td>COMP 110 Introduction to Computers &amp; Software</td>
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<td>6</td>
<td>*ENGL 115-116 College Reading and Writing I and II</td>
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<tr>
<td>3</td>
<td>*SPAN 115 Reading, Writing &amp; Oral Communications I</td>
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<td>QYLE 110 Adapting to University Life, Developing Values &amp; Attitudes</td>
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**Core Professional Courses**

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<thead>
<tr>
<th>Credits</th>
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<tr>
<td>3</td>
<td>ITHM 116 Introduction to Culinary Concepts</td>
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<td>ITHM 117 Hygiene and Sanitation</td>
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<td>ITHM 106 Purchasing and Product ID.</td>
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<td>ITHM 201 Introduction to Food and Beverage Management and Service</td>
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<td>ITHM 205 Introduction to Menu Planning and Restaurant Layout</td>
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<td>ITHM 204 Nutrition for Culinary Arts</td>
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<td>ITHM 207 Introduction to Wine and Food Pairing</td>
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<td>ITHM 211 Hospitality Ethics</td>
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**Major Courses**

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<tr>
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<tr>
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<td>ITHM 104 Meat Cutting</td>
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<td>ITHM 105 Food Preparation I</td>
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<td>ITHM 107 Food Preparation II</td>
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<td>ITHM 200 Baking I</td>
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<td>ITHM 202 Garde Manger I</td>
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<td>ITHM 203 Garde Manger II</td>
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<td>ITHM 206 Baking II</td>
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<td>ITHM 213 International Cuisine I</td>
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<td>ITHM 232 Culinary Internship &amp; Seminar II</td>
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</table>

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All ITHM and English courses must be approved with a minimum of "C". ITHM 231, 232 and the developmental English course requires a minimum passing grade of B or "P"
## Bachelor of Science in International Tourism and Hospitality Management

**Major: Hotel Management**

### 121 Credits

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<td>SOSC 113</td>
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<td>*SPAN 115-116</td>
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<td>*MATH 119</td>
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<td>HIST 255</td>
<td>3</td>
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<td>QYLE 110</td>
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<td>MANA 217</td>
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<td>MENU COURSES</td>
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### 51 Credits

- General Education

### 43 Credits

- Core Professional Courses

### 18 Credits

- ITHM Courses

### 9 Credits

- Electives

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**General Education**

- SOSC 112: The Human Social Environment
- SOSC 113: Analysis of Cultural & Historical Procedures
- COMP 110: Introduction to Computers & Software
- *ENGL 115-116: College Reading and Writing I and II
- *SPAN 115-116: Reading, Writing & Oral Communication I & II
- *MATH 119: Mathematics Applied to Business
- HIST 255: Analysis of PR Historical Processes
- QYLE 110: Adapting to University Life, developing values & Attitudes
- MANA 217: International Relations
- MENU COURSES: Select 6 courses from the Menu offerings

**Core Professional Courses**

- ACCO 111: Basic Accounting I
- MANA 213: Personnel Administration
- ITHM 101: Introduction to the Hospitality Industry
- ITHM 102: Introduction to Management in Hospitality
- ITHM 115: Tourism Systems
- ITHM 211: Hospitality Ethics
- ITHM 250: Hospitality Internship
- ITHM 280: Guest Service
- ITHM 290: Applied Spreadsheet & Database
- ITHM 320: Guest Lecture Series
- ITHM 201: Intro to Food and Beverage Management
- ITHM 360: Hospitality Accounting
- ITHM 365: Labor & Hospitality Law
- ITHM 370: Hospitality Sales & Marketing
- ITHM 460: Capstone

**Major Component**

- ITHM 300: Rooms Division I
- ITHM 301: Rooms Division II
- ITHM 306: Casino Operations
- ITHM 390: Advance Internship in Hotel Operations.
ITHM 400  Revenue Management for Hotel Operations  3
ITHM 402  Organizational Behavior in the Service Industry  3

**Electives**

ITHM Electives

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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 and the developmental English course require a minimum passing grade of B or "P". All other developmental courses require a minimum passing grade of C or "P"
All ITHM courses are taught in English.
**Bachelor of Science in International Tourism and Hospitality Management**

Major: Food & Beverage Management

<table>
<thead>
<tr>
<th>121 Credits</th>
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<tr>
<td>General Education</td>
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<td>Electives</td>
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</tbody>
</table>

**General Education**

- SOSC 112 The Human Social Environment 3
- SOSC 113 Analysis of Cultural & Historical Procedures 3
- COMP 110 Introduction to Computers & Software 3
- *ENGL 115-116 College Reading and Writing I and II 6
- *SPAN 115-116 Reading, Writing & Oral Communications I & II 6
- *MATH 119 Mathematics Applied to Business 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**

- 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 3
- ITHM 320 Guest Lecture Series 1
- ITHM 201 Introduction to Food and Beverage Management 3
- ITHM 360 Hospitality Accounting 3
- ITHM 365 Labor & Hospitality Law 3
- ITHM 370 Hospitality Sales & Marketing 3
- ITHM 460 Capstone 3

**Major Courses**

- 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  
**ITHM 452** Restaurant Management  

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<td>ITHM 450</td>
<td>Advanced Internship in Food &amp; Beverage Operations</td>
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<tr>
<td>ITHM 452</td>
<td>Restaurant Management</td>
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</table>

**Electives**  
6

**ITHM Electives**

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Bachelor of Science in International Tourism and Hospitality Management
Major: Event and Convention Management Planning

<table>
<thead>
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<tbody>
<tr>
<td>General Education</td>
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<td>Core Professional Courses</td>
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<td>Electives</td>
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**General Education**

- SOSC 112  The Human Social Environment 3
- SOSC 113  Analysis of Cultural & Historical Procedures 3
- COMP 110  Intro. To computers & Software 3
- *ENGL 115-116  College Reading and Writing I and II 6
- *SPAN 115-116  Reading, Writing & Oral Communications I & II 6
- *MATH 119  Mathematics Applied to Business 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**

- 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 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**

- 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

ITHM Electives

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All ITHM courses are taught in English
## Bachelor of Science in Culinary Management

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<tr>
<td>General Education</td>
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<td>Core Professional Courses</td>
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<tr>
<td>Major Courses</td>
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</table>

### General Education

- SOSC 113 Analysis of Cultural & Historical Procedures: 3 credits
- COMP 110 Intro. To computers & Software: 3 credits
- *ENGL 115-116 College Reading and Writing I & II: 6 credits
- SPAN 115 Reading, Writing & Oral Communications I: 3 credits
- *MATH 119 Mathematics Applied in Business: 3 credits
- HIST 255 Analysis of PR Historical Processes: 3 credits
- QYLE 110 Adapting to University Life, Developing Values & Attitudes: 3 credits
- MANA 217 International Relations: 3 credits
- MENU COURSES: Select 6 courses from the Menu offerings: 18 credits

### Core Professional Courses

- ACCO 111 Basic Accounting I: 4 credits
- ITHM 101 Introduction to the Hospitality Industry: 3 credits
- ITHM 116 Introduction to Culinary Concepts: 3 credits
- ITHM 117 Hygiene and Sanitation: 1 credit
- ITHM 106 Purchasing and Product ID.: 3 credits
- ITHM 201 Introduction to Food and Beverage Management and Service: 3 credits
- ITHM 205 Introduction to Menu Planning and Restaurant Layout: 3 credits
- ITHM 204 Nutrition for Culinary Arts: 3 credits
- ITHM 207 Introduction to Wine and Food Pairing: 3 credits
- ITHM 211 Hospitality Ethics: 2 credits
- ITHM 231 Culinary Internship & Seminar I: 1 credit
- ITHM 280 Guest Service: 3 credits
- ITHM 347 Effective Comm. & Personnel Administration: 3 credits
- ITHM 360 Hospitality Accounting: 3 credits
- ITHM 350 Food and Beverage Cost Control: 3 credits
- ITHM 370 Hospitality Sales & Marketing: 3 credits

### Major Courses

- ITHM 104 Meat Cutting: 2 credits
- ITHM 105 Food Preparation I: 3 credits
- ITHM 107 Food Preparation II: 5 credits
- ITHM 200 Baking I: 4 credits
- ITHM 202 Garde Manger I: 4 credits
- ITHM 203 Garde Manger II: 3 credits
- ITHM 206 Baking II: 4 credits
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<th>Course Code</th>
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<td>ITHM 213</td>
<td>International Cuisine I</td>
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<td>ITHM 214</td>
<td>International Cuisine II</td>
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<td>ITHM 232</td>
<td>Culinary Internship &amp; Seminar II</td>
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<td>ITHM 380</td>
<td>Restaurant and Catering Concept Development</td>
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<td>ITHM 425</td>
<td>Nutrition for Foodservice</td>
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<td>ITHM 450</td>
<td>Internship III</td>
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<td>ITHM 452</td>
<td>Restaurant Management</td>
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MINORS

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<table>
<thead>
<tr>
<th>Minor in: Hotel Management</th>
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<tbody>
<tr>
<td>ITHM 101</td>
<td>Introduction to the Hospitality Industry</td>
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<tr>
<td>ITHM 102</td>
<td>Introduction to Management in Hospitality</td>
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<td>ITHM 300</td>
<td>Rooms Division I</td>
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<td>ITHM 301</td>
<td>Rooms Division II</td>
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<td>ITHM 306</td>
<td>Casino Operations</td>
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<td>ITHM 201</td>
<td>Introduction to Food and Beverage Management</td>
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<th>Minor in: Events &amp; Conventions</th>
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<tr>
<td>ITHM 101</td>
<td>Introduction to the Hospitality Industry</td>
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<tr>
<td>ITHM 102</td>
<td>Introduction to Management in Hospitality</td>
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<td>Introduction the Event and Convention Industry</td>
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<td>ITHM 310</td>
<td>Convention Sales</td>
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<td>ITHM 315</td>
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<td>ITHM 341</td>
<td>Catering Sales &amp; Operations</td>
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<tr>
<td>ITHM 101</td>
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<td>Introduction to Management in Hospitality</td>
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<td>ITHM 345</td>
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<td>ITHM 350</td>
<td>Cost Control and Purchasing in Food and Beverage Operations</td>
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<td>ITHM 425</td>
<td>Nutrition for Foodservice</td>
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COURSE DESCRIPTIONS

FRENCH

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 developing 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

HOSPITALITY MANAGEMENT

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 102    Introduction to Management in Hospitality
3 Credits
Overview of the management functionalities and their implications to the hospitality industry. Comparative analysis of the major management theories and their application to the food service and hotel business. Discussion of the different investment opportunities and the environment in which hospitality operations develop financially. Emphasis on the selection of an effective management style, the use of the decision making process to resolve managerial situations and the development of strategic management thinking skills. The course is developed through class discussion, situation analysis, group dynamics, case studies, and a research project. Responsible use of technology will be promoted. Pre-requisite: None

ITHM 104    Meat Cutting
2 Credits
Overview of the butcher’s field and meat fabrication for foodservice operations. Identification will involve primary, secondary and commercial cuts. The student will learn the fundamental techniques for fabricating cuts for professional kitchens by handling the proper tools. Emphasis the food exposure to hygiene and sanitation practices and prevention of food borne illnesses. Theoretical presentations and 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. Email will be use for communication purposes. Pre-requisite ITHM 116 in progress.
ITHM 105  Food Preparation I
3 Credits
Provides the essentials for developing knife skills and proper cutting techniques. Stocks, broths, mother sauces and compound sauces are prepared during this course. Different cooking methods are practiced. Emphasis is placed on sanitation. Theoretical presentations and demonstrations are used throughout the course, including laboratory sessions. The course will use the Internet as a research tool and MS Words for paper and projects. Email will be used for communication purposes. Pre-requisite ITHM 116 in progress.

ITHM 106  Purchasing and Product ID
3 Credits
Comprehensive study of the principles of purchasing, receiving and storage management procedures and products ID. Topics to be covered include cost analysis, techniques on how, when and what to buy, channel of distribution, suppliers, forces that affect the distribution channel ordering procedures, receiving procedures, storage management procedures, identify and distinguish vendor’s specification. Some emphasis will be given to availability, seasonality, and flow of goods. The course will use the Internet as a research tool and MS Words for paper and projects. Pre-requisite ITHM 116

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 116, 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.
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<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>ITHM 115</td>
<td><strong>Tourism Systems</strong></td>
<td>3</td>
<td>Understanding of the impact that tourism has on destinations. Students will learn about the process of tourism planning. Emphasis is placed on the impact of tourism on the economy, culture, society, and the environment. The course will utilize the Internet as a research tool and MS Word and MS Power Point software for papers and presentations. Pre-requisite: None</td>
</tr>
<tr>
<td>ITHM 116</td>
<td><strong>Introduction to Culinary Concepts</strong></td>
<td>3</td>
<td>Introduction to the fundamental of culinary theories. Topics of study includes: gastronomy, evolution in cuisine, equipment identification, culinary terms, kitchen organization and planning, learning of cooking methods, techniques and recipe conversion. Theoretical presentations, demonstrations and lab visits are used to develop the course. The course will use the Internet as a research tool and MS Words for paper and projects. Email will be used for communication purposes. Pre-requisite: None</td>
</tr>
<tr>
<td>ITHM 117</td>
<td><strong>Hygiene and Sanitation</strong></td>
<td>1</td>
<td>Students will explore the fundamentals of Safety, Hygiene and Sanitation. The course will help the student to apply critical food safety practices, look at the origins and prevention of food borne illness and the implementation of hygiene and sanitation practices. Students must pass the ServSafe test of the National Restaurant Association to fulfill the graduation requirement.</td>
</tr>
<tr>
<td>ITHM 120</td>
<td><strong>Travel Geography</strong></td>
<td>3</td>
<td>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</td>
</tr>
<tr>
<td>ITHM 190</td>
<td><strong>History of Gastronomy</strong></td>
<td>3</td>
<td>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 geopolitical 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</td>
</tr>
<tr>
<td>ITHM 200</td>
<td><strong>Baking I</strong></td>
<td>4</td>
<td>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 pâte a choux. Theoretical presentations,</td>
</tr>
</tbody>
</table>
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
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 tool, MS Words for paper and projects and emails as means of communication. Pre-requisite ITHM 116 or ITHM 101

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, Force-meats, Sausages, Cheese and fruit trays.. 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 used to develop the course. The course will use the Internet as a research tool; MS Words for paper and projects and emails as means of communication. Pre-requisite ITHM 107.

ITHM 203 Garde Manger II
3 Credits
This course emphasizes the preparation of cold and hot appetizers, restaurant platters, Mousse, Terrines, Galantine and Pâté and food styling. Utilization of various buffet presentations technique and styles, including classical, modern and etchings trends. Buffet planning layout and allocations are cover in the course. A final Grand Buffet presentation done by the student as a final project is require to complete this course. Theoretical presentations, demonstration and extensive participation in lab session are use to develop the course. The course will use the Internet as a research tool; MS Word will be use for paper and projects. Prerequisite: ITHM 202

ITHM 204 Nutrition for Culinary Arts
3 Credits
Study of the basic concepts and principles of nutrition: calories, carbohydrates, lipids, proteins, minerals and vitamins. Nutritional cookery will be applied with an emphasis on steaming, baking, sauté, sweating, roasting and en papillote. Students will learn about the preparation of soups and low fat desserts, and the development of nutritionally balanced meals through the use of fat and salt substitutes. Theoretical presentations, demonstrations, case analysis and participation in lab sessions are used to develop the course. The course will use the Internet as a research tool; MS Word will be use for paper and projects. Prerequisites: ITHM 107, ITHM 200, ITHM 202.
ITHM 205   Introduction to Menu Planning & Restaurant Layout
3 Credits
Comprehensive study of the principles involved in menu development and facility designs. Topics to be covered include basic concepts of art and graphic design for menus, cost analysis and contribution margin analysis, marketing and project management’s strategies, nutritional considerations, the persuasive and effective use of language for plate descriptions, facilities designs. The course will use the Internet as a research tool, the Email as a means of communications and MS Word for papers and projects. Pre-requisite ITHM 116, ITHM 107.

ITHM 206   Baking II
4 Credits
Application of advanced baking and pastry techniques. Preparation and decoration of tarts, classical and complex cakes, basic types of meringues, mousses and dessert sauces. Emphasis will be placed on the understanding the composition and application of chocolate and modern presentations of desserts for restaurants and buffets. Theoretical presentations, demonstrations and extensive participation in lab sessions are used to develop the course. Prerequisite ITHM 200

ITHM 207   Introduction to Wines and Food Pairing
3 Credits
Examination of the concepts and agricultural traditions used in the production of wines. Emphasis will be given to the styles of wine from the major wine producing regions and the theories of wine and food pairing. The proper techniques of serving each one of them in the restaurant industry are discussed. Theoretical presentations, demonstrations and lab visits are used to develop the course. 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 ITHM 116, ITHM107.

ITHM 231   Culinary Internship and Seminar I
1 Credit
Internship in a commercial foodservice or hospitality establishment approve by the ISTHM Internship Coordinator. The student will apply their theory and practical knowledge under the supervision of a certified chef. Develop speed in manual skills, work under pressure, and apply hygiene and sanitation procedures. Understand the different areas associated to the kitchen environment using different cooking methods. Internship ITHM 231 requires 350 working hours. Two evaluations will be required by the supervisor assigned according to school standards. The completion of an Internship Manual will be required to evaluate the performance of the student. The course will meet once a week for one hour for the seminar course. Pre-requisite ITHM 107,200,201, 202, 205

ITHM 232   Culinary Internship and Seminar II
1 Credit
Internship in a commercial foodservice or hospitality establishment approve by the ISTHM Internship Coordinator. The student will apply their theory and practical knowledge under the supervision of a certified chef. Work under pressure, judge accurately flavors and seasoning and application of hygiene and sanitation procedures will be emphasis. This internship will help to develops student’s practical and cognitive skills to the planning, preparation and presentation of entire meals. Internship ITHM 232 requires 450 working hours. Three evaluations will be required by the supervisor assigned to each of the three areas to rotate: Pastry and Baking, Hot Food and Cold Food, according to school standards. The completion of an Internship Manual will be required to evaluate the performance of the student. The
course will meet once a week for one hour for the seminar course Pre-requisite ITHM 117, 231 and ITHM 213& 214 in progress

ITHM 211  
Hospitality Ethics  
2 Credits
Debate of the ethical dilemmas commonly encounters by the hospitality employees. Discussion of overbooking regulations, breach of contract, sexual harassment, professional and personal relationships with peers and supervisors, abuse of power, schedule assignation and lies. Emphasis will be placed in the understanding of morale and its implication. The course will be developing through the analysis of case studies, readings, and day-today situations. The course will use the Internet as a research tool, MS Words for paper and projects and Email as means of communication. Pre-requisite: None

ITHM 213  
International Cuisine I  
3 Credits
Exposure to specific gastronomic cultures of Europe through seminars, conferences, demonstrations, menus discussions, investigative research and recipes preparation and development. Emphasis is placed in traditional and contemporary European dishes of France, Spain, and Italy. Class activities include discussions of historic information about regional traditions, ingredients, cooking techniques, religion, food and service protocol. The course will use the Internet as a research tool. The course will use the Internet as a research tool, MS Words for paper and projects, Email as means of communication and Power Point for presentation. Pre-requisites: ITHM 203, 206, 231

ITHM 214  
International Cuisine II  
4 Credits
Exposure to the diverse gastronomic cultures from around the world through seminars, conferences, demonstrations, menus discussions, investigative research and recipes preparation and development. Emphasis is placed in traditional and contemporary dishes of Germany, Austria, England, Greece, Russia, Africa, Middle East, India, Japan, China, Indochina, Korea, US, Mexico, South America and the Caribbean. Class activities include discussions of historic information about regional traditions, ingredients, cooking techniques, religion, and food and service protocol. The course will use the Internet as a research tool. The course will use the Internet as a research tool, MS Words for paper and projects, Email as means of communication and Power Point for presentation. Pre-requisites: ITHM 203, 206, 231

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 developed through training, approximately 85 hours on each area. Evaluations from supervisors and the ITHM 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: ITHM 101

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: 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: ITHM 101

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: ITHM 101

ITHM 312  College Program Practicum
3 Credits
Opportunity to learn the concepts inherent in business communication and apply them in the workplace. Participants begin by defining the elements of communications, exploring methods people use to process information, indentifying basic listening skills, and recognizing inclusive communication approaches. Emphasis is place on listening techniques and preparation and delivery techniques for public speaking.

ITHM 313  Disney Experiential Learning
3 Credits
Combines academic classroom education with on–site learning opportunities across the Walt Disney World Resort property. Classroom instruction centers on theories of adult education, experiential learning, and the role of learning in corporations and the importance of intellectual capital. They will be exposed to a number of situations and experiences. In each case, the participants will hear, see and experience learning opportunities that augment classroom learning.

ITHM 314  Disney Communication
3 Credits
Opportunity to learn the concepts inherent in business communication and apply them in the workplace. Participants begin by defining the elements of communications, exploring methods people use to process information, indentifying basic listening skills, and recognizing inclusive communication approaches. Emphasis is place on listening techniques and preparation and delivery techniques for public speaking.

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 370

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. Pre-requisite: ITHM 101
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<tr>
<td>ITHM 340</td>
<td>Food &amp; Beverage Operations</td>
<td>3</td>
<td>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</td>
</tr>
<tr>
<td>ITHM 341</td>
<td>Catering Sales &amp; Operations</td>
<td>3</td>
<td>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</td>
</tr>
<tr>
<td>ITHM 345</td>
<td>Culinary Skills Lab</td>
<td>3</td>
<td>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 201</td>
</tr>
<tr>
<td>ITHM 350</td>
<td>Cost Control and Purchasing in Food and Beverage Operations</td>
<td>3</td>
<td>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</td>
</tr>
<tr>
<td>ITHM 360</td>
<td>Hospitality Accounting</td>
<td>3</td>
<td>Analysis and application concepts or 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</td>
</tr>
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</table>
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
Immersion into the functions and principles of hospitality marketing and sales. Students will learn the essential marketing functions. The course incorporates the development of a marketing plan with emphasis on sales and marketing techniques, target marketing, advertising, public relations, and market study and analysis. The course uses the Internet among other research tools, email as means of communication, and MS Word, Excel and Power Point for projects and presentations. Prerequisites: ITHM 102.

ITHM 390  Advanced Internship in Hotel Operations
3 Credits
Advanced job experience opportunity. The student will work a total of 300 hours within the hotel industry in one area selected by the student and approved by the ISTHM Internship Coordinator. Evaluations from supervisors and the ISTHM internship coordinator, 1 ½ hour seminar per week, a final project presentation discussing the students learning experience and a final project will be required. Pre-requisite: ITHM 250

ITHM 400  Revenue Management for Hotel Operations
3 Credits
Examination of different financial instruments and structures by which hotels and tourism entities operate. The concepts of revenue management and cost control are explained from a yield management and revenue management approach. Review the basic financial concepts and reporting requirements that apply to the industry. Emphasis is placed on the uses of financial data for planning, cost control techniques and its use in defining goals of the organization. The course will use the Internet as a research tool, MS Words and Excel for papers and projects and Email as means of communication. Prerequisites: ITHM 300.

ITHM 401  Menu Planning and Analysis
3 Credits
Examination of all phases of menu development, including construction, nutrition, pricing, service styles, and menu/culinary terminology related to the menu. Emphasis will be given to the analysis of menus for a variety of food and beverage operations, both commercial and non-commercial. Students will research different foodservice operations to assess the marketing strategies used in menu planning. The course is focused on the development of strategies and procedures to prepare a profitable menu. This includes the aspect of design, content, and pricing based on the characteristic of the market segment that is targeted. The course will use the Internet as a research tool and MS Words for paper and projects. Pre-requisites: ITHM 345, ITHM 350.
ITHM 402 Organizational Behavior in the Service Industry
3 Credits
Application of organizational behavior theories to the strategic management of a successful hotel operation. Discussion and analysis of important behavioral modification factors such as management styles, motivation, job satisfaction, employee empowerment, organizational culture, leadership, teamwork, power structure and organizational change. Special consideration will be given to the particular characteristics of the hospitality industry as a service organization. Topics will be explored through lectures, case studies and management games and exercises. The course will use the Internet as a research tool and MS Words for paper and projects. Prerequisite: ITHM 102

ITHM 403 Wines, Spirits and Beers
3 Credits
Exposition to the history and classification of alcoholic beverages. Study of the different kind of beers and the process of distillation. Emphasis will be given to the most important wine production regions, variety and proper handling and storage. The course will require students to taste and combine food and wine to pair effectively its flavor. Theoretical presentations, demonstrations and laboratory visits will be offer throughout the course. 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.

ITHM 404 Convention and Event Planning Logistics
3 Credits
Analysis of the processes to plan an event or convention. Examination of the importance of the preparation of the activities objectives, program development, speakers’ selection, sponsorships and publicity. Emphasis will be placed on financial management for profit-making events, site selection, VIP treatment, international meetings considerations and protocol. The course will be conducted through class discussion, debates, speakers, and an on-going planning of an imaginary or real event planned at the end of the semester. 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 ITHM 406.

ITHM 406 Special Events Management
3 Credits
Management of one-time events for the purpose of celebration, education, marketing or reunion. Topics include special event coordination and risk management. The course will use the Internet among others research tools, Email and Blackboard as means of communication and MS Word, Excel and Power Point for papers and projects. Pre-requisite: ITHM 302, 370.

ITHM 407 Strategic Planning in Hospitality
3 Credits
Integrative, applied course in strategic management and decision making in the hospitality industry utilizing case studies and simulation exercises. An in-depth examination of the use of various management tools for problem solving. Discussions of industry trends, multicultural, and quality issues affecting the hospitality industry. Pre-requisite: ITHM 402
ITHM 425 Nutrition for Foodservice
3 Credits
Overview of basic nutrition principles and of healthier meal management in the context of a modern foodservice operation. Emphasis is placed on the implications of good nutrition practices at various phases of a foodservice operation. The course is developed through in-class discussion, situation analysis, group dynamics, and a research project. Responsible use of technology will be promoted. Prerequisite: None

ITHM 450 Advanced Internship in Food & Beverage Operations
3 Credits
Advanced job experience opportunity, the student will work a total of 300 hours within the Food & Beverage Area, selected by the student and approved by the ISTM Internship Coordinator. Evaluations from supervisors and the ISTM internship coordinator, 1 ½ hour seminar per week, a final project presentation discussing the students learning experience and a final project will be required. Prerequisite: ITHM 250

ITHM 452 Restaurant Management
3 Credits
Practical course for foodservice students in which they apply acquired knowledge of menu planning, nutrition, culinary skills and Food & Beverage management. For each Lab session, students are required to plan a menu, service style and all details for lunch in our 40+ capacity Teaching Restaurant operation. Team work, cost controls, organization, and sanitation are emphasized. This course is taken during the last semester of the Food & Beverage concentration. The course will use the Internet as a research tool and MS Words for paper and projects and Power Point for the various required assignments. Prerequisites: ITHM 250, 345, 350, 370.

ITHM 455 Advanced Internship in Events & Conventions
3 Credits
Advanced job experience opportunity. The student will work a total of 300 hours within the Convention or Event Management Area, selected by the student and approved by the ISTM Internship Coordinator. Evaluations from supervisors and the ISTM internship coordinator, 1 ½ hour seminar per week, a final project presentation discussing the students learning experience and a final project will be required. Prerequisite: ITHM 250

ITHM 460 Capstone Course
3 Credits
Integration of learned managerial skills and strategies through the analysis of management situations in the hospitality industry. The evaluation of strategic solutions, to help students review and practice their management knowledge and capabilities. 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. Prerequisites: ITHM 390 and ITHM 400; or ITHM 401 and ITHM 450; or ITHM 455, ITHM 404.
# CERTIFICATE PROGRAMS

**Certificate in Culinary Arts**  
34 Credits – 1030 Hours

<table>
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<tr>
<th>Code</th>
<th>Course Description</th>
<th>Credits</th>
<th>Hours</th>
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<tbody>
<tr>
<td>ITHM 059</td>
<td>Introduction to Gastronomy</td>
<td>3 credits</td>
<td>45 hours Conference</td>
</tr>
<tr>
<td>ITHM 058</td>
<td>Food Safety</td>
<td>1 credits</td>
<td>15 hours</td>
</tr>
<tr>
<td>ITHM 091</td>
<td>Sauces, Stocks and Knives Skills</td>
<td>3 credits</td>
<td>45 hours Laboratory</td>
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<tr>
<td>ITHM 092</td>
<td>Meat and Fish ID</td>
<td>2 credits</td>
<td>30 hours Laboratory</td>
</tr>
<tr>
<td>ITHM 093</td>
<td>Food Production</td>
<td>5 credits</td>
<td>75 hours Laboratory</td>
</tr>
<tr>
<td>ITHM 052</td>
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<td>ITHM 096</td>
<td>Garde Manger</td>
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<td>ITHM 095</td>
<td>Baking</td>
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<td>ITHM 089</td>
<td>French for Culinary Arts</td>
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## FIRST YEAR

### FIRST SEMESTER

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<td>ITHM 091</td>
<td>Sauces, Stocks and Knives Skills</td>
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Certificate in Bartending and Food & Beverage Service
26 Credits - 575 Hours

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<td>ITHM 051</td>
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<td>Customer Service</td>
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<td>Beverage Preparation Lab. Classical and Contemporary drinks</td>
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Certificate in Pastry and Baking
32 Credits

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<td>Introduction to Baking &amp; Pastry</td>
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<td>Breads &amp; Dough</td>
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<td>ITHM 064</td>
<td>Patisserie I</td>
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### FIRST YEAR

#### FIRST SEMESTER

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COURSE DESCRIPTIONS

ITHM 050  Introduction to the Bartending Service
3 Credits 45 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 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 and Power Point for presentation. Pre-requisite: None

ITHM 051  Alcoholic and Nonalcoholic Beverages for the Bar
5 Credits 75 hours
Students are introduced to the history, identification, classification, production, service and food paring of nonalcoholic beverages, beer, wine, spirits, cordials, cocktails, mixed drinks and coffee. As part of the course the students are introduced to sensory evaluation of beverages. The role of the Sommelier and the Wine Steward 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. Pre-requisite: None

ITHM 052  Dining Service and Protocol
3 Credits 45 hours
Basic principles on the operation and management of the Dining Room. The students are introduced to front of the house operations and professional dining service techniques. Quality service and positive guest relations will be emphasized during the course. Topics include, table service and presentation, American, Russian and French service, food classification, menu interpretation, how to take an order, use of glasses and dinnerware, etiquette and good manners. Theoretical presentation, demonstration and practice are used to develop the course. Pre-requisite: None

ITHM 057  Classical Cuisine (Laboratory)
3 Credits 45 hours
Exposure to specific gastronomic cultures of Europe through seminars, conferences, demonstrations, menus discussions, investigative research and recipes preparation and development. Emphasis is placed in traditional and contemporary European dishes of France, Spain, Italy. Class activities include discussions of historic information about regional traditions, ingredients, cooking techniques, religion, food and service protocol. The course will use the Internet as a research tool. The course will use the Internet as a research tool, MS Words for paper and projects, Email as means of communication and Power Point for presentation. Pre-requisites: ITHM 093, 96 or 095 in progress.

ITHM 058  Food Safety Certification
1 Credit 15 hours
Students will explore the fundamentals of Safety, Hygiene and Sanitation. The course will help the student to apply critical food safety practices, look at the origins and prevention of food borne illness and the implementation of hygiene and sanitation practices. Students must pass the ServSafe test of the National Restaurant Association to fulfill the graduation requirement.
ITHM 059   Introduction to Gastronomy
3 Credits 45 hours
Introduction to the fundamental of culinary theories. Topics of study includes: gastronomy, evolution in
cuisine, equipment identification, culinary terms, kitchen organization and planning, learning of cooking
methods, techniques and recipe conversion. Theoretical presentations, demonstrations and lab visits
are used to develop the course. The course will use the Internet as a research tool and MS Words for
paper and projects. Email will be used for communication purposes. Pre-requisite: None

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 platted 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 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 customer’s 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 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 050

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 acquire knowledge for a minimum of 100 hours. Evaluations from supervisors and the ITHM internship coordinator and a final project presentation discussing the students learning experience will be required. Pre-requisite: ITHM 083, ITHM 052

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 059

ITHM 091  Sauces, Stocks and Knives Skills (Laboratory)
3 Credits 45 hours
Demonstration of proper use and safely handling of different types of knives. Emphasis will also be placed on vegetable cookery and production of stocks, broths, glazes, thickening agents and sauces. The course will use the Internet as a research tool, the Email as a means of communication and MS Word for papers and projects. Theoretical presentations, demonstrations and extensive participation in lab sessions are used to develop the course. Pre-requisite: ITHM 059 in progress

ITHM 092  Meat, Poultry and Fish ID (Laboratory and Lecture)
2 Credits 30 hours
Overview of the butcher’s field and meat fabrication for food service operation. The student will learn the proper cutting fundamental techniques for fabricating cuts of Veal, Pork, Lamb, Beef, Poultries and Fish. 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, the Email as a means of communication and MS Word for papers and projects. Pre-requisite: ITHM 059 in progress

ITHM 093  Food Production (Laboratory)
5 Credits 75 hours
Introduction to the basic cooking techniques for meats, poultry, fish, eggs and other proteins, vegetables and starches. Topics include sautéing, roasting, broiling, grilling, poaching, stewing, frying, baking and boiling. Emphasis will be place on preparation and presentation of different plates, for breakfast, lunch and dinner. Food flavor, portion control and food safety are emphasized. 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-requisites ITHM 059, ITHM091, ITHM 092.

ITHM 095  Baking
4 Credits 60 hours
Introduction to baking and pastry fundamentals, and its corresponding fields. Knowledge of the basic baking ingredients and their function in baking. A difference between baking and cooking will be established based on ingredients, baking methods, measurements, time, and preparation. Will focus on the mathematical part that involves baking and its function in recipes. 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-requisites ITHM 093, 097

ITHM 096 Garde Manger (Laboratory)  
4 Credits 60 hours

Introduction to the modern and traditional techniques of the main areas of the cold kitchen. The students will learn styles of presenting food and buffets through the preparation of cold entrees, appetizers, cold salad, fruit and cheese plates, cold soups, dressing, hot and cold hors-d’oeuvre. Curing and smoking techniques for meat, seafood and poultry items are practiced. Theoretical presentations, demonstration and extensive participation in lab session are use to develop the course. The course will use the Internet as a research tool; MS Word will be use for paper and projects. Pre-requisites ITHM 093,095.

ITHM 097 Food Service Mathematics  
2 Credits 30 hours

Intensive review of mathematical fundamentals, such as multiplication, division, fraction, percentages, ratios, portions, water temperature, measurements and other mathematical factors related. Pre-requisite: None

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. Evaluation will be required by the supervisor assigned according to school standards. The course will meet once a week for one hour. Pre-requisite: ITHM 093, 59 095, 096, 057.
ACCELERATED ADULT PROGRAMS (AHORA, Spanish acronym)

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 one university center. At this time, the School of Professional Studies is offered in the five University Centers, Barceloneta, Yauco, Cabo Rojo, Utuado and Santa Isabel. 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 eleven programs leading to this degree. The academic offerings of the School of Professional Studies include:

- Bachelor in Business Administration with majors in: Management, Marketing, Accounting, and Computerized Information Systems
- Bachelor in Office System with major in Administrative Secretary
- Bachelor of Arts in Education with major in Early Childhood and Primary Education
- Bachelor of Social Work
- Bachelor in Social Sciences with majors in: Criminal Justice and Psychology
- Bachelor in Public Affairs with major in Municipal Government
- Bachelor of Science in Public Health with major in Health Management Services

In 2003, The Metro Orlando Campus began its offerings followed by The South Florida Campus in 2006. These centers represent 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.

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 STUDY

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

GRADUATION REQUIREMENTS

All professional and major courses must be approved with a minimum final grade of “C” or with the required grade point average in the major courses as required by the school that graduates the student. Detailed information about these programs is available in the section of the school of this catalog. Practicum courses must be approved with a minimum of a “B “.
Graduation Requirements of all Teacher Education Programs

They must have satisfactorily completed the prescribed number of credits with a grade point average of 2.00 (C) or higher and for the major component is 2.7 in 2010 and 3.00 by 2012.

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. 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 1,000 professionals have been certified through this process and are offering courses in the Program. Also, our faculty members have at least a Master degree and five years of previous professional experience in their field.

ADMINISTRATION AND STAFF

The administrative team of the School of Professional Studies is composed of a Dean, Associate Dean, Counselor, Director of Faculty, Director of Curriculum, Director of Integrated Services, Director of Administration, Director of Universities Centers and an Assessment Coordinator.

- Assistant Vice President/Dean: Mildred Rivera, CQIA, MBA in Management, Universidad Metropolitana
- Associate Dean: Elizabeth Marte Jiménez, MBA in Management, University of Phoenix
- Director of Curriculum: María Cruz Guilloty, MEd, Educational Technology, Informatics and Multimedia, Universidad del Sagrado Corazón
- Director of Faculty: Nilda Boria, Doctor in Medicine, Universidad Central del Este
- Director of Integrated Student Services: José Luis Rivera Rivera, MBA in Marketing, Universidad Metropolitana
- Director of Administration: Deborah Marin, BBA in Management, Universidad Metropolitana
- Director of University Centers: Olga Martínez, MEd, Counselor
- Assessment Coordinator: Martha Sergio, MBA in Management, Universidad Metropolitana
- Counselor: Amneris Soto, MC, CPL in Counselor, University of Phoenix

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.
CREDIT 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 OFFERED IN THE ACCELERATED MODALITY ASCRIBED TO OTHER SCHOOLS.

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 section of the school of this catalog.

The offerings of the School of Professional Studies are as follows:

School of Business Administration

- Bachelor in Business Administration with major in:
  - Management
  - Accounting
  - Marketing
  - Computerized Information Systems

- Bachelor in Office Systems
  - Administrative Secretary

School of Education

- Bachelor of Arts in Education with major in Early Childhood and Primary Education
School of Social and Human Sciences

- Bachelor in Social Sciences with major in:
  - Criminal Justice
  - Psychology

- Bachelor in Social Work

ACADEMIC PROGRAMS ASCRIBED TO THE SCHOOL OF PROFESSIONAL STUDIES ONLY

The following bachelor degree programs are only offered by the School of Professional Studies to the students in the accelerated modality. The course descriptions of the major course component of the bachelor programs are included within this section.

- Bachelor of Science in Public Health with major in Health Management Services
- Bachelor in Science in Education with major in School Health
- Bachelor in Public Affairs with major in Municipal Government

PROGRAM DESCRIPTION

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.

School Health

Teachers of school health care 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 socio-cultural 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 care professionals in education that must see them 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 well attitudes and elements of effective communication with students, parents, and the general community.
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 Policies; 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.

Special Certification thru 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.
**BACHELOR OF SCIENCE DEGREE**

**Bachelor of Science in Public Health**  
**Major in Health Services Management**

121 Credits

<table>
<thead>
<tr>
<th>Category</th>
<th>Credits</th>
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<tbody>
<tr>
<td>General Education</td>
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<tr>
<td>Core Professional Courses</td>
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<tr>
<td>Major Courses</td>
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<tr>
<td>Practicum</td>
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<td>Electives</td>
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<tbody>
<tr>
<td>*SPAN 115-116</td>
<td>Reading, Writing and Oral Comm. in Spanish I-II</td>
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<tr>
<td>*ENGL 115-116</td>
<td>College Reading and Writing I and II</td>
</tr>
<tr>
<td>QYLE 110</td>
<td>Attitude Development and Univ. Adaptation</td>
</tr>
<tr>
<td>MATH 118</td>
<td>Fundamentals of Intermediate Algebra</td>
</tr>
<tr>
<td>HIST 255</td>
<td>Analysis of historic Processes in PR</td>
</tr>
<tr>
<td>BIOL 255</td>
<td>Environmental Sciences Biology</td>
</tr>
<tr>
<td>COMP 110</td>
<td>Introduction to computers and software</td>
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<tr>
<td>SOSC 112</td>
<td>Human Being and its environment</td>
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<td>MENU COURSES (Six courses selected by the student)</td>
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<tr>
<td>ACCO 110</td>
<td>Quantitative Aspects of Accounting</td>
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<tr>
<td>ACCO 111</td>
<td>Elementary Accounting I</td>
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<tr>
<td>ECON 123</td>
<td>Elementary Principles and Problems of Economics</td>
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<td>MANA 210</td>
<td>Management Theory</td>
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<td>MANA 213</td>
<td>Personnel Administration</td>
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<tr>
<td>MANA 230</td>
<td>Organizational Behavior</td>
</tr>
<tr>
<td>PUHE 101</td>
<td>Introduction to Public Health and Health Education</td>
</tr>
<tr>
<td>PUHE 201</td>
<td>Biostatistics</td>
</tr>
<tr>
<td>PUHE 210</td>
<td>Biological Aspects of Human Diseases</td>
</tr>
<tr>
<td>PUHE 203</td>
<td>Introduction to Epidemiology</td>
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<th>Major Courses</th>
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<tbody>
<tr>
<td>HESM 110</td>
<td>Health Management Services</td>
</tr>
<tr>
<td>HESM 210</td>
<td>Health Systems and Models</td>
</tr>
<tr>
<td>HESM 220</td>
<td>Services Planning and Evaluation</td>
</tr>
<tr>
<td>HESM 230</td>
<td>Basic Accounting for the Health Industry</td>
</tr>
<tr>
<td>HESM 310</td>
<td>Health Economics</td>
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<td>HESM 320</td>
<td>Basic Finances in the Health Industry</td>
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<td>HESM 330</td>
<td>Legal Aspects in the Health Industry</td>
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<td>HESM 340</td>
<td>Budgeting for the Health Industry</td>
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<tr>
<td>HESM 410</td>
<td>Health Information Systems</td>
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<tr>
<td>HESM 420</td>
<td>Special Topics in Health Services</td>
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<td>HESM 430</td>
<td>Practicum in the Health Services Management 3</td>
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<tr>
<td>HESM 431</td>
<td>Seminar in the Health Services Management 3</td>
</tr>
<tr>
<td>Electives</td>
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</tbody>
</table>

Note: *Since 2008, the Health Services Management Program is ascribed to the School of Professional Studies to be offered in an accelerated modality. Nevertheless, the courses titled MANA and ACCO are described in the section of the School of Business Administration of this catalog.*
Bachelor in Science in Health Education  
Major in School Health  

133 Credits

General Education          54  
Educational Component          36  
Professional Component         21  
Major Courses           19  
Electives             3

**General Education Component**  
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 115-116 College Reading and Writing I and II   6  
ENGL 307  Professional Writing       3  
MATH 107  Basic Fundamentals of Mathematics      3  
MATH 118 Fundamentals of Intermediate Algebra      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  
HIST 255 Analysis of the Puerto Rican Historical Process      3  
HIST 274 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**  
EDUC 171 Human Growth and Development I       3  
EDUC 172 Human Growth and Development II       3  
EDUC 202 Integration of Computer and Technology for Teaching and Learning   3  
EDUC 204 Education for Children with Exceptional Needs, and Inclusion      3  
EDUC 205 Introduction to Assistive Technology      3  
EDUC 300 Psychological Foundations of Education      3  
EDUC 305 Sociological Foundations of Education      3  
EDUC 406 Seminario de Investigación en la Sala de Clases     3  
EDUC 409 Planning and Evaluation of the Learning Process      3  
EDUC 420 Philosophical Foundations of Education      3  
EDUC 435 Interdisciplinary Seminar       3  
EDUC 436 Seminar in Pedagogical Integration      3

**Professional Courses**  
PUHE 101 Introduction to Public Health         3  
PUHE 201 Biostatistics         3

342
<table>
<thead>
<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>PUHE 203</td>
<td>Introduction to Epidemiology</td>
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<td>PUHE 210</td>
<td>Biological Aspects of Human Diseases</td>
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<td>HEED 201</td>
<td>Environmental Health Education</td>
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<tr>
<td>HEED 301</td>
<td>Life and Health Styles</td>
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<tr>
<td>MATH 118</td>
<td>Foundations of Algebra</td>
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**Major Courses** 19

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<td>HEED 310</td>
<td>Human Sexuality and Health Education</td>
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<tr>
<td>HEED 312</td>
<td>Health Education and Personal Care</td>
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<tr>
<td>HEED 314</td>
<td>Health Education and Personal Safety</td>
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<td>HEED 316</td>
<td>Education for the Prevention of Tobacco, Alcohol and Drugs</td>
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<td>HEED 405</td>
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<td>HEED 406</td>
<td>Clinical Experiences 2</td>
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<tr>
<td>HEED 407</td>
<td>Clinical Experiences 3</td>
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<td>HEED 408</td>
<td>Curriculum and Methodology in the Teaching of Health Education</td>
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<td>HEED 409</td>
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**Electives** 3

**Note:** Since 2007-2208, the School Health Program is ascribed to the School of Professional Studies to be offered in an accelerated modality. Nevertheless, the courses titled EDUC and HEED are described in the section of the School of Education of this catalog.
## BACHELOR IN PUBLIC AFFAIRS

Bachelor in Public Affairs  
Major in Municipal Government

<table>
<thead>
<tr>
<th>Credits</th>
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<td>Electives</td>
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### General Education

<table>
<thead>
<tr>
<th>Course</th>
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<tr>
<td>COMP 110</td>
<td>Introduction to Computers and Software</td>
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<tr>
<td>*ENGL 115</td>
<td>College Reading and Writing I</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 116</td>
<td>College Reading and Writing II</td>
<td>3</td>
</tr>
<tr>
<td>HIST 274</td>
<td>History of United States</td>
<td>3</td>
</tr>
<tr>
<td>*MATH 118</td>
<td>Fundamentals of Intermediate Algebra</td>
<td>3</td>
</tr>
<tr>
<td>QYLE 110</td>
<td>Development of Values, Attitudes, and Adaptation to University Life</td>
<td>3</td>
</tr>
<tr>
<td>SOCI 216</td>
<td>Contemporary Social Problems</td>
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<tr>
<td>SOSC 112</td>
<td>The Human Being and His Social Environmental</td>
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<tr>
<td>SOSC 230</td>
<td>Economic and Political Systems</td>
<td>3</td>
</tr>
<tr>
<td>SOSC 113</td>
<td>Analysis of Cultural and Historical Processes</td>
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<tr>
<td>*SPAN 115</td>
<td>Reading, Writing, and Oral Communication in Spanish I</td>
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<tr>
<td>SPAN 116</td>
<td>Reading, Writing, and Oral Communication in Spanish II</td>
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<td>Menu Courses</td>
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### Core Professional Courses

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<tr>
<td>MANA 217</td>
<td>International Relations</td>
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<tr>
<td>POSC 253</td>
<td>Political System of Puerto Rico</td>
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<td>SOCI 213</td>
<td>Social Problems of Puerto Rico</td>
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<td>SOCI 335</td>
<td>Ethics, Morality, and Society</td>
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<tr>
<td>SOSC 250</td>
<td>Statistics in Social Sciences</td>
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<tr>
<td>SOSC 258</td>
<td>Research Techniques in Social Sciences</td>
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### Major Courses

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<tr>
<td>PUAF 150</td>
<td>Principles of Public Administration</td>
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</tr>
<tr>
<td>PUAF 160</td>
<td>Psychosocial Basis of Organizational Behavior</td>
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</tr>
<tr>
<td>PUAF 210</td>
<td>Administration of Human Resources in Public Service</td>
<td>3</td>
</tr>
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<td>PUAF 260</td>
<td>Introduction to Planning and</td>
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<tr>
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<td>PUAF 308</td>
<td>Demography in Labor Relations and Collective Bargaining in Public Service</td>
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<tr>
<td>PUAF 310</td>
<td>Labor Relations and Collective Bargaining in Public Service</td>
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<td>PUAF 315</td>
<td>Evaluative Investigation of Municipal Programs</td>
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<tr>
<td>PUAF 320</td>
<td>Public Policy and the Process of Municipal Government</td>
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<tr>
<td>PUAF 412</td>
<td>Federal Funds System in Municipal Government</td>
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<tr>
<td>PUAF 415</td>
<td>Municipal Fiscal Operations</td>
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<tr>
<td>PUAF 420</td>
<td>Seminar on Special Topics or Issues</td>
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<td>PUAF 450</td>
<td>Supervised Practice in a Public Agency or Professional Portfolio</td>
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<tr>
<td><strong>Electives</strong></td>
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COURSE DESCRIPTIONS

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.

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. 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. 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. 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. 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.
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. 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. 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. 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. Prerequisites: HESM 110, 220, 340 Concurrent with HESM 430

HESM 430   Practicum in the Health Services Management
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. Prerequisites: Concurrent with HESM 420, Approval required.

HESM 431   Seminar in the Health Services Management
3 Credits
In this course the students apply the principles of personnel supervision and learn how to manage the problems associated with it in a department of a Health Care institution. It also emphasis in many issues of legal protection to the patient and to the institution that provide the health care services. In this course the student will practice in many departments of the health care institution. The practicum will be supervised by an institutional faculty member together with a certified health care administrator. The seminar sessions will place special attention to topics, issues and aspects related to health services administration. A research project on a related topic is required. Prerequisites: HESM 430.
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.

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.

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. Prerequisite: PUHE 201

PUHE 210        Biological Aspects of Human Diseases
3 Credits
Develops sound scientific attitudes, the concepts and the basic biological processes of diseases, such as: inflammation, immunological reactions, regeneration and growth control, fibrosis and necrosis using the scientific method as the tool. Pathogenesis is incorporated to the various perspectives of epidemiology and disease control as they relate to public health. Laboratory experiences promote the application of technology to the study of the principal human diseases and agents that cause them. Prerequisites: PUHE 101

PUBLIC AFFAIRS

PUAF 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.

PUAF 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.
PUAF 210  Administration of Human Resources in Public Service
3 Credits
A study of the origins and development of the administration of human resources. Public service is viewed as a professional career. Techniques and systems for selection, recruiting, training, classification, organizational environment, disciplinary measures and separation from service are discussed.

PUAF 260  Introduction to Planning and Municipality Administration
3 Credits
Analysis and discussion of the historical development of the concept of municipalities. Territorial development during Spanish and North American governments in Puerto Rico (1898-1951) is discussed.

PUAF 308  Demography in the Development of Municipal Projects
3 Credits
This course analyzes the research, investigations, reports and statistics of the data compiled by the population census corresponding to the 1990 decade provided by the federal and state government agencies. The data related to health services, education, housing and income of the various population groups will be studied. The impact of this statistic data will be analyzed for the planning of social projects at the municipal level.

PUAF 310  Labor Relations and Collective Bargaining in Public Service
3 Credits
An analysis of the legal dispositions that regulate labor relations and collective bargaining. Labor problems, as well as laws, rules and regulations for recruitment, promotions, disciplinary actions, fringe benefits and retirement are discussed.

PUAF 315  Evaluative Investigation of Municipal Programs
3 Credits
The objective of the evaluative investigation is to measure the effects of a given program in comparison to the proposed goals it wanted to achieve for the purpose of making decisions about future programming. Emphasis will be given to the use of evaluative techniques of cost-benefit and clientele analysis. The importance of assessment productivity of governmental programs vis a vis the legal and programmatic dispositions in effect when applying, receiving, and administering assigned funds will also be studied.

PUAF 320  Public Policy and the Process of Municipal Development
3 Credits
Scientific analysis of public policy models. These are going to be applied to the concepts and ideas of planning across regional and metropolitan areas. Municipal consortiums, their importance and development will be discussed.

PUAF 355  The Legislative Process and the Role of the Legislator
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.