

Inter American University of Puerto Rico



# **Graduate Catalog 2021-2022**

Volume XXIX

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This Catalog is published in Spanish and English. In the event of a conflict as to its interpretation, the Spanish version shall prevail.

The provisions of this Catalog do not constitute an irrevocable contract between students and the University.

The University will make all reasonable efforts to maintain up-to-date information in this Catalog. However, it reserves the right to revise or change rules, revise tuition fees, service charges, requirements for programs of study, the requirements for degrees and academic distinctions, course content and any other arrangements that might affect students whenever it deems necessary or desirable.

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Graduation requirements as well as academic curricula and programs may change while students are registered at the University. These changes will not be applied retroactively, but students have the option of completing the new requirements. Nonetheless, when professional certifying or licensing agencies make requirement changes for the corresponding certification or license, the necessary changes to the curricula or programs will be applicable immediately. Students will have the responsibility for deciding if they wish to take the new courses.

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**January 2022**

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## School of Optometry

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# Directory

## **CENTRAL OFFICE**

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## **AGUADILLA CAMPUS**

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Aguadilla, Puerto Rico  
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Arecibo, Puerto Rico 00614-4050  
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## **BARRANQUITAS CAMPUS**

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## **BAYAMON CAMPUS**

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Bo. Cerro Gordo  
\*500 Highway John Will Harris  
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## **GUAYAMA CAMPUS**

Inter American University  
Barrio Machete  
Highway 744, Km. 1.2  
Guayama, Puerto Rico  
\*PO Box 10004  
Guayama, Puerto Rico 00785-4004  
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<http://guayama.inter.edu>

## **METROPOLITAN CAMPUS**

Inter American University  
Highway 1, Km. 16.3  
Corner Francisco Sein St.  
Río Piedras, Puerto Rico  
\*PO Box 191293  
San Juan, Puerto Rico 00919-1293  
Tel. (787) 250-1912  
[www.metro.inter.edu](http://www.metro.inter.edu)

## **Inter American University Trimester Program in English**

Highway 1, Km. 16.3  
Corner Francisco Sein St.  
Río Piedras, Puerto Rico  
\*PO Box 191293  
San Juan, Puerto Rico 00919-1293  
Tel. (787) 758-0837  
[www.metro.inter.edu](http://www.metro.inter.edu)

## **PONCE CAMPUS**

Inter American University  
Turpeaux Industrial Park  
Mercedita, Puerto Rico  
\*Turpeaux Industrial Park  
Mercedita, Puerto Rico 00715-1602  
Tel. (787) 284-1912  
<http://ponce.inter.edu>

## **SCHOOL OF AERONAUTICS**

Inter American University  
Fernando L. Rivas Dominicci Airport  
Isla Grande, Puerto Rico  
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<http://bc.inter.edu>

**SCHOOL OF LAW**

Inter American University

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Sector Tres Monjitas

Hato Rey, Puerto Rico

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<http://www.derecho.inter.edu>

**SAN GERMÁN CAMPUS**

Inter American University

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San Germán, Puerto Rico 00683-9801

Tel. (787) 264-1912

<http://www.sg.inter.edu>

**SCHOOL OF OPTOMETRY**

Inter American University

\*500 Highway John Will Harris

Bayamón, Puerto Rico 00957

Tel. (787) 765-1915

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\*Mailing address

# General Information

## History of the University

Inter American University of Puerto Rico is a private institution with a Christian heritage and an ecumenical tradition. It is a non-profit organization that provides college instruction to youth of both sexes. It was originally founded in 1912 as the Polytechnic Institute of Puerto Rico by the Reverend J. William Harris and offered elementary and secondary education on the land occupied today by the San Germán Campus. The first college level courses were started in 1921 and in 1927, the first group of students graduated with bachelor degrees. In 1944, the Institution was accredited by the Middle States Association of Colleges and Schools. It was the first four-year liberal arts college to be so accredited outside the continental limits of the United States. This accreditation has been maintained since then.

The school is approved by the Puerto Rico State Approving Agency to provide academic training to the students under the various GI Bill® programs. "GI Bill®" is a registered trademark of the U.S. Department of Veterans Affairs (VA). The programs of the University are authorized by the Board of Postsecondary Institutions of Puerto Rico (JIP) and by the Department of Education of Puerto Rico, which certifies teachers for the public school system of Puerto Rico. Inter American University's School of Law is accredited by the American Bar Association and the School of Optometry, inaugurated in 1981, by the Council on Optometric Education. In March 1982, the first doctoral program was initiated.

Inter American University is the largest private university in Puerto Rico. Enrollment, in recent years, has been maintained at approximately 43,000 students. At the present time, about 21 percent of all the Island's college students and 35 percent of the students who go to the Island's private colleges attend Inter American University.

Inter American University's tradition of public service, the geographical location of its instructional units and its continuing attention to student needs make it especially attractive and accessible to students from all the municipalities of Puerto Rico. The increasing availability of both Federal and Commonwealth funds for student financial aid has enabled many students, who otherwise would not have been able to do so, to get a college education.

## Governance

The highest governing body of Inter American University is a self-perpetuating Board of Trustees, whose members are elected by the Board itself without any outside intervention or tutelage of any kind.

The President is the chief executive and academic officer of the Institution. The Managerial Systemic Council is composed of the President of the University, Vice-Presidents, Chancellors, the Deans of the Schools of Law and Optometry, an Executive Secretary appointed by the President, the Executive Director of the Information System, the Executive Director of the Office of the Juridical Advisor, the Executive Director of the Office of Evaluation and Systemic Research, the Executive Director of the Human Resources Office, the Executive Director of the Office of Promotion and Recruitment. In addition, when affairs relevant to their functions are being considered by the Council, the following persons will attend as advisors: the President of the University Council, and the Director of Planning and Systemic Development of Physical Plant.

Subject to the approval of the President of the University and of the Board of Trustees, the administration and the faculties of the School of Law and of the School of Optometry are responsible for their own academic programs and standards. Nevertheless, in all other respects, these professional schools are also subject to university-wide policies, norms and procedures.

The Academic Senates of the instructional units and the University Council, heirs of the Academic Senate created in 1966 and succeeded by the University Senate in 1973, are primarily concerned with the academic well-being of the University through the process of academic articulation among the campuses. The Academic Senates establish academic norms subject to the ratification of the University Council and the concurrence of the President. Both bodies formulate recommendations on affairs related to educational, administrative and research policy.

## Vision

Inter American University of Puerto Rico is a top quality higher education institution in search of academic excellence, with emphasis on the formation of people with democratic and ethical values, framed in an ecumenical



Christian context.

## Institutional Mission

Inter American University of Puerto Rico has the mission to offer post-secondary and higher education in the arts and sciences, by means of teaching, research and community service, within an ecumenical Christian context. In addition, it offers educational programs at the pre-school, elementary and secondary levels.

The University, also, contributes to society, by educating people that come from different socioeconomic sectors, within and outside Puerto Rico. It incorporates in its offerings and services, innovating study modalities supported by informatics and telecommunications. The University aims to prepare its graduates to be responsible and cultured citizens, with democratic and Christian values, who are conscious of their social and environmental obligation, and are able to perform competently and exercise leadership in an occupational or professional context.

The University aims to maximize the educational potential of students in an environment without discrimination, in compliance with the law, the accreditation regulations and standards, and in harmony with the search for academic excellence. It, also, aims to make the best use of this environment to develop critical thinking, scientific knowledge, sensitivity towards the arts, ethical responsibility and the skills of social coexistence.

## Goals of the University

The University faculty and the administration strive to achieve the following institutional goals:

1. To promote, in the university community, an environment oriented towards a culture of peace, based on ethical, democratic and institutional Christian-ecumenical values, directed to the integral development of the student.
2. To promote an integral education that leads to the formation of an educated person, well-versed in the different fields of the human knowledge, by means of the development of the capacity for critical thinking, the adequate use of the communication skills in Spanish and English, ethical and civic responsibility, environmental awareness, skills of social integration, and the knowledge of science, the arts and religious education within a Christian-ecumenical context.
3. To respond to the needs of the student population and

society by offering a variety of both presential and online learning programs, within and outside Puerto Rico, at the different educational levels.

4. To foment academic excellence by means of the continuous development of the teaching staff in the mastery of their discipline, as well as in the application of techniques, modalities and teaching methods, in harmony with the nature of the student population.
5. To foment the development of knowledge through research and creative activities in the academic community.
6. To promote efficiency and effectiveness in the teaching, administrative and student processes and services, in harmony with the provisions in the applicable laws and regulations, as well as in the standards of the accrediting agencies.
7. To cultivate leadership of the university community so that it may contribute to social and cultural enrichment of our country and to its economic development, by means of participation in communitarian, business and professional projects.

## Religious Life Policy

Inter American University of Puerto Rico is an ecumenically oriented institution, but does not adhere to any one particular theology or ecclesiastical body. Founded by Dr. John William Harris, a minister of the Presbyterian Church, Inter American University maintains a historic, friendly and enriching association with that communion as well as with other Christian groups in accordance with its ecumenical spirit.

Inter American University of Puerto Rico is a community of higher education dedicated to a comprehensive search for truth within an environment of responsible freedom and through the encouragement of a mature academic life which guarantees true freedom of investigation. Within this context, religion is studied in the University as an academic discipline designed to engage in fruitful dialog with other university disciplines.

In affirming its commitment to the Christian ecumenical ideal, the University dedicates itself to the renewal and reaffirmation not only of its own Christian heritage, but also the culture within which it is situated and which it serves. This does not oblige the acceptance of all the details of our Christian past nor of all the elements of modern Christianity. Nevertheless, the University has

fostered and will continue to foster the convergence of all Christians in the one faith centered about the person of Jesus Christ as He is made known to us in the apostolic tradition of the Scriptures as the One whom Christians regard as decisive, definite and normative in man's relations with God and his fellow men and society. The University affirms its conviction that to be a Christian today implies, on the one hand, knowledge of and obedience to the Gospel and, on the other, identification with the Universal church by means of an individual commitment to a particular Christian communion.

The ecumenical posture of the University involves openness to society, science, technology and a plurality of faiths; it involves an integral education of each individual so he or she may exercise a vocation within his or her community in a responsible and productive way; it involves a commitment to serve though not to dominate society; and it involves the development of friendliness, fellowship and understanding to bridge human barriers.

The University promotes the following Christian-ecumenical values:

#### **WE BELIEVE IN GOD AS A SUPREME BEING**

God is the Supreme Being who created all that exists. His power and presence are revealed in the person of his Son Jesus, the Savior, and in the Holy Spirit, that guides the community of faith.

#### **WE BELIEVE IN JESUS**

We accept that the apostolic tradition of the Scriptures recognizes and accepts Jesus as decisive, definite and normative for humans' relations with God, their fellow men, family and society. Since He is the Savior and Mediator of Humanity, it is our commitment to continue fostering the convergence of all Christians through the one faith around the person of Jesus.

#### **WE BELIEVE IN LIFE**

We affirm that life is a gift of God. We foment that all human beings value their life so they may be able to give their best to the country, family and society. We promote the preservation of life, and therefore promote a Christian consciousness in education.

#### **WE BELIEVE IN THE FAMILY**

We believe that the family is the essential social nucleus where the initial values that shape the person are developed. We commit ourselves to reinforce these values, from their Biblical foundation, that help each human being

to achieve the complete life and make it extensive to others.

#### **WE BELIEVE IN SERVICE**

We affirm our ecumenical Christian ideal and devote our efforts to renew and reaffirm service to our country, society, family and fellow men.

#### **WE BELIEVE IN THE IDENTITY OF THE CHRISTIAN COMMUNITY OF FAITH**

We affirm that the conviction of being Christian implies knowledge of and obedience to the Word of God and, also, identification and commitment to the Church and to the person's particular Christian community.

#### **WE BELIEVE IN INTEGRAL EDUCATION**

Our Christian ecumenical position provides openness to society, science and technology, with an integral mentality, an attitude of respect and a moral conduct in harmony with our values.

We foment the integral education of each person for carrying out his vocation in a responsible way and with a moral conduct and a productive performance in his community.

We are a community of higher education in an integral search of the truth, within an environment of freedom, through the encouragement of a mature academic life that guarantees the true freedom of investigation.

#### **WE BELIEVE IN THE COMMITMENT WITH OUR FELLOW MEN**

We believe that to be Christian it is to have and show a commitment of service to others based on love and not on the dominion of society, but rather on promoting friendship, solidarity, tolerance and understanding to bridge human barrier.

#### **WE BELIEVE IN THE STUDY OF THE CHRISTIAN RELIGION**

We promote the study of the Christian religion as an academic discipline in which a fruitful dialog with the other academic disciplines is maintained.

We will continue to strengthen the development of the religion studies program by providing all students the opportunity to acquire an understanding of the Christian faith and its implications for our culture.

To achieve this, Inter American University of Puerto Rico

will continue and strengthen the development of its programs of religious studies and will provide to all its students an opportunity to understand the Christian faith and its implications for our culture; the University will furnish information about the most important aspects of the world's major religions to its students and will encourage them to appreciate these religions within their historic, theological and philosophic context. In this way, the search for faith and for the means to humanize mankind may be seen as a relevant option in a world striving for greater understanding and happiness.

The commitment of Inter American University to its Christian Heritage, as well as to its academic mission, will manifest itself through the development of an ecumenical program of religious life.

In accordance with this basic religious philosophy for the academic study of religion and for the development of religious activities, Inter American University, by its act and works, will:

1. Encourage the expression of the Christian principles here set forth,
2. Require the academic study of fundamentals of the Christian faith,
3. Require each instructional unit to establish an Office of Religious Life, which will serve the entire University community.

## Accreditations

The eleven academic units of Inter American University of Puerto Rico are authorized by the Board of Postsecondary Institutions of Puerto Rico and accredited by the Middle States Commission on Higher Education to offer university studies of the undergraduate, graduate and professional levels, as the case may be. Likewise, the University is committed to the professional accreditation of its academic programs. For this reason, some academic units have programs accredited by organizations, such as:

1. Accreditation Board for Engineering and Technology (ABET)
  - Bayamón Campus (BS)
2. Accreditation Commission for Education in Nursing (ACEN)
  - Aguadilla, Arecibo and Metropolitan campuses (BSN)

- Aguadilla and Metropolitan campuses (AAS)
3. Accreditation Council for Business Schools and Programs (ACBSP)
    - Bayamón Campus (BBA)
  4. Accreditation Council on Optometric Education (ACOE)
    - School of Optometry (OD)
  5. American Bar Association (ABA)
    - School of Law (JD)
  6. Aviation Accreditation Board International (AABI)
    - Bayamón Campus (BS)
  7. Commission on Accreditation in Physical Therapy Education (CAPTE)
    - Ponce Campus (AS)
  8. Commission on Collegiate Nursing Education (CCNE)
    - Barranquitas, Bayamón, Guayama, Ponce, and San Germán Campus (BSN)
  9. Council for the Accreditation of Educator Preparation (CAEP)
    - Aguadilla (TEAC), Arecibo, Fajardo, Metropolitan, and Ponce campuses
  10. Council on Accreditation of Nurse Anesthesia Educational Program (COA)
    - Arecibo Campus (MS)
  11. Council on Social Work Education (CSWE)
    - Aguadilla, Arecibo, and Fajardo campuses (BA)
    - Metropolitan Campus (BA, MSW)
  12. International Assembly for Collegiate Business Education (IACBE)
    - San Germán Campus: Specialized accreditation for its Business Administration undergraduate and graduate programs.
  13. International Association for Continuing Education and Training (IACET)

- Aguadilla, Arecibo, Barranquitas, Bayamón, Fajardo, Guayama, Metropolitano, Ponce and San Germán campuses
  - School of Law
  - School of Optometry
14. Joint Review Committee on Education in Radiologic Technology (JRCERT)
- Ponce Campus (AAS)
  - San Germán Campus (AAS, BS)
15. National Accrediting Agency for Clinical Laboratory Sciences (NAACLS)
- Metropolitano and San Germán campuses (BS, Professional Certificate)
16. Network of International Business Schools (NIBS)
- Metropolitan Campus (Division of Economic and Administrative Sciences)
17. UWNTQ.TEDQUAL - World Tourism Organization
- Recinto de Fajardo - BBA Administración Turística
18. ISO 9001 - International standard for a quality management system (“QMS”)
- Recinto Metropolitano - Calidad de procesos académicos y administrativos

## Associations

Inter American University is member of the following professional organizations:

American Council on Education (ACE)  
 American Institute of Certified Public Accountants (AICPA)  
 Asociación de Colegios y Universidades Privadas de Puerto Rico (ACUP)  
 Asociación de Industriales de Puerto Rico  
 Association of American Colleges and Universities (AACU)  
 Association of Governing Boards of Universities and Colleges (AGB)  
 Association of Presbyterian College and Universities (APCU)

Broadcast Music, Inc.(BMI)  
 College Board  
 Council of Graduate Schools (CGS)  
 Hispanic Association of Colleges and Universities (HACU)  
 Hispanic Educational Telecommunications System (HETS)  
 National Association of College and University Attorneys (NACUA)  
 National Association of Independent Colleges and Universities (NAICU)  
 National Association of Student Financial Aid Administrators (NASFAA)  
 Organización Universitaria Interamericana (OUI)

## Services for Veterans and Military Personnel

The school is approved by the Puerto Rico State Approving Agency to provide academic training to the students under the various GI Bill® programs. "GI Bill®" is a registered trademark of the U.S. Department of Veterans Affairs (VA). Eligible students intending to enroll and receive VA educational benefits should submit an application through the Department of Veterans Affairs portal.

A Covered Individual is any individual who is entitled to educational assistance under chapter 31 Veterans Readiness and Employment and chapter 33 Post-9/11 “GI Bill®”. "GI Bill®" is a registered trademark of the U.S. Department of Veterans Affairs (VA).

Our policy permits any covered individual to attend or participate in the course of education during the period beginning on the date on which the individual provides to the educational institution a certificate of eligibility for entitlement to educational assistance under chapter 31 and chapter 33. A "certificate of eligibility" can also include a "Statement of Benefits" obtained from the Department of Veterans Affairs' (VA) website - eBenefits, or a VAF 28-1905 form for chapter 31 authorization purposes) and ending on the earlier of the following dates:

1. The date on which payment from VA is made to the institution.
2. 90 days after the date the institution certified tuition and fees following the receipt of the certificate of eligibility.

Our policy ensures that our educational institution will not impose any penalty, including the assessment of late fees,

the denial of access to classes, libraries, or other institutional facilities, or the requirement that a covered individual borrow additional funds, on any covered individual because of the individual's inability to meet his or her financial obligations to the institution due to the delayed disbursement funding from VA under chapter 31 and chapter 33.

## Academic-Administrative Calendars

The calendars for the academic terms are available on the website of each of the campuses and professional schools.

## Instructional Units

Inter American University offers academic programs in the following eleven instructional units: The Aguadilla, Arecibo, Barranquitas, Bayamón, Fajardo, Guayama, Metropolitan, Ponce and San Germán campuses; and in two professional schools: Law and Optometry.

## Academic Degrees

Inter American University offers pre-university, undergraduate, graduate and professional academic programs for obtaining certificates and associate, bachelor's, master's and doctoral degrees in subject matters normally offered by institutions of higher education of a nature, educational mission and goals similar to those of this University. The School of Law of Inter American University grants the Juris Doctor degree and the School of Optometry, the Doctor of Optometry degree.

## Language of Instruction

Graduate courses may be taught in either Spanish or English.

## Publications

Inter American University has a variety of publications to facilitate communication within the University community, with alumni and with other academics and academic communities.

*Interamericana* is the official publication of Inter American University. It is published four times a year and its approximately 30,000 copies are distributed to students, faculty, administration, alumni and friends of the Institution. This publication covers activities from all instructional units and features special interviews and current events affecting education or the development of

the Institution as well as general information regarding the faculty and administration.

*Videoenlace Interactivo* is a publication of the Vice-Presidency for Academic and Student Affairs and Systemic Planning. Its objective is to share the experiences of professors and students in the field of online learning. It serves as forum for dialog and the exchange of ideas in the use of technology in the educational process.

The *Law Review*, edited by students, is the official publication of the School of Law. Its articles are written by professors and students from the School of Law, judges and practicing lawyers. Because of the careful selection of its articles, the *Law Review* of Inter American University's School of Law is highly esteemed in the field of law.

*Homines* is published by the Metropolitan Campus. It contains critical analyses of current thoughts and events relevant to national and international affairs in the vast field of the social sciences. It is published twice a year.

*Prisma* is published annually by the Arecibo Campus. It has an interdisciplinary focus for the purpose of fomenting research and literary creativity in the University community. Essays, critiques, poems and short stories are published.

*Surisla* is published annually by the Ponce Campus. It transmits the literary works of the University community as well as the extramural contributions through an interdisciplinary focus.

## Alumni Association

The Alumni Association Poly-Inter is an organization of graduates and former students who attended Inter American University or Polytechnic Institute. The Association keeps its members informed of University activities and involves them in its development. The Association is governed by a Board of Directors composed of 29 members, nine of which correspond to the alumni chapters of the different campuses and two members to the professional schools. In addition, the Association is represented on the Board of Trustees of the University by an Alumni Trustee. Each year the Alumni Association holds two primary activities: the celebration of Founders Day and the honoring of distinguished alumni.

# Admission to Master's and Doctoral Programs

All candidates for admission to master's programs, doctoral programs or who are interested in taking graduate courses, must comply with the admission procedures. They must present documents that credit their identity for authentication aims purposes (identification with photo such as a passport or current driver's license). Applicants must complete the application for admission electronically and submit the required documents through the link available on the website of the Institution or the corresponding academic unit. For their information the addresses of each unit are included below:

Director of Admissions  
Aguadilla Campus  
Inter American University  
PO Box 20000  
Aguadilla, Puerto Rico  
00605-2000

Director of Admissions  
Guayama Campus  
Inter American University  
PO Box 10004  
Guayama, Puerto Rico  
00785-4004

Director of Admissions  
Arecibo Campus  
Inter American University  
PO Box 144050  
Arecibo, Puerto Rico  
00614-4050

Director of Admissions  
Metropolitan Campus  
Inter American University  
PO Box 191293  
San Juan, Puerto Rico  
00919-1293

Director of Admissions  
Barranquitas Campus  
Inter American University  
PO Box 517  
Barranquitas, Puerto Rico  
00794-0517

Director de Admisiones  
Ponce Campus  
104 Turpeaux Industrial  
Park  
Mercedita, Puerto Rico  
00715-1602

Director of Admissions  
Bayamón Campus  
Inter American University  
Bo. Cerro Gordo  
500 Highway 830  
Bayamón, Puerto Rico  
00957-6257

Director of Graduate  
Studies  
San Germán Campus  
Inter American University  
PO Box 5100  
San Germán, Puerto Rico  
00683-9801

For information regarding the campuses authorized to offer the different master's programs consult this Catalog under their respective descriptions. This information is found before the presentation of the program requirements. The student may request admission through the portal of each campus.

Applicants for master's degrees should request that the registrars of colleges previously attended send transcripts

directly to the appropriate Department Chairperson of the Campus at which they wish to enroll or to the Admissions Office, whichever applies. Requests by doctoral students should be sent to the Admissions Committee for Doctoral Studies at the appropriate aforementioned addresses. Transcripts and the applications for admission should be received by the appropriate Campus at least one month prior to the applicant's registration date. Once the documents required by the university have been delivered, they become the exclusive property of the Institution. If a student is also applying for a graduate assistantship, all supporting papers for admission to the University should be received no later than April 30 for the first semester and September 30 for the second semester.

## Admission of Special Students

Students from other institutions of higher education may take courses at this University to satisfy their home institution requirements if they have the proper authorization. These students must present evidence of registration in their home institution. Persons interested in taking courses for personal or professional improvement may also be admitted. Such persons should submit evidence of the academic preparation that qualifies them to take the courses.

Special students may take a maximum of twelve (12) credits.

Students, who later decide to continue their studies toward a degree, must have a minimum grade point index of 3.00 upon completion of twelve (12) graduate credits and must comply with admission procedures.

## Admission of Audit Students

Students wishing to enroll in courses for audit must do so during the official registration period of the academic term or during the official period for changing courses. Such students must pay the course fee for auditing. Students who have not applied for admission should do so before registering as audit students.

## Admission of Foreign Students

Foreign students should direct their inquiries to the campus they plan to attend. Generally, they are not admitted without a personal interview. University personnel will interview applicants in nearby countries where the number

of applicants justifies the expense. If this arrangement is not justified, applicants are required to come to Puerto Rico on a tourist visa for an interview at their own expense. If an interview is necessary for online learning students studying outside Puerto Rico, the interview may be conducted through means available to the student. The interview will be supervised by a proctor from the student's locality, as determined by the University.

If the applicants are approved for admission, the Admissions Office fills out the I-20 Form A from the Immigration and Naturalization Service which enables them to obtain student visas. This Form will not be filled out for students admitted to study outside Puerto Rico through one of the online learning modalities.

## Admission of Online Education Students

The admission requirements for online education students are explained in this Catalog in the corresponding sections for students interested in studying presentational modalities.

## Admission Requirements for Master's Programs

To be considered for admission, students must:

1. Hold a bachelor's degree from an accredited institution.
2. Have a general academic index of 2.50 or above in the last sixty credit hours of academic work at the undergraduate or graduate level or a combination of both levels, at students' discretion. Although generally these credits will be at the undergraduate level, students with graduate credits from an accredited university may combine these graduate credits with the last credits approved at the undergraduate level until completing the 60 stipulated credits. Applicants for admission to graduate programs who do not meet the required grade point index may count the grades of courses repeated after graduation for the admission index instead of the original grades.
3. Request an evaluation of their transcript by a specialized agency or by the academic unit where they are applying if their bachelor's degree or equivalent is from an accredited university that uses a grading system different from that in effect at this University.

4. Meet the test results of any test established by the program you are applying to.
5. Meet the admission criteria of the programs to which they are requesting admission. These criteria shall be established by the Department or Graduate Program and have prior approval of the Vice President for Academic and Student Affairs.

Note: Due to the health emergency caused by the Covid-19 Pandemic, students who apply for admission to a master's program that requires an admission test (GRE, GMAT, EXADEP or MAT) for some of the terms that begin during the academic year 2021-22, will be exempt from this requirement, as long as the enrollment is completed for one of the academic terms of such period.

## Provisional Admission to Master's Programs

Students who have not met the bachelor's degree courses' requirements for admission to a master's program may be provisionally admitted. Such students must complete these requirements, with a minimum grade of C or as determined by the program to which they have been admitted, before or during the term in which they pass their first 12 master's credits. If students have not completed all the required undergraduate level courses upon completion of their first 12 master's level courses, they will be evaluated by the Department Director to determine if they may receive an extension of one academic term to continue with their graduate studies.

In addition, they will have until the beginning of the next registration period to comply with the other documents required in their provisional admission.

In case students have difficulty in obtaining the graduation certification or other official documents required by the Institution, they may be considered for provisional admission, if they meet the admission requirements and can submit a copy of the required documents or an electronically accessed version. Students may be admitted and granted a term of up to 30 days to submit the required documentation. The chief executive of the unit may extend that period for just cause. If students do not comply with the requirements by the end of the extension, they will be dropped from the University.

## Admission of Transfer Students to Master's Programs

Candidates for admission as transfer students to master's

programs will be considered if they meet the conditions presented in the section “Admission Requirements for Master’s Programs.” Candidates must request that their university of origin send their official transcript to the officer or office indicated in the section of “Admissions Procedures for Master’s and Doctoral Programs” so that the credits to be granted for masters’ level studies already taken may be determined.

Students that have begun studies for a master’s degree in another accredited university may have up to 33% of the credits, of the requirements of the program to which they request transfer, accepted. Courses passed with grades of A, B or P, may be considered for acceptance if they are equivalent to the corresponding courses offered by the master’s program of Inter American University. The academic unit must validate with the current catalog of the institution of origin that the grade of P corresponds to a value of 80% or more.

No academic work with credit taken earlier than 10 years or more before will be considered for acceptance. The expiration norm for masters’ courses will be applied to such courses.

## Provisional Admission of Transfer Students to Master’s Programs

Students who have not met the bachelor’s or master’s courses requirements for admission to a master’s program may be provisionally admitted. Such students must complete these requirements, with a minimum grade of B, or the minimum grade required for the program, before or during the term in which they pass their first 12 master credits.

When students cannot provide some of official documents required by the University to complete the admission by transfer process, they will be admitted provisionally, if they provide a copy with these documents.

Student admitted provisionally will have thirty (30) calendar days from the date of admission to submit the required documents. The chief executive officer of the unit may extend that period for just cause. Students that do not comply with this requirement by the end of the extension will be dropped.

## Admission of Undergraduates to Master’s Degree Courses

Undergraduate students at Inter American University who have a grade point index of 3.00 or higher and are within

30 credits of graduation may apply to the appropriate Department Chairperson for permission to enroll in master’s level courses. Undergraduate students with such permission are required at the time of enrollment to declare whether the credits obtained in such courses are to be applied toward an undergraduate or a graduate degree. The standard graduate tuition rate for those credits shall apply. Students receiving a grade of A or B in courses designated to be applied toward a graduate degree may request credit for those courses when applying for admission to the graduate program.

## Readmission to Master’s Programs

Students who have previously enrolled in a master’s program at the Inter American University, but who have not completed their course requirements and who have not attended classes for at least one academic year, must apply for readmission through the Office of the Registrar of the campus to which they desire to continue their studies. Every application for readmission must be received during the dates established for the enrollment process for the term in which students wish to resume their studies. An official transcript of any work taken while students were not enrolled at Inter American University should be submitted. Before being readmitted, students must receive an academic evaluation and counseling by the corresponding program.

Readmitted students will be governed by the Graduate Catalog and other norms and regulations in effect at the time of their readmission.

## Academic Admission Requirements for Doctoral Programs

To be considered for admission to doctoral programs, students, at least, must:

1. Have reasonable proficiency in Spanish and English.
2. Have obtained the minimum score required by the University, within the five years prior to the requested admission date, in one of the following tests, if it is an admission requirement of the specific program::
  - a. Graduate Record Examination (GRE)
  - b. Miller Analogy Test (MAT)
  - c. Graduate Management Admission Test (GMAT)

Note: Due to the health emergency caused by the Covid-19



Pandemic, students who request to be admitted to some of the terms that begin during the 2021-22 academic year, may take the Graduate Record Examination (GRE) exam as an admission test to programs that require any of the other test options: GMAT, EXADEP, and MAT.

3. Have requested that three letters of recommendation be sent to the University.
4. Be interviewed by the Admissions Committee of the program and have received a favorable recommendation.
5. Meet the admission requirements of the doctoral program for which admission is requested.

## Provisional Admission to Doctoral Programs

Students who have not met the bachelor's or master's courses requirements for admission to a doctoral program may be provisionally admitted. Such students must complete these requirements, with a minimum grade of B, before or during the term in which they pass their first 12 doctoral credits.

In addition, they will have until the beginning of the next registration period to comply with the other documents required in their provisional admission.

In case students have difficulty in obtaining the graduation certification or other official documents required by the Institution, they may be considered for provisional admission, if they meet the admission requirements and can submit a copy of the required documents or an electronically accessed version. Students may be admitted and granted a term of up to 30 days to submit the required documentation. The chief executive of the unit may extend that period for just cause. If students do not comply with the requirements by the end of the extension, they will be dropped from the University.

## Admission of Transfer Students to Doctoral Programs

Candidates for admission as transfer students to doctoral programs will be considered if they meet the conditions presented in the section "Admission Requirements for Doctoral Programs." Candidates must request that their university of origin send their official transcript to the officer or office indicated in the section of "Admissions Procedures for Master's and Doctoral Programs" so that the credits to be granted for doctoral level studies already

taken may be determined.

Students that have begun studies for a doctoral degree in another accredited university may have up to 33% of the credits, of the requirements of the program to which they request transfer, accepted. Courses passed with grades of A or B may be considered for acceptance if they are equivalent to the corresponding courses offered by the doctoral program of Inter American University.

No academic work with credit taken earlier than 10 years or more before will be considered for acceptance. The expiration norm for doctoral courses will be applied to such courses.

## Provisional Admission of Transfer Students to Doctoral Programs

Students who have not met the bachelor's or master's level courses requirements for admission to a doctoral program may be provisionally admitted. Such students must complete these requirements, with a minimum grade of B, before or during the term in which they pass their first 12 doctoral credits.

When students cannot provide some of official documents required by the University to complete the admission by transfer process, they will be admitted provisionally, if they provide a copy with these documents.

Student admitted provisionally will have thirty (30) calendar days from the date of admission to submit the required documents. The chief executive officer of the unit may extend that period for just cause. Students that do not comply with this requirement by the end of the extension will be dropped.

## Readmission to Doctoral Programs

Students who have registered previously in an Inter American University doctoral program, but have not completed their course requirements and have not attended class for at least one academic year, must apply for readmission through the Office of the Registrar of the Campus to which they desire to be readmitted. Every application for readmission must be received at least three weeks before the first day of registration of the term in which students wish to resume their studies. An official transcript of any work taken while students were not enrolled at Inter American University should be submitted. Before being readmitted, students must receive an academic evaluation and counseling by the corresponding program.

Readmitted students will be governed by the Graduate Catalog and other norms and regulations in effect at the time of their readmission.

# Online Education

Inter American University of Puerto Rico recognizes that technology and information systems are essential in the transformation of experiences that promote learning. Likewise, they are strategic components of the institutional infrastructure for supporting academic development and facilitating management. In harmony with Vision statement, Inter American University is moving toward the transformation of the teaching and learning processes by developing new educational emphases through the incorporation of technology. Students will assume more responsibility for their learning, the faculty will become facilitating agents and the curriculum will be made more flexible with multiple modalities.

In this way, the Institution increases the extent of its academic offering, maximizes its resources, reaches beyond the limits of the traditional classroom and promotes and provides new alternatives for continuous learning.

## Objectives of Online Education

1. To utilize technology as an instrument to increase and strengthen the University Mission in its global context.
2. To develop new approaches so that students may assume greater responsibility for their learning and faculty may become better facilitating agents of the learning process.
3. To share and maximize academic offerings and institutional resources beyond the limits of the campuses.
4. To promote equal opportunity for information access beyond the limits of time and space.
5. To increase the student population to which Inter American University offers academic programs.
6. To facilitate the establishment of collaborative agreements and consortia with other educational institutions in an outside Puerto Rico with the purpose of strengthening and sharing academic offerings.
7. To strengthen and enrich developmental programs and professional update.
8. To meet the particular needs of students with

disabilities.

9. To meet the multiple needs of a heterogeneous student population.
10. To meet the particular needs of the adult population.
11. To extend institutional services beyond geographic frontiers.

## Technologies and Media Used in Online Education

Online Education uses diverse technologies for the transmission of video, voice and data; thus, making possible a teaching and learning process beyond the limits of time and space. There are a variety of courses using these technologies as the basis for the learning experience, for example, interactive video conference courses, televised courses, radio courses, video courses, online courses, courses recorded on CD-ROM, desktop conferencing and courses in Internet. All courses differ in the means used to achieve teaching objectives: the teaching process for promoting the development of concepts and skills, the degree of interaction between faculty-student and student-student, the assessment and certification of learning.

# Tuition, Fees and Other Charges

Information related to registration fees, fees and other charges is published in the Costs Bulletins, which are available in the "Documents" section of the University portal, which can be accessed through [www.inter.edu](http://www.inter.edu) or <http://documentos.inter.edu/>.

# Student Financial Aid

## Federal Financial Aid Programs

Interested students should submit the Free Application Form (FAFSA) for federal financial aid in the year preceding the year for which the request is made.

Students from their home or in the campus of their preference will request the FSA ID. This is the password that will allow them to process the request of Federal Financial Aid FAFSA. In order to acquire this identification students must enter the Internet page [WWW.FSAID.GOV](http://WWW.FSAID.GOV) or through the <https://fafsa.ed.gov/> page and select link FSA ID.

After acquiring their identification, students will complete the request of Federal Financial aid FAFSA through the page of Internet <https://fafsa.ed.gov/>. During the process they will select the code of the Inter American University campus in which they will study. The University will electronically receive the information about the eligibility of the applicant, will produce the “Institutional Student Information Record” (ISIR) and will communicate with the applicant. This form is advantageous because the process is made agile, errors are avoided and the applicant does not have to wait for the mail. Normally the answer is received in Inter American University within 72 work hours after the request is transmitted.

## Federal Direct Loans

The Federal Direct Loan Program offers unsubsidized loans. An unsubsidized loan is not awarded on the basis of need and interest will be charged to the borrower from the moment of disbursement until it is paid in full.

Unsubsidized Federal Direct Loans must be requested directly to the University. The student can borrow up to \$20,500.00 each academic year.

The total amount that a student can borrow may not exceed \$138,500.

Students are required to complete an orientation on loans in the electronic page of the University and submit the certification with the required documents to the Financial Aid Office.

## Federal Work Study Program

The funds provided by the Federal Government to this

Program are supplemented by funds contributed by Inter American University. Participants are assigned employment for which they receive compensation and which will permit them to pay part of their educational expenses. When possible, students are assigned employment related to their field of studies.

## Commonwealth Funds

### State Financial Aid Program

The Commonwealth of Puerto Rico has created several programs of financial aid for students at the Graduate level. These are: the Program of Additional Graduate Financial Aid and the Program of Specific Academic Areas. The state is protected by the federal law for the granting of these aid. Therefore the completion of the federal request FAFSA is required to participate in these programs. The Financial Aid Office of each campus is prepared to provide information on the eligibility requirements for these programs.

### Institutional Scholarship Program

Inter American University allocates funds for scholarships each year according to student needs.

### General Institutional Scholarship

This is a scholarship with basic eligibility criteria that have the purpose of taking care of students' financial needs.

### Institutional Graduate Assistantships

A limited number of assistantships are available each semester for students in both the masters' and doctoral programs. Applications for these should be submitted to the chairperson of the department from which the assistantship is desired by April 30 for the first semester and by September 30 for the second semester.

At the master's level, the assistantships provide a stipend and tuition benefits for a maximum of six (6) credits per semester and four credits per trimester.

At the Doctoral level, the assistantships provide a stipend equivalent to the pay for teaching three (3) credits.

### Study Benefit Time Limits for

## Veterans and Beneficiaries

The beneficiaries of educational services for veterans, including eligible family relatives, have the right to enjoy these benefits only for the required period of study to complete their academic degree as established in this Catalog and by the applicable legislation and regulations.

# Services Related to the Office of the Registrar

The Office of the Registrar is responsible for the registration, and maintenance of all official academic records of students, the issuance of transcripts and certification of studies and certification that students have met graduation requirements. It also issues study certification upon student request. There is an Office of the Registrar at each University campus. Forms requesting services of the Registrar are also available through Internet.

## Intra-University Transfers

All graduate students who wish to transfer from one campus to another must meet the admission norms of the program that they are applying to. Student will notify their intention to the Office of the Registrar of the campus to which they wish to transfer. This office will verify that the student does not have restrictions in the system, such as debts, incomplete documents or others. In case of having restrictions these will be referred to the corresponding department for its evaluation and recommendation, so that the transfer process may be completed.

## Registration, Program Changes and Partial Withdrawal

Students will register on the day and time designated for this purpose. After registration, a designated period will be given on the Academic Calendar to make changes in program schedule, to add or drop courses or to change course sections.

1. Program modifications during the period of changes: To add or drop a course or change a course section during the period of change designated on the Academic Calendar, the student should complete a change of program form. The student will then pay the fee set by the Business Office and will present the form to the Registrar's Office to be processed.

2. After the period of change of program has ended, a student will be able to drop one or more courses (partial withdrawal or total withdrawal). For partial withdrawal, the student will first consult the professor of the course and will present a completed partial withdrawal form to the Registrar's Office. When the professor is not available, the director of the department will sign the partial withdrawal form. After dropping the course, the student will be able to

continue attending the course with the instructor's permission. For total withdrawal from the University, please consult the section "Withdrawal from the University" of this Catalog. A student who drops a course or completely withdraws from the University during the period designated on the academic calendar will receive a grade of W. The periods for partial or total withdrawal from courses will be:

- a. Semester: last day of class.
  - b. Trimester: last day of class.
  - c. Summer: last day of class.
3. When a student stops attending a course, (see the definition of UW in the section of Administrative Action Symbols (p. 60)) and does not qualify for the grade of Incomplete or F, the professor will enter the symbol UW in the column "Grade" and will indicate the student's last date of class attendance or the student's last activity related to the course in the column "Last Attend Date", following the format of the BANNER System: DD/MM/YYYY (day, month, year).
  4. All students, who have not attended class or participated in an academic activity related to the course during the first weeks of class, according to the stipulated date in the appropriate academic administrative calendar, will receive, from the professor, the administrative annotation AW. (Refer to the section Class Attendance (p. 57) of this Catalog).

## Audit Students

Students who wish to register in courses as audit students must do this during the registration or the class program change periods.

## Withdrawal of a Course from the Class Schedule

The University will make every reasonable effort to offer courses as announced, but it reserves the right to withdraw a course from the schedule, when it deems it necessary.

## University Policy Regarding Students and Alumni Directory

The University, in compliance with federal law “Family Educational Rights and Privacy Act (FERPA), provides students and alumni access to their academic files, the right to request that the information contained in those files be amended and certain control over the disclosure of academic information.

1. Students and alumni have the right to inspect and review their academic files. They may request this in writing to the file custodian and indicate the file they wish to review. The file custodian will make the necessary arrangements so that the student or alumni may review the files within a period of time no greater than 45 days from the date in which the student or alumni presented the written request. If the person receiving the request from the student or alumni does not have the file, this person will indicate the correct place for the request to be presented.
2. Students and alumni have the right to request that incorrect information contained in their academic files be corrected. Interested students or alumni must present a written request to the University official in charge of the file, indicate the part of the file to be corrected and explain the mistake. If the University decides not to correct the file, the student or alumni will be notified of this decision in writing and the person will be informed of the right to request an informal hearing.
3. Students or alumni have the right to prevent the University from disclosing personal information found in the academic files, except in those cases where FERPA authorizes disclosure. These cases include the following:
  - a. Disclosure of information to Institution officials. Institutional officials are taken to mean administrative or teaching employees, persons contacted by the University, members of the Board of Trustees and student members of special committees.
  - b. Disclosure of Directory information. The University has designated the following data as Directory information: student or alumni name, address, major and year of study.

Students and alumni have the right to prevent the University from disclosing Directory information to third

parties. The disclosure to third parties includes the release of information to the Armed Forces. If students or alumni wish to prevent their information from being disclosed to the United States Armed Forces, it is necessary that they express their desire that no information be disclosed to third parties.

To prevent information from being disclosed to third parties, it is necessary that students or alumni submit their request to this effect, in writing, to the Office of the Registrar of their academic unit. In order for the request to be effective for the academic year, it is important that students submit the request in or on September 1st of that year.

1. Information to other universities. The University will release student or alumni information to those universities to which they request admission.
2. Exceptional circumstances. The University will disclose student or alumni information if they are economically dependent upon their parents. The University assumes undergraduate students and alumni are economically dependent upon their parents; therefore, in some cases it may disclose information without the consent of the student or alumni to parents that request it. Undergraduate students or alumni who are not economically dependent upon their parents must present this evidence to the Office of the Registrar to prevent information from being released to their parents. Information on graduate students or alumni will not be given to parents without their consent.
3. Emergency cases. These are cases in which the health or security of a student, alumni or other person is in danger.
4. Immigration and Naturalization Service. The University is obliged to give information to Immigration Service regarding certain foreign students or alumni.

If students or alumni believe that the University has not complied with these obligations, they have the right to file a claim to Department of Federal Education, Family Policy Compliance Officer, 400 Maryland Avenue SW, Washington D.C. 20202-4605.

## Solomon-Pombo Act

Inter American University established its institutional policy regarding the student and alumni directory for the academic year 1999-2000. This measure was adopted to



incorporate the new changes in the federal laws known as the Solomon-Pombo Act. This federal law permits third parties to request from the Institution all personal data that is included by the University as Directory information.

Inter American University establishes the following data as Directory information:

1. Name
2. Major
3. Address
4. Year of study

The University exhorts all students not in agreement that these data be included in the Directory to contact the Dean of Academic Affairs of their Campus.

## Student Records

Students requiring information concerning records or issuance of transcripts should contact the Office of the Registrar in the unit where they were registered.

Upon completion of each academic term, students will verify their grades in the electronic system (WEB). All students who consider that some error has been made in their grades must notify this to the proper Academic Department in writing. The time limit to initiate all claims related to the grade reports will be the time limit established for the partial and total withdrawals of the next academic term of the same type.

## Student Academic and Personal Files

Student academic and personal files are confidential and the release or handling of information contained in them is limited to certain faculty and administrative personnel who, in the regular exercise of their functions, have to work with these files. Students have the right to examine their academic or personnel file at any moment in the presence of an official of the Office of the Registrar. They may not make copies of the documents contained in their files, except in the cases explained below.

The information contained in the academic or personal files may be released to parents of dependent students. Parents must present evidence of their condition as father or mother, as well as the dependency of the student through the presentation of relevant documentation. The information contained in the academic or personal files

may not be released to students' parents in any other cases.

The release of information contained in the academic or personal files of students to third parties, to any type of institution, to government or judicial agencies will only be made with written authorization from the student or in compliance with an order to this effect issued by the competent authority.

Transcripts, study certification and certification of degrees are available to students who may obtain them in the Office of the Registrar. The cost of each transcript is published in the Official Institutional Cost Bulletin.

Transcripts requested for transfer to another educational institution, for continuing graduates studies, completing the requirements of certifying agencies or for the purpose of employment are sent directly to the address provided by the student in the request. In no case will transcripts requested for these purposes be delivered to the student.

The request for transcripts by students whose files are active will be processed within a reasonable time that under normal circumstances should not exceed ten days from the date on which the request was received in the Office of the Registrar. The requests for transcription of students whose files are inactive require a longer time to be processed.

## Change of Address

At the moment of registration it is required that students submit their mailing address to the Office of the registrar. If a change of address is required, students must visit this office or they will make the change by using the self-service of BANNER (Inter Web). If they do not maintain this address updated, the University will not be responsible for the notifications sent to the students.

Any notice, official or otherwise, mailed to a student's address as it appears on the records shall be deemed sufficient notice.

## Class Attendance

Regular class attendance and meeting the requirements established for courses offered by non-traditional modalities are considered by the University as essential elements of the educational process. For this reason, class attendance is required of every student registered in courses requiring their presence and in online learning courses. Class attendance is defined as the presence of the student by means of an official communication with the professor, as has been determined, to carry out an

academic activity related with the course. In the same manner, the fulfillment of requirements is compulsory for all courses offered by non-traditional modalities. Student participation in institutional activities will be considered a valid excuse for not attending class. Students are responsible for completing course requirements as stipulated in the course syllabus.

Students, who during the period established in the academic calendar, have never attended a course, will be dropped administratively. This includes courses offered by nontraditional modalities. The professor will identify in final grade in the electronic registry, the students who have never attended or participated in an activity academically related to the course. The annotation AW will be used to identify these students. For administrative purposes, these administrative drops will be considered the same as withdrawals requested by the student, as established in the Adjustments and the Reimbursements section. Inter American University requires its faculty to report the last day of attendance, or of any other course-related activity of students who stop attending class in each academic term. For this, the faculty must keep a record of class attendance of the students, or of their participation in the other activities of the course. The faculty will access the list of students in their courses in Inter Web and will assign UW to every student that has stopped attending class and will write the date of the student's last day of attendance or his last academic activity of the course, without having withdrawn officially, see the section of Administrative Action Symbols (p. 60), UW.

The last date of class attendance will be used to determine the applicable refund for students who stop attending class without officially withdrawing. This arrangement is established in harmony with University regulations.

## Withdrawal from the University

Students wishing to withdraw from the University must report to a professional advisor or to the person designated by the Chief Executive Office of the academic unit. Then, they should report to the Office of the Registrar to fill out the withdrawal form and proceed as directed. For withdrawal from the University by students who are completely online learning students or for withdrawals not requested in person, students should inform their desire to withdraw by regular or electronic mail to the Registrar of the academic unit. When a student withdraws from the University, the criteria for determining grades will be those outlined in "Registration and Program Changes."

## Undergraduate Prerequisites

Undergraduate course prerequisites may be taken concurrently with graduate courses if the Department Chairperson gives permission.

## Minor Specialization

A minor is a set of related courses that complements the student's academic program. It must be declared at the same time as the major specialization. The minor specialization has the purpose of providing students with the opportunity to explore areas of personal and professional interest, different or complementary to their program of study. Minor specializations are not conducive to college degrees.

Only students admitted to University graduate programs can declare a minor specialization. The University will certify a maximum of two minor specializations. Any declaration of minor specialization will require the approval of the academic advisor or the director of the department offering the minor specialization.

The student must complete the requirements of the minor specialization, before or at the same time that will complete the requirements of the degree. This statement must be made prior to applying for graduation. If a student completed the requirements of the program of study, a minor specialization will not be able to be declared.

A minor specialization will consist of a minimum of 9 credits and a maximum of 15 credits.

A minimum grade of B is required in the minor specialization courses for the corresponding certification.

## Course Load

A normal course load of a regular graduate student is from eight (8) to twelve (12) credits per semester or be registered in a thesis or dissertation course. In order to take more than twelve (12) credits; students must have special permission recommended by the appropriate Department Chairperson and the approval of the Dean of Academic Affairs.

In the case of a trimester program a normal course load is from six (6) to nine (9) credits or be registered in a thesis or dissertation course. In order to take more than nine (9) credits; students must have special permission recommended by the appropriate Department Chairperson and the approval of the Dean of Academic Affairs.

Students are classified as fulltime or part-time according to

the number of credits they are enrolled in. Under the semester, trimester and bimester calendars these classifications are as follows:

- Fulltime - six or more credits
- Three-fourth-time - from four to five credits
- Half-time - from two to three credits
- Less than half-time - one credit

Thesis or dissertation courses will be considered as a full-time academic load.

## Repeating Courses

Students will have the right to repeat courses when not satisfied with their grades. In case a course is no longer offered by the University, students may substitute it with an equivalent course approved by the Vice President for Academic and Student Affairs and Systemic Planning. The highest grade and its corresponding credit will remain on the student's transcript and the lower grade will be changed to an R (repeated course). The administration action symbol, R, and its corresponding credits will not be considered in determining if a student has satisfied the graduation requirements. Courses repeated after graduation are not considered in the computation of the graduation grade point index.

## Grading System

In harmony with the score obtained by students in each course they take, Inter American University of Puerto Rico normally uses the following scale to award their grades:

Score	Grade
100-90	A
89-80	B
79-70	C
69-0	F

There are other grading scales for certain academic programs and for certain courses. Course grades indicate the degree of a student's achievement in any given course. The University has established a quality point system to be used in accumulating and summarizing these grades. This quality point system is used to determine the minimum degree of general competence for graduation and for continuing in the Program at any level and to assign special honors to students who excel. Grades are reported in accordance with the following grading system:

- A** Superior academic achievement; 4 honor points per credit hour.
- B** Above average academic achievement; 3 honor points per credit hour.
- C** Average academic achievement; 2 honor points per credit hour.
- F** Failure in academic achievement; no honor point per credit hour.
- P** Passing; this grade is assigned to students satisfying the requirements in courses taken by proficiency examinations and for courses in which such a grade is required. This grade is not included in the computation of the grade point index.
- NP** Not passing; this grade is assigned to students who fail in the courses indicated under the grade P. This grade is not included in the computation of the grade point index.
- DP** Dissertation in progress
- PP** Project in progress. This grade is assigned to students that continue a research project after the term in which they were registered.
- TP** Thesis in progress

Only courses completed at Inter American University are included in the computation of the grade point index. The grade point index is determined by dividing the total number of honor quality points by the total number of credits completed with grades A, B, C, or F. The grade of D is not given at the graduate level.

## Change of Grades Request

Students who believe that their final grade in a course is erroneous must notify this, in writing, to the course instructor, with a copy to the proper department chairman. This faculty member will be responsible for discussing the evaluations with the student and if necessary will submit an amendment to the student's final grade according to the process established by the Institution.

If students are not satisfied with the attention given to grade change request, they may resort to the procedure established in Article 2, Part A, number 8, of the General Student Regulations.

The deadline for requesting a change of grade will be the deadline for withdrawal with a grade of W of the academic term following the term of the same type in which the grade was given.

## Administrative Action Symbols

The following symbols are used to indicate administrative action taken in regard to student status in courses for which they registered:

- W-** Course Withdrawal: Assigned when the student withdraws from a course after the end of the period for class changes and no later than the date established on the academic calendar for withdrawals with W.
- DC-** Course Withdrawal: Assigned when the student withdraws from a course before the end of the period for class changes. This symbol does not appear on the student transcript.
- AD-** Administrative Drop: Assigned when the University drops the student for reasons such as death, suspension or other situations warranting a drop.
- AW-** Assigned in the electronic register when the professor informs, no later than the date established in the academic administrative calendar, that the student never attended the course or any related academic activity. The courses to which the annotation is assigned do not form part of the academic record of the student.
- MW-** Symbol used to indicate total withdrawal for military reasons
- I-** Incomplete: When students have not completed a course requirement and the professor determines that there are valid reasons for it, the symbol “I” (Incomplete) may be assigned. Together with the symbol “I”, the professor will include a provisional grade, after assigning zero for the unfinished work. When faculty members assign an “I”, they shall report to their immediate supervisor the grade that the student has earned up to that time, the evaluation criteria and a description of all unfinished work, if applicable. A student who receives an “I” must remove it by the date specified on the Academic Calendar. The professor will have five workdays after the date for the removal of incompletes, as established in the academic-administrative calendar of the corresponding term, to inform the student’s grade to the director of the department. The responsibility for removing the “Incomplete” rests on the student. If the “Incomplete” is not removed within the time specified, the student will receive the informed provisional grade. This norm will apply whether or not the student enrolls the following semester.

The School of Law and School of Optometry will adjust this norm to their respective needs.

**UW-** Assigned in the electronic registry on the date to inform the grades, as established in the academic administrative calendar, when the student:

- a. Has stopped attending classes for at least three consecutive weeks in a semester or its equivalent in other academic terms, without presenting a justification to the professor or dean of students.
- b. Has not participated in any academic activity related to the course (including the final examination) after the time period established in number one above.
- c. Does not qualify for the grade of incomplete or (F).

When the annotation UW is given, the professor will inform the last date of attendance or participation in an academic activity related to the course.

This annotation will form part of the academic record of the student.

**AU-** Symbol used to indicate on student transcripts that the course was audited. No honor points or University credit are awarded.

**R-** Symbol used to indicate the course was repeated.

**T-** Symbol used to indicate the course was transferred from another institution.

## Veterans Services

The services for veteran students are explained in the General Information section.

# Support Services and Student Life

## Academic Counseling

The University offers academic counseling services to all students. Once students have selected their specialization, the academic advisor assigned will guide them in the process of maximizing their potential for study.

Students should meet with their academic advisors to plan their program of studies during the semester/trimester. The responsibility for planning the program of studies rests on the student.

## Professional Counseling

The professional counseling services facilitate the adjustment of students to the university environment through professional counselors. These services include academic guidance and counseling and vocational and personal counseling. Help is provided to students in the development of educational, vocational and personal goals and in the achievement of a greater integration and participation in the university community.

## Audiovisual Center

Each Center offers a variety of audiovisual services to assist in the teaching-learning process. These use the most modern technological resources available. The Audiovisual Center has two main functions: the production of audiovisual and related materials to complement the educational process and the offering of direct services to faculty and students.

The Centers design and produce their materials in facilities for sound and television recordings and for photography and the graphic arts. Projection services for individuals and groups as well as exhibitions are offered.

In general, these Centers gear their efforts towards facilitating the imparting of knowledge. The Centers contain collections of current materials in all curricular areas.

## Information Access Center (Library)

Each campus has an Information Access Center (IAC) with properly capable human resources, educational resources and appropriate physical spaces.

These Centers are organized as a system that works in coordination. An online catalog provides access to all bibliographical resources that the Institution owns, as well as to audio-visual materials, printed magazines and electronic books available for study and research.

The Information Access Center provide remote access to the electronic data bases that the Institution subscribes to, and those prepared internally, and to others of scientific interest that are available free of charge.

Each Information Access Center is considered an integral part of the development of the library programs of the University, among which the development of information and research skills stands out.

The System has a collection that exceeds a million printed and non-printed items, such as printed and electronic books, educative data bases of academic magazines, educational videos, microfiches and microfilms.

## Educational Resources System

The University stresses the importance of developing educational resources that complement the teaching function. As a result, several programs have been implemented to integrate the latest technological advances to the University's educational services.

## Medical Services

The academic units, except the School of Optometry, have a First Aid Center that offers first aid and offers guidance on the health care.

## Residence Halls - San Germán Campus

The San Germán Campus has two student residences; one designated for women and one for men. The request for the rental of the rooms may be filed at any time and will be subject to space availability. Information related to the application and services is available in the administration office of each student residence and in the Resident Manual, electronic version, which can be accessed on the campus website.

## Student Activities

During the academic year, the University and the Student Council of the various instructional units sponsor a variety of cultural, social and recreational activities in which all students and the University community are invited to participate. Such participation fosters personal growth and provides leadership training by encouraging mutual understanding and cooperation and by emphasizing the ideals of service, good citizenship and respect for human values. The University, within the limits of its resources, endeavors to provide such activities.

There are many clubs and organizations at the instructional units. These organizations may be academic, professional, cultural, recreational, social, sports or religious in nature. The Office of the Dean of Student Affairs at the various instructional units will provide, upon request, up-to-date information on clubs and organizations and their current officers and membership.

## Religious Activities

Reflecting the commitment of the University to its Christian roots, each campus has a Religious Life Office that responds to the Institutional Pastoral Plan promoting faith experiences from an ecumenical and Christian perspective. Each instructional unit also offers pastoral care services, spiritual enhancement and reflective experiences, in addition to the established celebrations during the liturgical year. The participation of the University community is encouraged in the different events, but is completely voluntary.

## Student Councils

Student councils, as provided by the General Student Regulations, may be organized at all the instructional units of the University. Their members are elected from the student bodies according to the established procedures. These procedures provide for direct participation of the largest number of students possible from all the units.

Only full-time students in good standing are eligible to hold office in student organizations. The Student Council is given funds for organizing activities promoting student life and the academic endeavors of the unit. Students on disciplinary probation are not eligible to hold posts in the Student Council.

Through the Student Council the wide-concerns of students are canalized. This body meets regularly with university authorities and receives relevant information about the

University development.

## Student Participation

The University advocates student participation at all levels and in various forms. A total of 39 students with voice and vote participate in the Academic Senates of the individual campuses. Three students, one graduate and two undergraduate, participate in the University Council. All of these students are elected by the student bodies of their respective instructional units. The procedures for the election of these students provide for direct participation of the greatest number of students possible from all the units.

## Student Centers

The instructional units have student centers that meet the needs of the University community: students, faculty, administration, alumni, parents and friends. These centers provide appropriate areas for social, educational, artistic, cultural and recreational activities.

## Parking Service and Traffic Rules on Campuses

The Traffic Laws of Puerto Rico are complimented by the Campus' internal rules related to on-campus traffic. All students interested in access to the campuses with a motor vehicle must obtain a permit to these effects. The permit and the payment for parking should not be interpreted as a guarantee of a parking space.

Students are responsible for observing traffic rules and driving properly. The University is not responsible for damage that vehicles parked on the premises may suffer or for articles left inside the vehicles. Any personal or property damage caused by students while driving inside University installations will be their responsibility.

# Study Modalities and Learning Experiences

## Study by Contract

This option offers students the opportunity of taking courses through a written agreement with a professor which specifies the manner in which students will complete course objectives and content. The agreement stipulates the learning activities that students promise to carry out on an individual basis. Faculty members serve as facilitators in the learning process, evaluate the accomplishments and certify completion of course requirements.

To qualify for a course by contract graduate students must abide by the following guidelines:

1. This modality is available to students taking the course for the first time and who have completed 50% of the total credits required for the graduate degree with a general grade point average of no lower than 3.30.
2. Only those courses whose very nature will permit it can be offered through contract. Laboratories, conference/laboratories, practicums, and courses similar to these cannot be offered by contract. The faculty of the specialization of each Campus will decide which courses may be offered by this modality.
3. The contract between the student and the professor will require the endorsement of the Department Director.
4. The agreement between the student and the professor will require the approval of the Dean of the Faculty or the Dean of Academic Affairs.

The Department should abide by the following norms:

1. The Study by Contract modality can not be used to repeat a course.
2. Faculty, who have been assigned Study by Contract courses, should have additional office hours reserved for their students.
3. Students in a master's program will be able to complete a maximum of two required courses for the degree in the contract modality. The Department Director, for valid reasons, may authorize additional courses to be taken by contract.

## Portfolio

Graduate students have the option of completing a course by using the Portfolio course of study modality. In this modality graduate students present evidence of their experience and achievements which are equivalent to the skills and competencies to be offered in the university course. Candidates offer evidence of their experience and achievements in their Portfolios in such a way that they identify, organize, and establish evidence to support course accreditation.

1. This modality will be available to all students at any moment according to the specifications of the Program.
2. The faculty of each graduate program will determine the courses to be accredited through the Portfolio Modality. Laboratories, Conference/laboratories, practicums and other similar courses will not be offered in this modality.
3. The Dean of the Division or Dean of Academic Affairs will approve all students' requests for Portfolio courses, and will ratify a signed agreement between the student and the professor.
4. "Accreditation of Learning Experiences through Portfolio" will be recorded on the official transcript to complete the administrative process.

Graduate students will be allowed to take up to one third of the total credits of the graduate program through Contract or Portfolio modalities.

## Special Topics

Special topics permit the offering of courses that enrich the student's academic development. These offerings may be made when special circumstances or rare events occur or when an outstanding specialist in the field is available for teaching the course.

Special Topics are governed by the following norms:

1. Special Topics may be offered with a value of from 1 to 6 credits per course.
2. The course must be authorized by the Department Chairperson, Division Dean and, finally, by the Dean of Academic Affairs.



3. The title of the course will appear on student transcripts.
4. Special Topics in all disciplines are identified by the combination 597 or 797 in the first three digits (597 master's degrees; 797 doctoral degrees).
5. Regular courses described in this catalog may not be taken as Special Topics.

## Experimental Courses

Designating courses as “Experimental” permits the temporary offering of new courses not appearing on the official course lists of the University, thus making it possible for these courses to be offered experimentally while being evaluated. Experimental courses may be offered in accord with the following norms:

1. Experimental courses may be offered with a value of from 1 to 6 credits per course.
2. Experimental courses must be authorized by the director of the department, the dean of faculty, if applicable, the the Dean of Academic Affairs.
3. After an experimental course has been offered for two academic years, the course must be evaluated by the department, dean of faculty, if applicable, and by the Dean of Academic Affairs.
4. If the recommendation is favorable to include this course as a regular one, the resolution to this effect will be sent to the Academic Senate.
5. The title of experimental courses will appear on student transcripts.

## Internship Programs

Students that have approved 12 credits or more and are interested in applying and enriching what they have learned in the classroom through real work experiences related to their specialization may apply to participate in internship programs if they qualify. University credits may be received for the internship according to the criteria established by the program of study faculty.

The faculty of the program or specialization will recommend the credits to be awarded. This experience does not replace the Internship required by the program of studies

Information on internship programs may be obtained from the Dean of Students or the Dean of Academic Affairs of

each campus.

## Cooperative Education

Courses in this modality provide students, at the master's level, with practical experiences to develop skills that will help them be more productive in the work environment. This type of study is characterized by formally integrating academic studies with work experiences outside the university campus.

All students who wish to take Cooperative Education courses must meet the following requirements:

1. Have approved a minimum of 12 credits with a minimum general academic index of 3.00.
2. Have completed an application and satisfied all interview requirements as required by the employer or potential employer.

Students may take a maximum of nine (9) credits in Cooperative Education in graduate programs. These courses will be available to the extent that there is a participating work scenario.

## Online Education

Online Education is conceived as formal educational process in which the major part of the instruction occurs when the student and the instructor are not in the same place at the same time. This is a planned experience in which the variety of synchronic and asynchronic technologies such as: email, videoconferences, interactive videoconference in audio and in video, and other modalities to promote learning when the student is at a different location from that of the professor. These experiences are designed to stimulate interaction and verification of learning.

## Technologies and Media Used in Online Education

Inter American University has incorporated the following technologies and media into its teaching and learning process.

### **Interactive Videoconference**

These are courses offered by the synchronic modality that consists in interactive transmission of video, voice and data. The course originates in one place with participating students in remote localities. The faculty-student and student-student interaction occurs in a simultaneous or

synchronic manner. The instructor may make use of electronic presentations and other computerized materials, as well as segments of video and other educational materials. This implies previous and extensive planning and development of such materials. In addition, the prior sending of materials for each session by means of fax, Web, or Internet is required. Also, the presence of a facilitator or official in charge of the discipline (for example, a teaching assistant or graduate student in an internship) and compatible videoconference equipment are required at the remote sites.

### **Courses On-Line**

Courses are offered through the World Wide Web. Students have computers with access to Internet where they will receive materials and send their assignments and other work. The communication and interactivity between faculty-student and student-student is attained primarily through Internet, telephone and fax. This modality requires the development of all materials and their inclusion in a Web server prior to the initiation of the course offering. If students desire to access the courses from outside the University, the Institution guarantees them remote access to information resources but students are responsible for having their own computers.

### **Video Courses**

These are courses prerecorded in video for loan, rent or sale to online learning students. The faculty-student interaction is accomplished by telephone, fax, Internet or other means designated by the faculty.

### **Email Courses**

These are courses for which students are given the course syllabus, course materials and an e-mail account. Students have computers with access to Internet to communicate with the instructor. The communication and interactivity between faculty-student and student-student is attained primarily by e-mail. If students desire to have access to Internet from outside the University, the Institution guarantees them remote access to information resources but it will be the responsibility of the students to have their own computer.

In summary, the combination of media and technology and their complementary use in the traditional classroom promise to enrich learning experiences at the University.

## **Proctored Evaluations**

This refers to the evaluations administered by authorized

personnel other than the course professor in the online learning modality. The evaluations are administered in a locality accessible to the student.

Each campus will establish the rules and procedures for the administration of proctored evaluations in online courses.

## **Teleconference Center**

The University has a Teleconference Center whose mission is the systemic coordination of the application of telecommunication tools as well as those of interactive videoconferences in online learning. This Center promotes faculty competence and interactive online learning through courses, teleconferences, meetings, seminars, and conferences. The Center provides simultaneous interaction with video, voice and data, which permits complete interaction between faculty members and students located at distant sites. At present, the Central Office of the System, as well as the Arecibo, Barranquitas, Bayamón (including the School of Aeronautics), Guayama, Metropolitan, Ponce and San Germán campuses have videoconference rooms equipped with advanced telecommunications technology which permits the integration of multimedia.

# Satisfactory Academic Progress Requirements for Professional Certificates, Master's and Doctoral Programs

The fundamental mission of Inter American University of Puerto Rico is to develop the talent of its students. The University is committed to making all reasonable efforts to enable students to complete the program of study in which they are enrolled and, thereby, obtain the corresponding academic degree. Cognizant of this responsibility, the University has incorporated the practice of periodically evaluating students' academic progress throughout their years of study. This allows the University to take the necessary measures to achieve greater student retention and enable students to reach their educational goals.

## Requirements to Achieve Satisfactory Academic Progress

The requirements to make satisfactory academic progress are divided into two components: qualitative and quantitative.

### A. Qualitative Component

The general grade point average (GPA) that post-baccalaureate professional certificate and master's degree students must maintain is:

1. at least a 2.50 general GPA in the first year of study, and
2. at least a 3.00 general GPA in the ensuing years until they complete their program of study.

Students who are pursuing a post-master's professional certificate or a doctoral degree must maintain at least a 3.00 general GPA while pursuing their program of study.

### B. Quantitative Component

#### 1. Pace of Completion Requirements: Ratio between Earned Credits and Attempted Credits

Students pursuing a post-baccalaureate professional certificate or a master's degree must successfully complete at least 50% of the credits attempted in their first year of studies and 66.67% in the remaining years.

Students who are in a post-master's professional certificate or a doctoral program must successfully complete 66.67%

of the credits attempted in each of their years of studies.

Compliance with the pace of progression ensures that students will complete the degree requirements within the maximum time frame.

#### 2. Maximum Time Frame Requirements

1. Students pursuing a post-baccalaureate professional certificate will have a maximum time of two natural years to complete the program.
2. Students pursuing a master's degree will have a maximum of seven natural years to complete the degree requirements, counting from the date on which they begin their first graduate course. In the case of readmission, the current Expiration Norm for Master's Level and Professional Certificate Courses in the Graduate Catalog, will apply.
3. Students pursuing a post-master's professional certificate will have a maximum of two natural years to complete the program.
4. Students pursuing a doctoral degree will have a maximum of eight natural years to complete the requirements of the program, counting from the date on which they begin their first doctoral course. In the case of readmission, the current Expiration Norm for Doctoral Program Courses in the Graduate Catalog, will apply.

Post-baccalaureate and graduate students accumulate time of study for transferred credits. The time accumulates at the rate of one year of studies for each sixteen (16) transferred credits. If a student does not complete his program of study within the established maximum time frame, he may submit an appeal, along with an academic plan, to the dean of academic affairs, who in turn will refer the petition to the Appeals Committee, whose members will determine whether the student will be allowed to continue his studies and whether he will be eligible for financial aid.

#### First Academic Probation and Financial Aid Suspension

Students who do not meet the qualitative or quantitative components will not make satisfactory academic progress and will, therefore, lose their eligibility to receive financial aid.

Students will be placed on a first academic probation for one academic year, during which time they will be able to enroll, but are not eligible for financial aid. However, they may submit an appeal for reinstatement of their eligibility to receive financial aid. If the appeal is approved, they will also be placed on financial aid probation.

The academic load of students on academic probation and financial aid probation will be limited to nine credits per semester, six per trimester or three per quarter. The dean of academic affairs will evaluate any exceptions to this provision, taking into consideration the merits of each case.

### **Appeal Process to Reinstate Financial Aid Eligibility**

Students who wish to appeal a financial aid suspension must submit an appeal to the dean of academic affairs, or the person he designates, after receiving the notification of financial aid suspension for failing to make satisfactory academic progress. Students must submit an appeal as soon as they receive the notification of the financial aid suspension. Financial aid will only be authorized once the appeal has been approved. For this reason it is recommended that students submit the appeal before or at the beginning of the academic term in which they expect to enroll.

Students must base their appeal on the causes or circumstances beyond their control that did not allow them to make satisfactory academic progress, and they must explain what has changed at that point in time that will allow them to maintain academic progress moving forward. Acceptable causes or circumstances upon which to base the appeal include:

- suffering a documented medical condition
- death of an immediate family member
- military deployment
- other major circumstances beyond the student's control

The appeal must be accompanied by an academic plan, developed between the student and an academic advisor. It must describe how the student plans to make satisfactory academic progress within a specific time frame, usually an academic year or less, although in exceptional cases it may

be for a longer period of time. A student's academic plan must give priority to:

- repeating and successfully completing courses he has failed (F), abandoned (UW), or not received the grade required by his program of study,
- successfully completing no less than 66.67% of attempted credits,
- obtaining a grade point average that will allow him to reach the required graduation GPA of 3.00, or the graduation GPA required by his program of study.

The dean of academic affairs will refer the student's petition to the Appeals Committee which will review all students' appeals.

When evaluating a student's appeal and academic plan, the Appeals Committee will evaluate whether it is viable for the student to make the required academic progress within the time frame specified in the academic plan.

If the Committee concludes that a student will be able to make satisfactory academic progress, it will approve the appeal and grant him financial aid probation for as long as he complies with the Academic plan.

### **Evaluation of Students on Academic Probation and Financial Aid Probation**

A student on first academic probation and financial aid probation will be evaluated at the end of each term in which he enrolls and at the end of the academic year. If at the end of any of the terms under the first academic probation and financial aid probation, the student makes satisfactory academic progress, he will be considered in compliance with the satisfactory academic progress policy and financial aid will be reinstated. With regard to the academic probation and the academic plan, both will be considered finalized and in compliance with the process.

If a student does not make satisfactory academic progress by the endpoint established in the academic plan for the first academic probation and financial aid probation, he will be academically suspended for the first time and his financial aid will be suspended. The first academic suspension will be for a period of six months. The dean of academic affairs will notify the student of this decision by letter or e-mail, a copy of which will be included in his academic file.

A student may appeal the first academic suspension, as well as the financial aid suspension. He must submit an appeal and an academic plan to the dean of academic affairs, who will, in turn, refer the student's petition to the Appeals Committee. The appeal must be based on a different cause. It cannot be based on the same cause as the first appeal.

If the Committee considers that it is viable for the student to make satisfactory academic progress by the time frame specified in the academic plan, it will approve the appeal and grant him a second academic probation. The Committee will also decide whether to grant him a financial aid probation.

A student who does not appeal the academic suspension may resume studying at the University at the end of the six month academic suspension, at which time he may be placed on a second academic probation for one academic year. The student may appeal the financial aid suspension to petition for the reinstatement of his financial aid eligibility.

A student on a second academic probation and financial aid probation will be evaluated at the end of all terms in which he enrolls and at the end of the academic year. If at the end of one of the terms under the second academic probation and financial aid probation, the student makes satisfactory academic progress, he will be considered in compliance with this policy, and will, therefore, regain eligibility to receive financial aid. With regard to the academic probation and the academic plan, both will be considered finalized and in compliance with the process.

If, at the conclusion of all the academic terms of the second academic probation and financial aid probation, a student does not manage to make satisfactory academic progress, he will be suspended academically for the second time and his financial aid will be suspended. The dean of academic affairs will notify the student of this determination by letter or e-mail, a copy of which will be included in the student's academic file. The second academic suspension will be for a period of one year and the student may not appeal this determination.

After this period, the student may apply for admission to a different academic program. He will be admitted under a third academic probation for a period of one year and may appeal the financial aid suspension. If the student does not make satisfactory academic progress under the third academic probation, he will be suspended for a third time and may not appeal this decision.

### General dispositions

1. Students enrolled in a program of study that has higher academic requirements than those established in this document must meet the program's requirements in order to remain in the program.
2. The University will annually review students' satisfactory academic progress at the end of the academic terms that constitute the financial aid award year, which includes the period beginning July 1 and ending June 30 of the following year. The review will include all the academic terms in which the student was enrolled.
3. The academic progress of students on academic probation and on financial aid probation will be reviewed at the end of each academic term.
4. The maximum time frame will be reviewed at the end of every academic term. All credits attempted at the Institution and all transfer credits will be included.
5. Students who do not complete their program of study within the maximum time frame as established in the applicable federal regulations and, therefore, do not make satisfactory academic progress, will not be able to continue studying with financial aid. When students exceed the maximum time frame described in this document, they must submit an appeal and academic plan to the dean of academic affairs, or the person he designates, who in turn will refer it to the Appeals Committee for review to decide whether the student may continue studying.
6. Students must declare the specialization or program of study of their choice and may change it after consulting with an academic advisor. When a student changes his program of study, attempted credits from the previous program of study will not be considered when calculating his program grade point average and pace of completion required to make satisfactory academic progress, except for the credits that are part of the requirements of the new program of study.
7. The courses of a program of study may be paid for with financial aid as long as the student remains in his original program or after making a duly authorized and registered change of program.
8. All students may opt for a minor specialization that is within their graduate program. For a minor specialization that is not within their graduate program of study, students must meet the requirements established in the current Graduate

Catalog.

one occasion.

9. If students opt for a minor specialization, the courses may be paid with financial aid, as specified in the applicable regulations. These courses may be paid with financial aid until the student completes the mayor program's requirements or completes the maximum time frame, whichever occurs first.
10. All repeated courses are considered attempted credits for the purpose of determining the maximum time frame measured in credit hours and pace of completion. In the case of repeated courses, only the highest grade will be included when calculating students' grade point average.
11. The Institution accepts transfer credits from other institutions of higher education, up to a maximum of 33% of the graduate program of study, and will only consider courses which are equivalent to courses in the program of study in which the student received grades of A or B. Only courses completed within the past 10 years will be considered for transfer. All transfer credits will be taken into account when calculating the maximum period of eligibility. Students accumulate study time for transfer credits at the rate of one year of study per 16 transfer credits.
12. Transfer credits (T) are considered part of students' academic record for establishing the percentage of earned credits of the program of study's requirements and for determining the maximum time frame for receiving financial aid. Only transfer credits applicable to the program of study, including elective credits, will be validated. If the student has already earned the elective courses required by his program, no additional credits will be validated.
13. The evaluation to determine students' academic progress will not consider the courses in which the student has received notations of I (incomplete), DP (dissertation in progress), TP (thesis in progress), and PP (project in progress), until the notations have been removed.
14. The University will notify students, by letter or email, of their academic status and how it affects their eligibility to receive financial aid.
15. After graduation, the academic transcript will not reflect a student's probationary and suspension periods.
16. Students may not be granted financial aid probation for the same circumstances on more than

# Academic Norms for Master's Programs and Professional Certificates

## Maintenance of Active Status in Master's Degree Programs

Students, who have completed all requirements for a Master's Degree, except the comprehensive examinations or the other options and/or thesis must pay each semester, a fee established by the Administration in order to maintain their ties with the University between the completion of course requirements and the awarding of the degree within the established seven-year period.

## Residency Requirements for Master's Programs

A minimum of twenty-one (21) of the required credits for a Master's Degree must be earned in residence at Inter American University.

## Institutional Graduation Requirements for Master's Programs

The University establishes as an academic policy that all students demonstrate the capacity to integrate the developed competencies and to apply them to their specialization area as a requirement to obtain the master's degree. The University recognizes different ways through which students can demonstrate the mastery of the competencies of their discipline as part of the graduation requirements: thesis, comprehensive examination, integration seminar, research project, creative work and graduation average.

For this reason all master's candidates, of a program that does not require Thesis, must pass one of the following four (4) modalities, as determined by their academic program:

### 1. Comprehensive Examination

The comprehensive examination will be the option available for those academic programs whose accrediting agencies require this modality. If this is not the case, the academic program will determine if this option will be available for its students.

The comprehensive examination consists of two parts,

when applicable. One part will include general material related to the field of studies and the other will examine specific material related to the specialization or program areas. All master's level students must be evaluated by the Director of the Graduate Program to determine their eligibility to take the comprehensive examination. The specific number of credits as well as the courses students must have passed will be established according to the requirements of each graduate program. Students will take the entire examination on the first occasion. The minimum passing grade is 75% in each part, when applicable. A student that passes only one of the parts must repeat the part that was failed.

### 2. Integration Seminar

Three-credit interdisciplinary Integration Seminar (SEMI 697\_), in the program specialization, in which general and specific material required for the degree will be presented proportionally to their composition of the totality of credits required for the degree. If the academic program has an equivalent Integration Seminar, it may be used instead of SEMI 697\_. Students will receive a final grade of Pass (P) or Not Pass (NP).

### 3. Research Project

Students will take a three-credit (3) course where they will carry out a Research Project. Throughout this Project, students will demonstrate their capability to interpret and integrate theoretical concepts for the practical solution of problems related to their field of studies. Students will have up to one consecutive academic year to complete their Project. The student will receive a final grade of Pass (P) or Not Pass (NP) or Project in Progress (PP).

### 4. Creative work

Students will take a three-credit (3) course where they will have to carry out a creative work that demonstrates their mastery of the competencies developed in their specialization area. They will receive a final grade of Pass (A) or Not Pass (NP).

The options of Integration Seminar, Research Project and Creative Work are equivalent to three (3) additional credits for those students whose academic program does not include such options as part of the courses required for the degree.

All students requesting eligibility to fulfill the requirement for the granting of the master's degree must be evaluated before starting the modality required by the program. The number of credits passed as a requisite to become eligible will be established by each specialization.

If students fail in the first attempt to complete this requirement, they will have two (2) additional opportunities to repeat the same option or take another of the available ones. All students interested in more than one specialization within a degree program and who wish that these be certified on their transcript, must take the option chosen in every area for which certification is requested.

The different options will be offered in agreement with the norms in effect for the academic program. In those cases in which the norms of the academic program do not specify the options available, the academic units will determine which they will offer in agreement with their needs.

All applications for one of the options herein described should be made within the time limit stipulated by the academic program to which the student belongs.

The general average to complete the master's degree will be that established in the norms of the academic program. In case the program does not specify this, the average will be that minimum established by University, which is 3.00.

All students must complete their degree within the period of time established for each academic program. In case the program does not specify this, the maximum time will be that established by the University.

### **Graduation Requirements for Master's Programs and Professional Certificates**

Students will graduate under the program and the norms established in the Graduate Catalog of the University under which they were admitted or in any subsequent Graduate Catalog at the student's request, but never in a combination of catalogs. Re-admitted students will graduate under the rules of the program in the Graduate Catalog in effect at the time of their readmission or under any subsequent Graduate Catalog.

### **Graduation Requirements for the Master's Degree and Professional Certificates**

In order to satisfy the Graduation Requirements of the Master's Degree at Inter American University, students must:

1. Be regular students.

2. Have completed the program required courses established in the Graduate Catalog.
3. Obtain a general academic index of 3.00 or more.
4. Obtain an academic index of 3.00 or more in the courses required for their degree.

## **Expiration Norm for Master's Level and Professional Certificate Courses**

All work with academic credit will be valid for a period of ten (10) years. Courses to which the expiration norm is applied will appear in the student's academic record, but they will not be considered for the general grade point index.



# Academic Norms for Doctoral Programs

## Maintenance of Active Status in Doctoral Programs

Doctoral students completing the course requirements before passing the comprehensive examination or completing their dissertation must enroll each academic term in the corresponding Dissertation or Continuation of Dissertation course, until the dissertation has been approved.

obtaining the doctoral degree. The courses to which this expiration norm is applied will appear in students' academic records, but they will not be considered for the grade point index.

## Residency Requirements for Doctoral Programs

Students in doctoral programs, except those in psychology or education, must complete at least fifteen (15) credits of the corresponding doctoral program in two successive academic terms (two terms or one term and the two summer sessions) at Inter American University. For the doctoral program in psychology, students must complete a minimum of 60 percent of their courses at Inter American University. They must also complete one year of residence as full-time students or its equivalent. The doctoral degree in education does not have a residency requirement.

## Comprehensive Examination Requirements for Doctoral and Specialist Programs

To achieve the candidacy to the degree, all doctoral students must pass a comprehensive examination after having approved at least 30 credits. Nine (9) of these credits must be from core required courses and 21 credits in the selected doctoral program.

Academic programs or specialties in the area of Natural Sciences with a strong curricular component in research (with a minimum of 15 credits) will substitute the comprehensive exam for the defense of the dissertation proposal that will be presented after having completed the specialty and investigation courses.

## Expiration Norm for Doctoral Program Courses

No work for academic credits realized more than ten (10) years before, will be considered for the purpose of

# Graduation and Diplomas

## Application for Graduation

Application for graduation should be made and the graduation fee paid when candidates for a master's or doctoral degree have completed three fourths of the credits required in their program. This application will be made no later than the date specified on the Academic Calendar. The application forms may be obtained at the Office of the Registrar and should be returned to that Office after they have been filled out and stamped by the Business Office showing that the non-refundable graduation fee has been paid. Failure to comply with this procedure may result in the postponement of the granting of the diploma.

The payment of graduation fees of any kind, the listing of the students as candidates for graduation in any document and/or invitation either to the graduation ceremonies or to any other activity related to graduation exercises shall not be interpreted as an offer to graduate or a covenant to that effect. Only the completion of all requirements listed in this catalog or in any other official University directive entitles a student to graduation irrespective of any representation of any kind made by any official of this University.

Candidacy for graduation will be attained when the Office of the Registrar has determined that the student has met the requirements for graduation.

Any student who does not complete the requirements to obtain his academic degree and interrupts his studies, but has paid his graduation fee, will have the right for this to remain in effect for the next the two (2) academic years from the last academic term in which he studied. Once this period has passed, the student will pay the difference, if there is a difference, of the cost of the current graduation fee.

Any alleged error in the evaluation of the application for graduation should be reported to the appropriate Registrar within five calendar days after the receipt of the evaluation.

Candidates for graduation must meet the current regulations and laws to practice their profession.

## Diplomas

Diplomas must be claimed by graduates at the Office of the Registrar no later than one year following graduation. The University will not be responsible for diplomas after

that date.

## Posthumous Degree

In case of death of a student who has fulfilled the graduation requirements, such student may be considered by the appropriate university authorities for the granting of a posthumous degree.

# Academic Norms of Compliance

## Credit-Hours

The University defines one (1) credit for an academic term, as indicated below:

1. 15 hours of presential contact and 30 hours of academic, course related activities, which the student carries out outside the classroom; or their equivalent in academic, online activities
2. 15 hours of presential contact in the integrated modality of lecture-lab and a minimum of 30 hours of academic, course related activities, which the student carries out outside the classroom; or their equivalent in academic, online activities
3. 30-45 hours in a presential or virtual, closed laboratory
4. 45-60 hours of supervised practice

## Course Offerings and Scheduling

This Catalog includes the courses that comprise the academic offerings authorized for Inter American University by the Board of Postsecondary Institutions of Puerto Rico. However, for reasons of enrollment a course may not be offered in one campus, but offered in another. Students have the option of taking courses that form part of their academic program or authorized equivalent courses in another campus that has them scheduled for the academic term of their interest. In addition, there are academic programs that include a component of “Prescribed Distributive Requirements” that, generally, require students to select courses from among a list of courses or options. In these cases, students will select from among those courses that the campus has scheduled. However, students also have the option of taking Prescribed Distributive courses in another campus that has scheduled the courses of their interest in accord with the requirements of their study program.

## Special Requirements of Practice and Internship Centers

Some academic programs of the University require students to complete a practice or internship in a real work scenario as part of the degree requirements. These external centers may be state and federal agencies, hospitals, and

nongovernmental organizations, among others.

It is students’ responsibility to comply with the external center’s requirements in order to complete their practice or internship. Depending on the practice center, these requirements may be doping tests, HIV tests, an immunization certificate against hepatitis, a health certificate, a negative criminal record, or any other requirement that the institution or practice center may stipulate. If students refuse or are not able to meet any of the requirements, they will be unable to complete their practice or internship and, therefore, will not pass the practice or internship course or meet the graduation requirements of their academic program.

## Compliance with Requirements of Regulated Professions and Employment

Some professions have licensing, certification, or professional association requirements or a combination of these in order for a person to practice the profession. Therefore, students and graduates who hope to practice a regulated profession must meet the current requirements of the organization that confers the license, certification, professional association or combination of these before initiating the corresponding proceedings with the agency or organization that applies to their profession. The licensing, certification, professional association requirements or a combination of these may vary from one jurisdiction to another. Therefore, compliance with the requirements in one area does not imply that the student also complies with the requirements of another region. Students are forewarned that the agencies that regulate the professions may change the requirements to practice these at any time.

Some employers of the private sector or government agencies have revalidation, examination or test requirements in order to choose a job. It is for this reason that, in these cases, students or graduates applying for work must meet the additional requirements beyond the studies or diplomas that Inter American University of Puerto Rico offers and confers.

## Responsible Conduct in Research Projects

Any student registered in courses that require carrying out research projects or who works in a research project must

comply with the laws, regulation and policies applicable to that activity. The student must take the training required by the Institution and by the applicable state and federal regulations, in harmony with the type of research project.

## Institutional Review Board (IRB)

The IRB is responsible for seeing to it that the University complies with the state and federal laws and regulations, as well as with the applicable institutional norms and procedures for the protection and rights of the human beings who participate in these projects.

Once a student completes the required training, and before beginning research activities with human beings, such as their identification, recruitment, or the acquisition of information about the participants, and before contacting them and requiring their participation in the project, the student must obtain the approval of the Institutional Review Board (IRB).

## Responsible Conduct in Research Projects (RCR)

Any student who works in research projects supported with external resources, or who collaborates as a research assistant to a professor in charge of a research project supported with external funds, must take the training related to responsible conduct in research required by the University and the applicable federal regulations. In addition, the student must provide evidence of having approved these trainings.

## Other Research Projects

Research projects that do not involve human beings must also present evidence of compliance with institutional norms and the applicable state and federal regulations.

## Warning on Compliance with Copyright Laws and Regulations

The unauthorized distribution or reproduction, by any means, of material protected by the copyright laws and regulations may entail the imposition of civil and criminal sanctions. The *General Student Regulations* contains provisions on academic honesty that cover the protection of this type of material and the breach of the provision may lead to the imposition of disciplinary sanctions.

There are legitimate ways to obtain and distribute protected materials. For more information, click [here](#)

[www.educase.edu/legalcontest](http://www.educase.edu/legalcontest).

## Discontinuation of Academic Offerings

The University is committed to the renewal of its academic offerings, which includes the expansion, review, modification or discontinuation of academic programs offerings authorized by the Board of Postsecondary Institutions of Puerto Rico. In case any academic unit of the University decides not to continue offering some academic program, students will have options available to them to complete the degree requirements. Courses on line, study by contract, independent study tutoring or other nontraditional modalities may be among the options.

# Graduate Academic Offerings

## Institutional Codes y CIP Code

The following table presents the graduate programs authorized by the Board of Postsecondary Institutions of Puerto Rico with the code assigned by the University to identify the academic program and the minor specializations. It also includes the Classification of Instructional Programs or CIP Code, according to the taxonomic scheme of the U.S. Department of Education.

Academic Program	IAUPR Code	CIP Code
<b>Master's, Doctorates and Minor Specializations</b>		
Anesthesia (MS)	363	51.3804
Applied Mathematics (MA)	381	27.0301
Biology (MS)		
Molecular Biotechnology	412	260.204
Ecological and Environmental Science	413	26.1305
Biotechnology (MS)		
Plants Biotechnology	423	26.1201
Industrial Biotechnology	T882	26.1201
Business Administration (MBA)		
Accounting	315	52.0301
Digital Marketing and Electronic Commerce	T203	52.1499
Finance	314	52.0801
Health Services	T202	51.2211
General	316	52.0201
Industrial Management	328	52.0299
Marketing	312	52.1401
Human Resources	327	52.1001
Managerial Information Systems	361	52.1201
Social Entrepreneurship	T201	52.0206
Tourism	T001	52.0901
Minor Specialization in Business Management and Compliance	316B	
Minor Specialization in CPA Track	315M	
Minor Specialization in Economic and Social Dimensions of Globalization	377G	
Minor Specialization in Knowledge Management	316M	
Business Administration for Executives (MBA)	414	52.0201

Business and Entrepreneurial Education (MA)	T006	13.1303	Technology		
Minor Specialization in Business and Entrepreneurial Education with Exceptional Populations	T06M		Interdisciplinary Special Education	416	13.1099
Clinical Social Work (DSW)	D801	51.1503	Teaching at the Elementary Level	395	13.1202
Computer Science (MS)	406	11.0701	Teaching of Biology	T451	13.1316
Computer Science with Specialization in Network and Security (MS)	409	11.0901	Teaching of Chemistry	T452	13.1316
Criminal Justice (MA)	302	43.0199	Teaching of Visual Arts	T453	13.1302
Database (MS)	T885	11.0301	Education in Curriculum and Teaching (MEd)		
Economic Crime Research (MA)	T007	43.0117	Biology	386	13.1322
Education (EdD)			English as a Second Language	383	13.1401
Business Education	587	13.1303	History	384	13.1328
Counseling	530C	13.1101	Mathematics	385	13.1311
Curriculum and Teaching	540C	13.0301	Spanish	382	13.1320
Education in Mathematics	D001	13.1311	Educational Computing (MA)	355	13.0501
Education Management and Leadership	520C	13.0401	Educational Neuroscience (MA)	410	13.9999
Higher Education	525	13.0406	Entrepreneurial and Managerial Development (PhD)		
Special Education and Transition Services	589	13.1099	Human Resources	580	52.1101
Visual Arts	D002	13.1302	Interregional and International Business	581	52.1101
Education (MA)			Environmental Evaluation and Protection (MS)	378	03.0104
Counseling	309A	13.1101	Environmental Sciences (MS)		
Educational Management and Leadership	402	13.0401	Environmental Biology	362A	03.0104
Physical Education			Environmental Chemistry	362B	03.0104
Teaching of Physical Education	401	13.1314	Water Resources and Unit Operation	362C	03.0104
Sport Training and Performance	400	13.1314	Finance (DBA)	588	52.0801
Special Education	329	13.1001	Fine Arts (MFA)		
Teaching of Mathematics	376	13.1311	Ceramics	372	50.0711
Education (MEd)			Drawing	368	50.0705
Bilingual Education	417	13.0201	Painting	370	50.0708
Information and Library Science	411	25.0101	Photography	373	50.0605
			Printmarking	369	50.0710
			Sculpture	371	50.0709
			Gerontology (MS)	T883	30.1101
			Government and Public Policy	T002	45.1001

(MA)			Systems (MS)		
History (MA)	336	54.0101	Psychological Counseling in Family (MS)	405	42.2803
History of America (Combined MA-PhD)	586C	54.0199	Psychology (MA)		
History of America (PhD)	586	54.0102	Organizational and Work Psychology	T008	52.1003
International Biotechnology (PhD)	D301	26.1201	Psychological Counseling	323	42.2803
International Business (MIB)	377	52.1101	School Psychology	324	42.2805
Minor Specialization in International Marketing	377B		Psychology (PsyD)		
Minor Specialization in International Relations	377A		Clinical and Counseling Psychology	D702	42.2899
Minor in Economic and Social Dimensions of Globalization	377G		Clinical and School Psychology	D701	42.2899
International Business Administration (MIBA)			Public Health	T884	51.2201
Accounting	396	52.0301	Religious Education	426	39.0401
Labor Relations (MA)	322	52.1002	Social Work (MSW)		
Minor Specialization in Economic and Social Dimensions of Globalization			Administration in Social Work (Regular)	351	44.0799
Mechanical Engineering (MS, ME)			Administration in Social Work (Advanced)	351A	44.0799
Energy (MS)	419	14.9999	Clinical Social Work (Regular)	T991	51.1503
Aerospace (MS)	420	14.0201	Clinical Social Work (Advanced)	T91A	51.1503
Energy (ME)	421	14.9999	Speech Pathology (MS)	429	51.0203
Aerospace (ME)	422	14.0201	Teaching English as a Second Language (MA)	300	13.1401
Molecular Microbiology (MS)			Theology	577	39.0601
Bioinformatics	T003	26.0502	<b>Professional Certificates</b>		
Molecular Diagnostic	T881	26.0502	Autism (Post Bachelor)	P206	13.1013
Music (MM) (Metropolitan Campus)	T996	50.0903	Clinical Social Work (Post Master)	675	51.1503
Music Education (MA) (San Germán Campus)	393	50.0903	Crisis Intervention (Post Bachelor)	P201	42.2899
Musical Education (DMA)	D901	50.0909	Cyber Security (Post Bachelor)	200D	43.0116
Nursing (MSN)			Database Technology and Administration (Post Bachelor)	365	11.0802
Critical Care Nursing	407	51.3814	Education in Autism Spectrum Disorder (Post Bachelor)	P204	13.1013
Maternal Child Nursing	425	51.3806	Education in Diabetes (Post Bachelor)	061C	51.0001
Medical-Surgical Nursing	408	51.3812	Family Counseling (Post Master)	676	51.1505
Mental health and Psychiatry	T981	51.3810			
Open Information Computer	364	11.0802			

Human Resources Management in International Level (Post Bachelor)	P20D	52.1099	Biology	386A	13.1322
			English as a Second Language	383A	13.1401
Information Security in Computers Forensics (Post Bachelor)	P202	11.1003	Mathematics	385A	13.1311
			Spanish	382A	13.1320
Operation Management Services (Post Bachelor)	P28D	52.0205	Educational Computing (MA)	355	13.0501
Organizational Communication (Post Bachelor)	P22D	09.0901	Educational Management and Leadership (MA)	402D	13.0401
Research Methods (Post Bachelor)	P205	45.0102	Information Security (MS)	440D	11.1003
Research Methods (Advanced Interdisciplinary Post Master)	P601	30.0000	Instructional Design and Multimedia (MS)	T84D	13.0501
Sign Language Interpretation (Post Bachelor)	P200	13.1012	International Business Administration (MIBA)		
			Accounting	396D	52.0301
Technology and Administration of Data Banks (Post-Bachelor)	365	11.0802	Finance	397D	52.0806
Wound and Skin Care (Post Bachelor)	P203	51.1699	Global Logistics	430D	52.0203
			Human Resources	399D	52.1001
			Marketing	398D	52.1403
			International Business Intelligence (MS)	T86D	52.0212
<b>Online Learning: Master's and Doctoral Programs</b>			Leadership and Instruction in Online Education (EdD)	521D	13.9999
Applied Technology in Operations and Global Logistics (DS)	D90D	41.0000	Nursing - Medical Surgical	408D	51.3812
Bilingual Education (MEd)	T45D	13.0201	Nursing - Critical Care	407D	51.3814
Business Administration (MBA)			Organizational Change Leadership (MS)	T88D	52.0213
Accounting	315D	52.0301	Second Language Research (PhD)	590D	16.0109
Digital Marketing and Electronic Commerce	T20D	52.1499	Strategic Marketing (MS)	T85D	09.0900
Finance	314D	52.0801	University Teaching (MA)	404	13.0406
General	316D	52.0201	<b>Consortium Programs</b>		
Human Resources	327D	52.1001	Business Administration and Law (MBA/JD)	501	22.0101
Industrial Management	328D	52.0299	Consortium Metropolitan Campus-School of Law		
Managerial Information Systems	361D	52.1201	Criminal Justice and Law (MA/JD)	504	22.0101
Computer Science (MS)	406D	11.0701	Consortium Metropolitan Campus-School of Law		
Computer Science with Specialization in Networks and Security (MS)	409D	11.0901	International Business and Law (MIB/JD)	502	22.0101
Criminal Justice (MA)	302D	43.0199	Consortium Metropolitan Campus-School of Law		
Distribution and Global Logistics (MS)	T87D	52.0203			
Education in Curriculum and Teaching (MEd)					



Labor Relations and Law (MA/JD) Consortium Metropolitan Campus-School of Law	503	22.0101
Government and Pulic Policy and Law (MA/JD) Consortium Metropolitan Campus-School of Law	506	22.0101

Electrical Engineering	ELEN
English	ENGL
Environmental Science	EVSC
Family Counseling	FACO
Finance	FINA
Fine Arts	ARTS
Gerontology	GERO
Global Logistics	GLLO
Government and Public Policy	GOVE
Health, Physical Education and Recreation	HPER
History	HIST
Human Resources	HURS
Information Security	INSE
Information Security in Computer Forensics	ISCF
Instructional Design and Multimedia	DIMU
International Business	INBS
International Business Administration	IBAD
International Business Intelligence	BUSI
Interregional and International Businesses	INBU
Labor Relations	LARE
Leadership and Instruction in Online Education	LIDE
Library and Information Sciences	LISC
Linguistics	LING
Marketing	MKTG
Mathematics	MATH
Mechanical Engineering	MECN
Molecular Microbiology	MOMI
Music	MUSI
Music Education	MUED
Music Technology	MUTE
Nursing	NURS
Open Information Computer Systems	COIS
Organizational Change Leadership	OCLE
Psychology	PSYC
Public Health	PUHE

## Subject Codes Used in Catalog and in the System

<i>Subject</i>	<i>Subject Codes</i>
Accounting	ACCT
Anesthesia	ANES
Applied Technology in Operations and Global Logistic	TALO
Art Education	ARED
Autism	ATSD
Bilingual Education	BLED
Biology	BIOL
Biotechnology	BIOT
Business Administration	BADM
Business and Entrepreneurial Education	BUED
Chemistry	CHEM
Communication	COMU
Computer Science	COMP
Computer Science in Networks and Security	CSNS
Cooperative Education	COED
Criminal Justice	CJUS
Crisis Intervention	CRIN
Cyber Security	CYSE
Economic Crimes Research	ECRE
Economics	ECON
Education	EDUC
Education in Diabetes	DIAB
Educational Computing	ECMP
Educational Neuroscience	NEUR

Quality Organizational Design	QODS
Religious Education	RELI
Research Methods	REME
Second Language Research	SLAR
Service Operations Management	SOPM
Sign Language Interpreter	SNLI
Social Work	SOWO
Spanish	SPAN
Speech-Language Pathology	SPLP
Strategic Marketing	SMKT
Theological Studies	THEO
Tourism	TURI
Wound and Skin Care	WSCN

Topics in all disciplines.

- b. The combination 691 is used to identify supervised practicums or internships.
- c. The combination 697 is used to identify Seminars whose titles are not specified in the catalog.
- d. The combination 699 is used to identify the Thesis in all disciplines.

## 2. Doctoral Degree

- a. The combination 797 is used to identify Special Topics in all disciplines.
- b. The combination 891 is used to identify supervised practicums or internships.
- c. The combination 899 is used to identify the Thesis in all disciplines.

## Course Codification System

This system consists of a four letter alphabetical section that identifies the discipline in English, and a four digit numerical section that identifies the course level, the course itself and the course sequence if such exists.

The first digit indicates the level of complexity of the course. This is closely associated with the year of university studies in which students would normally take the course. The digits from 5 to 8 are used to identify the complexity of the graduate courses as follows:

- 5 - Foundation or introductory courses at the master's level.
- 6 - Advanced master's degree courses.
- 7 - Foundation or introductory courses at the doctoral level.
- 8 - Advanced doctoral level courses.

The second and third digits are used to identify courses within the same level.

The fourth digit indicates the course sequence of two courses within the same level or indicates that no sequence exists. Sequence is indicated by the digits 1 and 2.

In addition to the meaning ascribed to individual digits, combinations in the first three digits indicate a special type of course as explained below:

### 1. Master's Degree

- a. The combination 597 is used to identify Special

# Programs of Study: Masters-and-Doctoral-Programs-and-Professional-Certificates

## Anesthesia (MS)

The program for the Master of Science Degree in Anesthesia has as its goal the preparation of a professional in nursing in anesthesia who will be able to perform activities related to the administration of anesthesia under the supervision of a physician for all types of surgical procedures.

The program aims to develop a professional in anesthesia that will be able to:

1. Acquire knowledge and skills inherent in the specialization that allow the performance of quality anesthesia care.
2. Acquire attitudes, communication and interpersonal relationship skills that facilitate the intervention with the patient, the family and the health team.
3. Utilize the nursing process in problem solving and decision making in the practice of nurse anesthesia.
4. Utilize the results of scientific research to strengthen the quality of anesthesia service.

The Program is accredited by the “Council on Accreditation of Nurse Anesthesia Educational Programs” (<https://www.coacna.org>).

The Arecibo Campus is authorized to offer this Program.

### Competencies Profile of Graduates

The Master of Science in Anesthesia is designed to develop the competencies that allow the student:

#### Knowledge

Demonstrate knowledge and understanding of:

1. Physical and biochemical concepts related to the administration of anesthesia.
2. Advanced physiological and pharmacological concepts related to the practice of anesthesia.

#### Skills

1. Apply a variety of current techniques for the

administration of general and regional anesthetics, giving priority to patient safety and monitoring.

2. Formulate and apply a culturally competent perianesthetic care plan throughout the anesthesia experience.
3. Apply critical thinking skills to provide anesthesia services to patients of all ages and physical conditions in a variety of surgical procedures related to medicine.

#### Attitudes

1. Professionally interact with colleagues and patients in accordance with the legal requirements for the practice of nursing specialized in anesthesia.
2. Demonstrate commitment to the practice of nursing in anesthesia through learning for life.

#### Admission Requirements

Candidates for admission must:

1. Meet the requirements established in the section “Admission Requirements for Master’s Programs” of this Catalog.
2. Hold a Bachelor in Nursing from an accredited institution.
3. Have a grade point index of 3.00 or above in the last sixty (60) credit hours of academic work.
4. Have a professional license and membership in a professional nursing association.
5. Have at least one (1) year of experience in a critical care setting.
6. Send two (2) letters of recommendation from individuals who have supervised the candidate in the work setting.
7. Be interviewed by an Admissions Committee.
8. Present the following documents:
  - a. A health certificate.
  - b. Vaccination certificate Hepatitis B.

- c. A Good Conduct Certificate issued by the Puerto Rico Police Department.
  - d. A copy of a professional license and current professional association.
  - e. Updated resume of professional experience.
9. Present in writing a commitment to take the National Certification Examination (NCE) within 120 days after having completed the graduation requirements established in the Graduate Catalog.
  10. Pass a test in anatomy and physiology with a minimum of 75%.
  11. Pass a test in English with a minimum of 75%.
  12. In the case of not obtaining the required minimum score for each test, the student will have to pass the following courses according to each case:
    - a. BIOL 3106: Anatomy and Physiology
    - b. ENGL 397E: Special Topic course in the English area.
  13. Have passed a three or more credit course with laboratory in chemistry.

Note: Students who are admitted to the Master of Science in Anesthesia will have to purchase a Review computerized program, recommended by the faculty of the program, before starting the first courses of the program.

#### Time Limit to Complete the Degree

Full-time Students: 28 months  
Part-time students: 40 months

#### Graduation Requirements

1. Complete the graduation requirements for a master's degree established in the Graduate Catalog of the Inter American University of Puerto Rico.
2. Present official evidence of having administered anesthesia in six hundred and fifty (650) surgeries in different specialties and a minimum of 2,000 hours of clinical experience.
3. The student must approve the SEE with a minimum score of 450.
4. In cases in which the student does not achieve SEE required score after a third attempt, the student can request in writing to the Program Director to present

a verbal exam before the Curriculum Committee. This exam must be approved with a minimum score of 90%.

#### Requirements for the Master of Science in Anesthesia

Specialization Requirements	52 credits
<b>Specialization Requirements - 52 credits</b>	
ANES 5105	BIOCHEMISTRY AND PHYSICS 3
ANES 5110	INTRODUCTION TO ANESTHESIOLOGY 2
ANES 5111	PATHOPHYSIOLOGY I: CELLULAR 3
ANES 5112	PATHOPHYSIOLOGY II: BLOOD, CARDIOVASCULAR, RESPIRATORY AND RENAL 3
ANES 5113	ADVANCED PATHOPHYSIOLOGY 3
ANES 5121	PRINCIPLES OF ANESTHESIA I 2
ANES 5122	ADVANCED PHYSICAL HEALTH ASSESSMENT IN ANESTHESIA I 1
ANES 5131	PHARMACOLOGY ANESTHETICS I: ANESTHETICS 3
ANES 5132	ADVANCED ANESTHETIC PHARMACOLOGY 3
ANES 5221	PRINCIPLES OF ANESTHESIA II: GENERAL SURGERY 2
ANES 5222	CLINICAL PRACTICE ON PRINCIPLES OF ANESTHESIA II 2
ANES 5307	REGIONAL ANESTHESIA 2
ANES 5331	PRINCIPLES OF ANESTHESIA III: OBSTETRICS AND PEDIATRICS 2
ANES 5332	CLINICAL PRACTICE ON PRINCIPLES OF ANESTHESIA III 2
ANES 5431	PRINCIPLES OF ANESTHESIA IV: CARDIOTHORACIC AND NEUROLOGICAL 2
ANES 5432	CLINICAL PRACTICE ON PRINCIPLES OF ANESTHESIA IV 2
ANES 5497	TRENDS AND CONTROVERSIES IN ANESTHESIOLOGY 2
ANES 6390	CLINICAL ANALYSIS 1
ANES 6395	RESEARCH PROCESS 3
ANES 6397	ADMINISTRATION AND 2

	SUPERVISION	
ANES 6911	INTEGRATED SUPERVISED PRACTICE I	2
ANES 6912	INTEGRATED SUPERVISED PRACTICE II	2
ANES 6970	INTEGRATED SEMINAR	3

## Applied Mathematics (MA)

The Master of Arts in Applied Mathematics develops professional mathematicians in the theoretical base and in the applications of the main areas of this discipline, to perform their roles in society as creative and sound individuals. The Program prepares students for employment in the industry, government, and commerce, in areas such as statistics, scientific computing, insurance, investments, the formulation of mathematical models and others.

The curriculum of this Program includes a core component consisting of calculus, algebra, discrete mathematics, probability and mathematical computation; and another, including the elective courses, in one or several of the areas of applied mathematics such as computer science, mathematical models of science, statistics, operational research, economics, and insurance mathematics. The Program is available to students of any major who have approved courses equivalent to Calculus II and Linear Algebra in the undergraduate level with a minimum grade of "C".

The San Germán Campus is authorized to offer this Program.

### Competencies Profile of Graduates

The Master of Arts in Applied Mathematics is designed to develop the competencies enabling the student to:

#### Knowledge

Demonstrate knowledge and understanding of:

1. different aspects and approaches of a problem to obtain a comprehensive solution.
2. mathematical representations of the theories or problems of one or more of the following areas: natural sciences, computer sciences, economics, insurance, operations research or cryptography and apply the appropriate solving methods to linear, non-linear, statistical models, combinatorial and graph theory.

#### Skills

1. Develop mathematical models or applications.
2. Design and solve mathematical models for different problems in the industry and in the sciences.
3. Use available modern technology for the solution of mathematical problems, by reading and analyzing manuals, catalogs or references independently, as necessary.

#### Attitudes

1. Confront the challenges presented by a dynamic and high-tech work environment and take advantage of the opportunities for professional success offered by the market.
2. Show ethical behavior and moral responsibility in the exercise of their profession.
3. Appreciate participation in the mathematical community and be a valuable professional for society.

#### Admission Requirements

To be admitted to the Master of Arts in Applied Mathematics, the student must meet the admission requirements for Graduate Programs established in the Graduate Catalog in effect at the moment of admission. In addition, the student must:

1. Present the results of the "Examen de Admisión a Estudios de Posgrado (EXADEP)" or the Graduate Examination Record (GRE).
2. Have passed the following courses or their equivalent at the undergraduate level in a recognized university, with a minimum grade of "C":
  - a. Calculus II
  - b. Linear Algebra

#### Graduation Requirements

All students who aspire to obtain the Master of Arts degree in Applied Mathematics, in addition to meeting all the requirements of Comprehensive Examinations and Other Options that appear in the current Graduate Catalog, must satisfy the following specific requirement:

1. Pass the comprehensive examinations or develop satisfactorily a Creative Project, as outlined in the course MATH 6900.

**Requirements for the Master of Arts in Applied Mathematics**

Core Course Requirements 18 credits

Prescribed Distributive Requirements 15 credits

Total 33 credits

## Core Course Requirements - 18 credits

MATH 5100	INTERMEDIATE CALCULUS	3
MATH 5200	COMPUTATIONAL MATHEMATICS	3
MATH 5400	PROBABILITY	3
MATH 5500	ADVANCED DISCRETE MATHEMATICS	3
MATH 5800	TOPICS IN ABSTRACT ALGEBRA	3
MATH 6400	ADVANCED MATHEMATICAL STATISTICS	3

## Prescribed Distributive Requirements - 15 credits

Five (5) courses selected from the following:

MATH 5900	MATHEMATICAL LOGIC AND APPLICATIONS	3
MATH 6100	INTRODUCTION TO REAL ANALYSIS	3
MATH 6150	MATHEMATICAL MODELS OF PHYSICAL SCIENCES	3
MATH 6151	MATHEMATICAL MODELS OF BIOLOGICAL SCIENCES	3
MATH 6200	GRAPHS AND APPLICATIONS	3
MATH 6300	ACTUARIAL MATHEMATICS AND RISK THEORY	3
MATH 6350	MATHEMATICAL METHODS IN RESEARCH	3
MATH 6420	DATA ANALYSIS	3
MATH 6450	STATISTICS REGRESSION MODELS	3
MATH 6470	TIME SERIES	3
MATH 6600	ECONOMETRICS AND FINANCE MODELS	3
MATH 6800	CRYPTOGRAPHY	3
MATH 6810	INFORMATION THEORY AND CODIFICATION	3
MATH 6900	CREATIVE PROJECT	3

**Applied Technology in Operations and Global Logistics (DS)**

The Doctorate in Science in Applied Technology in Operations and Global Logistics prepares professionals in the study of technology applied in the areas of operations, distribution and global logistics. This is aimed at professionals, educators, administrators, managers, engineers, executives, directors, owners of businesses and would-be entrepreneurs, interested in developing and implementing strategies on the implementation of technology in the operations, the distribution and logistics so that they respond to changes in local and global markets.

The Ponce Campus is authorized to offer this program through online education.

**Program Goals**

1. To respond to the dynamism that globalization poses to businesses, organizations, government agencies, through the training of specialists and researchers in the field of technology applied to operations and logistics.
2. Contribute to the development of professionals providing them with the skills that enable them to solve problems, evaluate and analyze the efforts of applied technology, operations and logistics.
3. Promote research and application development of knowledge in the areas of technology, operations, distribution and logistics.

**Program Objectives**

1. Expand the knowledge on the fundamental elements related to the application of technology in the processes, in the operations of transportation, in distribution and in logistics in the local and international level.
2. To provide skills for the analysis and simulation of processes of transportation, distribution and logistics through analysis of routes and distribution channel design.
3. To promote the relevance in research of application of technology to distribution and logistics functions in international organizations.

**Competencies Profile of Graduates**

This program is designed to develop the skills that will

enable the student to:

**Knowledge**

1. Know the theoretical and practical foundations of applied technology in operations and logistics.
2. Recognize the necessary aspects to develop models and simulations of the processes of operations, distribution and logistics.
3. Understand the new challenges, paradigms and technological tools in operations management models, distribution and logistics business.

**Skills**

1. Research, and develop models of business analysis of products and services.
2. Apply skills in analysis, management, application and implementation of technological tools in operations and logistics.
3. Formulate and interpret indicators, coefficients and metrics in the evaluation of the operations, distribution and logistics.
4. Investigate and apply theories, principles and models of operation and logistics to the analysis of efficiency and process optimization.

**Attitudes**

1. Disseminate the importance of investigation of the principles and objectives of the analysis and simulation of distribution and logistics as a tool to add value to the operational model of local and international organizations.
2. Assess the application of the technology in the fields of operations and logistics, as a fundamental element to meet the challenges and needs in the management of market products and services in the global environment.
3. Promulgate ethical commitment, preparation and professional development, research and analysis in the field of technology applied in operations and logistics in the strengthening of the Academy and the global economy.

**Admission Requirements**

1. Comply with the admission requirements in the current graduate catalogue.

2. Hold a master's degree in business administration, technology, computer science, logistics, management, sciences engineering, operations or related areas.
3. Be admitted to the Doctoral Program in Science in Applied Technology in Global Logistics and Operations.

**Satisfactory Academic Progress Requirements**

1. Meet the requirements for satisfactory academic progress for doctoral programs as specified in the current graduate catalog.
2. Once the student has satisfactorily completed the courses with a minimum grade of B in each course and demonstrates mastery of the subjects of applied technology in operations and logistics, the student will continue the process of formal research for defense of the dissertation.
3. In extraordinary circumstances, the Dean of Academic Affairs, the Department Chair and the Faculty of the program can extend to the student an additional term to successfully complete the courses and continue with the doctoral program.
4. Once the student has completed TALO 8991 Dissertation I, the student will have three (3) terms to complete the dissertation, as described in the course TALO 8992 Dissertation II.
5. The student should register in the course TALO 8992 Dissertation II or continuation of the Dissertation, as appropriate each term until its approval.
6. The Department Chair or its counterpart can ask the Dean of Academic Affairs for an extension of additional terms, as stipulated in the current graduate catalog.

**Requirements of the Doctorate in Science in Applied Technology in Operations and Global Logistics (Online)**

Specialization Requirements	33 credits
Operational Requirements	9 credits
<b>Total</b>	<b>42 credits</b>

**Specialization Requirements - 33 credits**

TALO 7100	OPERATIONS MANAGEMENT	3
TALO 7200	DISTRIBUTION AND GLOBAL LOGISTICS	3
TALO 7300	SERVICE OPERATIONS	3

	MANAGEMENT	
TALO 7400	APPLIED TECHNOLOGY IN OPERATIONS AND GLOBAL LOGISTICS	3
TALO 7500	CORPORATE TECHNOLOGY AND SECURITY	3
TALO 7600	BUSINESS INTELLIGENCE	3
TALO 7700	PLANNING AND ENTERPRISE RESOURCE MANAGEMENT	3
TALO 7800	CYBERNETIC INVESTIGACIÓN AND FORENSIC METHODS	3
TALO 7900	SIMULATIONS IN OPERATIONS AND GLOBAL LOGISTICS	3
TALO 7950	AUDIT AND CONTROL IN SECURITY INFORMATICS	3
TALO 7970	SEMINAR IN APPLIED TECHNOLOGY IN OPERATIONS AND GLOBAL LOGISTICS	3
Operational Requirements - 9 credits		
TALO 7960	RESEARCH METHODOLOGY	3
TALO 8991	DISSERTATION I	3
TALO 8992	DISSERTATION II	3

## Autism (Post Bachelor Professional Certificate)

The professional certificate in autism is a postgraduate program that qualifies students to serve individuals with Autism Spectrum Disorder through the professional tools of the principles, concepts and practices required by government or private agencies to serve individuals with the condition. It seeks to meet the needs of individuals with Autism Spectrum Disorder in school settings and social environments, where mastery of pedagogical skills, teamwork, and use of technology is essential to enable graduates to cope with the diversity of the population to be served.

The Metropolitan Campus is authorized to offer this program.

### Competencies Profile of Graduates

This Professional Certification in Autism is designed to develop the competencies that allow the student to:

### Knowledge

1. Know the procedures and assessment tools to identify the strengths, needs, interests, learning styles and early signs to diagnose autism and intervene with the family.
2. Examine the biological, neurological, psychosocial, and developmental basis for the diagnosis of individuals with autism.
3. Evaluate the appropriate and recommended evidence based practices to provide services and family support to individuals with autism.

### Skills

1. Critically identify the formal and informal instruments used in the evaluation of children and adults with autism.
2. Apply clinical and educational intervention plans to serve individuals with autism and to provide support to families.
3. To evaluate the skills and strategies of clinical and educational intervention in work scenarios of individuals with autism and the integration of the family context.

### Attitudes

1. Act ethically when exercising the roles of professional practice in the management and intervention of individuals with autism and their families.
2. Value the cultural, social and developmental differences of people with autism and their families.

### Admission Requirements

To be admitted to the professional certificate program in autism, all candidates must meet the following requirements:

1. Hold a bachelor's degree in the areas of health, behavior, or education of an accredited university.
2. Submit a Negative Criminal Record Certificate issued by the Puerto Rico Police Department (original).

### Academic Progress Requirements

1. Comply with all academic progress norms established in the Graduate Catalog.



2. Pass all courses with a minimum B grade.

### Graduation Requirements

Students must pass all courses with a minimum 3.00 grade point average.

### Requirements for the Professional Certificate in Autism

Requirements of the Professional Certificate - 18 credits

ATSD 5010	PSYCHOSOCIAL ASPECTS AND TRANSITION PROCESSES IN INDIVIDUALS WITH AUTISM	3
ATSD 5020	NATURE AND NEEDS OF INDIVIDUALS WITH AUTISM AND THEIR FAMILIES	3
ATSD 6010	EVALUATION, DIAGNOSIS, AND INTERVENTION OF AUTISM SPECTRUM DISORDER	3
ATSD 6020	CLINICAL AND EDUCATIONAL INTERVENTION METHODS FOR INDIVIDUALS WITH AUTISM AND THEIR FAMILIES	3
ATSD 6030	BEHAVIOR MANAGEMENT AND OTHER CHALLENGES ASSOCIATED WITH AUTISM	3
ATSD 6040	SUPERVISED CONSULTANCY IN AUTISM	3

## Biology (MS)

### Biology (MS) Requirements

The Master of Science in Biology offers two specializations: Molecular Biotechnology and Environmental and Ecological Sciences. The emphasis of the Program is to present an interdisciplinary curriculum focused on scientific reasoning to prepare students for work in the field of Biology dealing with the molecular aspects of biotechnology, ecology or the environmental sciences.

Graduates of this program will be able to emit technical and scientific judgments related to their area of specialization and to general aspects of Biology. They will obtain experience in the use and application of available

technologies to understand and to answer questions of a scientific nature. The program will reinforce ethical aspects in research and will promote the development of an integral knowledge of biological sciences on which the student's specialization is based.

The Aguadilla and Bayamón campuses are authorized to offer this Program.

### Admission Requirements

In addition to meeting the admission requirements established in this Catalog, students must:

1. Hold a Bachelor in Natural Sciences or related areas.
2. Have passed at the undergraduate level, a minimum of three (3) credits in each of the following courses or equivalents:
  - a. Cellular-Molecular Biology
  - b. Statistics
  - c. Calculus
3. Present two (2) letters de recommendation, preferably from Natural Science professors.
4. Present evidence of the results of the Graduate Record Examination (GRE) or the Examen de Admisión a Estudios de Posgrado (EXADEP).

### Requirements for the Master of Science in Biology

Core Course Requirements	11 credits
Specialization Requirements	12 credits
Prescribed Distributive Requirements	12 credits
<b>Total</b>	<b>35 credits</b>

Core Course Requirements - 11 credits

BIOL 5001	INTEGRATED BIOLOGY I	3
BIOL 5002	INTEGRATED BIOLOGY II	3
BIOL 6971	SEMINAR I	1
BIOL 6972	SEMINAR II	1
EVSC 5020	BIOSTATISTICS	3

### Specialization in Molecular Biotechnology (Biology)

#### Requirements for the Specialization in Molecular Biotechnology - 12 credits

Required Courses		
BIOL 6005	BIOTECHNOLOGY AND	3

BIOL 6006	BIOINFORMATICS BIOMOLECULAR TECHNIQUES LABORATORY	3
Select two (2) courses from the following:		
BIOL 6003	MOLECULAR IMMUNOLOGY	3
BIOL 6004	MOLECULAR GENETICS	3
BIOL 6007	PLANTS BIOTECHNOLOGY	3
BIOL 6008	ADVANCED VIROLOGY	3
BIOL 6009	BIOREMEDIATION	3
BIOL 6010	PROTOZOOLOGY	3
BIOL 6013	ENVIRONMENTAL MICROBIOLOGY	3
BIOL 6014	BACTERIOLOGICAL DIAGNOSIS	3
BIOL 6015	EXTREMOPHILES	3
BIOL 6016	EVOLUTIONARY PROCESSES	3
BIOL 6109	DEVELOPMENTAL BIOLOGY	3
BIOL 697_	SPECIAL TOPICS IN BIOLOGY	3
BIOL 6990	SCIENTIFIC WRITING	3

Prescribed Distributive Requirements - 12 credits

Students will have two (2) options to complete the 12 credits of Prescribed Distributive Courses.

Option A: With a Research Project (Thesis)

Students must pass 12 credits in courses BIOL 6991, 6992 and 6993.

Option B: Without Research Project (Thesis)

The student will approve 12 additional credits of this program; six (6) of which will be in courses of their own specialization.

## Specialization in Environmental and Ecological Sciences (Biology)

### Requirements for the Specialization in Environmental and Ecological Sciences - 12 credits

Required Courses

BIOL 6102	ENVIRONMENTAL AND ECOLOGICAL SCIENCES	3
BIOL 6204	METHODS OF RESEARCH IN ECOLOGY	3

Select two (2) courses from the following:		
EVSC 5105	GEOGRAPHIC INFORMATION SYSTEMS	3

BIOL 6006	AND APPLICATIONS IN ENVIRONMENTAL SCIENCES BIOMOLECULAR TECHNIQUES LABORATORY	3
BIOL 6007	PLANTS BIOTECHNOLOGY	3
BIOL 6012	BIOLOGY AND CONSERVATION OF MARINE MAMMALS	3
BIOL 6013	ENVIRONMENTAL MICROBIOLOGY	3
BIOL 6016	EVOLUTIONARY PROCESSES	3
BIOL 6103	TROPICAL ECOLOGY	3
BIOL 6015	EXTREMOPHILES	3
BIOL 6105	ISLAND BIOGEOGRAPHY	3
BIOL 6107	POLLUTION AND ECOLOGICAL SYSTEMS	3
BIOL 6108	ENVIRONMENTAL PHYSIOLOGY OF ANIMALS	3
BIOL 697_	SPECIAL TOPICS IN BIOLOGY	3
BIOL 6990	SCIENTIFIC WRITING	3

Prescribed Distributive Requirements - 12 credits

Students will have two (2) options to complete the 12 credits of Prescribed Distributive Courses.

Option A: With a Research Project (Thesis)

Students must pass 12 credits in courses BIOL 6991, 6992 and 6993.

Option B: Without Research Project (Thesis)

The student will approve 12 additional credits of this program; six (6) of which will be in courses of their own specialization.

## Biotechnology (MS)

### Biotechnology (MS) Requirements

The Master of Science in Agricultural Biotechnology and the Master of Science in Industrial Biotechnology have as goal the training of professionals who possess the knowledge, skills, attitudes and the social commitment, which allow them to make responsible contributions to the scientific development for our society and to the advancement of biotechnology. It aims to facilitate the development of graduates that can handle the basic technologies of biosciences and emit judgments related to

their area of specialization and to related areas.

The Barranquitas Campus is authorized to offer this Program.

### **Competencies Profile of Graduates of the Master of Science in Agricultural Biotechnology**

The program is designed to develop the competences that will enable the student to:

#### **Knowledge**

Demonstrate knowledge and understanding of:

1. The principles and technologies associated with the use of plants to produce substances with biomedical, agricultural, and biofuel value.
2. The principles of selective and programmed alteration of microorganisms through genetic manipulation technologies and their potential industrial and agricultural use.
3. The principles associated with the use of biotechnology in crop improvement and the business strategies required in the biotech industry.
4. The principles and procedures of the scientific method applied in biotechnology.

#### **Skills**

1. Apply the basic molecular and cellular technologies for the handling of plant material and microorganisms.
2. Analyze the flow of genetic information in molecular terms using bioinformatics tools and molecular and instrumental processes.
3. Critically analyze the principles and technologies associated with the micropropagation of plants, the use of plants as expression systems and means to produce substances with biomedical and agricultural value.
4. Critically analyze the technologies involved in the production of biological products and the strategies for the planning and organization of biotechnological companies.
5. Analyze the theoretical aspects and practical applications of biotechnology methods for cell culture improvement.
6. Apply the scientific method in solving problems

relating agricultural biotechnology.

#### **Attitudes**

1. Value the potential in the use of microorganisms and plants in biotechnology as solutions to problems pertaining to health, the environment, and the production of goods for society.
2. Assume a critical attitude towards ethical issues related to the use of biotechnology for cell culture improvement.
3. Conduct the research project development in an ethical manner.
4. Express appreciation for interdisciplinary teamwork as an effective problem-solution means in the industrial biotechnology field.

### **Competencies Profile of Graduates of the Master of Science in Industrial Biotechnology**

The program is designed to develop the competences that will enable the student to:

#### **Knowledge**

Demonstrate knowledge and understanding of:

1. The principles of selective and programmed alteration of microorganisms and animal organisms through genetic manipulation technologies and their potential industrial use.
2. The theoretical aspects of biomolecule analysis through instrumental analysis.
3. The principles of animal tissue culture in the biotechnology industry.
4. The technologies and commercial strategies required in the biotechnology industry.
5. The principles and procedures of the scientific method used in biotechnology.
6. The principles of bioprocesses applied in biotechnology.

#### **Skills**

1. Apply the basic molecular and cellular technologies for the handling of animal origin material and microorganisms.
2. Analyze the flow of genetic information in molecular

terms using bioinformatics tools.

3. Analyze the principles and technologies associated with the use of microorganisms and animal cells as expression systems and means to produce substances with biomedical and agricultural value.
4. Critically examine the genetic basis of characters associated with health and animal production.
5. Apply the instrumental analysis of proteins, carbohydrates, lipids and nucleic acids.
6. Apply methods for the culture of cells coming from mammals, birds, and insects.
7. Critically analyze the technologies involved in the production of biological products and the strategies for the planning and organization of biotechnological companies.
8. Apply the scientific method in solving problems related to industrial biotechnology.

#### Attitudes

1. Value the potential in the use of microorganisms and animal cells in biotechnology as solutions to problems pertaining to health, the environment, and the production of goods for society.
2. Conduct the research project development in an ethical manner.
3. Express appreciation for interdisciplinary teamwork as an effective problem-solution means in the industrial biotechnology field.

#### Admission Requirements

In addition to meeting the admission requirements for master's studies, in agreement with the provisions of this Catalog, students requesting admission to this program, must:

1. Hold a Bachelor in Natural Sciences or in related areas with a minimum grade point index of 2.50.
2. Submit an essay of intention to state the interest in pursuing a Master of Science in Agricultural Biotechnology or Industrial Biotechnology. The essay can be presented in the Spanish or English language.
3. Present two (2) letters of recommendation from the Faculty or the employer.
4. Have approved a minimum of three (3) credits in

each one of the following areas for the Master of Science in Industrial Biotechnology:

- a. Cellular-Molecular Biology or Biochemistry
- b. Statistics
- c. Calculus I
- d. Analytical Chemistry

5. Have approved a minimum of three (3) credits in each one of the following areas for the Master of Science in Agricultural Biotechnology:

1. Cellular-Molecular Biology or Biochemistry
2. Statistics

#### Graduation Requirements

To meet the institutional graduation requirements for master's programs, the student may select one of the following options:

Option A: with a Research Project

1. Approve 36 credits in the Program with a minimum average index of 3.00 (15 core course credits, 12 specialization credits, and 9 prescribed distributive credits).
2. Prepare the Proposal of the Research Project and approve its defense.
3. Complete the Thesis Project and approve its defense.

Option B: without a Research Project

1. Approve 36 credits in the Program with a minimum average index of 3.00 of (15 core course credits, 12 specialization credits, and 9 prescribed distributive credits).
2. Pass the Comprehensive Examination with a minimum of 75 percent, as stipulated in the current Graduate Catalog.
3. To take the Comprehensive Examination it is required to have completed 27 credits and the authorization of the Program Coordinator.

#### Requirements-for-the-Master-of-Science-in-Agricultural-Biotechnology-and-Master-of-Science-in-

**Industrial-Biotechnology**

Core Course Requirements	15 credits
Specialization Requirements	12 credits
Prescribed Distributive Requirements	9 credits
<b>Total</b>	<b>36 credits</b>

Core Course Requirements - 15 credits

BIOT 5011	Cellular and Molecular Biotechnology	3
BIOT 5021	Biotechnology Laboratory Skills I	3
BIOT 5022	Biotechnology Laboratory Skills II	3
BIOT 6115	Biotechnology of Plants	3
BIOT 6120	Animal Biotechnology	3

**Specialization Requirements**

**Specialization in Biotechnology of Plants**

**Specialization Requirements in Biotechnology of Plants: - 9 credits**

Specialization Requirements

BIOT 6116	Micro-Propagation of Plants	3
BIOT 6210	Improvement of Cultures for the Production of Food and Biofactories	3
BIOT 6215	Biotechnology and Crop Production	3
BIOT 6235	Biotechnology of Food	3

Prescribed Distributive Requirements - 9 credits

Students will select one of the following options to meet the Prescribed Distributive requirements requirements and complete the degree.

**Option A: With a Research Project (Thesis)**

BIOT 6220	Research Methods in Biotechnology	3
BIOT 6221	Research Methods in Biotechnology II	3
BIOT 6990	Thesis in Biotechnology	3

**Option B: Without a Research Project (Thesis)**

To comply with the Prescribed Distributive requirements component, the student will select and pass three (3) of the following courses, according to their specialization. In addition, student must approve the comprehensive exam.

BIOT 6105	Biotechnology of Microorganisms	3
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BIOT 6200	Industrial and Commercial Biotechnology	3
BIOT 6225	Marine Biotechnology	3
BIOT 6240	SPECIAL TOPICS IN BIOTECHNOLOGY	3
BIOT 691_	Internship in the Biotechnology Industry	3

**Specialization in Industrial Biotechnology**

**Requirements for MS in Industrial Biotechnology**

Specialization Requirements - 12 credits

BIOT 6125	Instrumental Analysis of Biomolecules	3
BIOT 6130	Animal Tissue Culture in Industrial Biotechnology	3
BIOT 6200	Industrial and Commercial Biotechnology	3
BIOT 6230	Bioprocesses	3

Prescribed Distributive Requirements - 9 credits

Students will select one of the following options to meet the Prescribed Distributive requirements and complete the degree.

**Option A: With a Research Project (Thesis)**

The student will complete the following 9 credits to fulfill the Prescribed Distributive requisites component.

BIOT 6220	Research Methods in Biotechnology	3
BIOT 6221	Research Methods in Biotechnology II	3
BIOT 6990	Thesis in Biotechnology	3

**Option B: Without a Research Project (Thesis)**

To comply with the Prescribed Distributive component, the student will select and pass three (3) of the following courses, according to their specialty. In addition, student must approve the comprehensive exam.

BIOT 6100	Bio-Security	2
BIOT 6105	Biotechnology of Microorganisms	3
BIOT 6225	Marine Biotechnology	3
BIOT 6235	Biotechnology of Food	3
BIOT 6240	SPECIAL TOPICS IN BIOTECHNOLOGY	3
BIOT 691_	Internship in the Biotechnology Industry	3

## Business Administration (MBA)

### Business Administration (MBA) Requirements

A program of studies leading to the Master in Business Administration is offered. It consists of a General program and seven specialties: Accounting, Finance, Human Resources, Industrial Management, Marketing, Management Information Systems, and Tourism.

Students who want a second specialization in the Master of Business Administration must approve an additional fifteen (15) credits required for the first field, including the corresponding Integration Seminar.

The goal of this program is to provide a broad base and a solid preparation in the management field and in the organization's commercial activities. In addition, it provides an opportunity for the students to specialize in one of the existing functional areas within this discipline.

The core courses include general principles, as well as the necessary training applicable to all organizations. These cover decision theory, management processes, application of the quantitative analysis to management problems, contribution of behavioral sciences to functional areas of business management, research and the relationship between commercial organizations and political-socioeconomic environments. Another objective is the study of special problems related to local and global business management.

Students must pass 45 credits, of which 15 credits pertain to the specialization. The corresponding Integration Seminar is included within the 15 specialization credits.

Master of Business Administration with specializations in:

- Accounting
- Digital Marketing and Electronic Commerce
- Finance
- General
- Health Services
- Human Resources Management
- Industrial Management
- Managerial Information Systems

- Marketing
- Social Entrepreneurship

The San Germán Campus received a specialized accreditation for its programs in Business Administration through *International Assembly for Collegiate Business Education (IACBE)*, located on 11374 Strang Line Road, Lenexa, Kansas, USA, for the following programs: Accounting, Finance, General, Human Resources Management, Industrial Management, Managerial Information Systems, and Marketing.

The Specialization in Human Resources in the Bayamón Campus is accredited by the *Accreditation Council for Business Schools and Programs (ACBSP)* (<https://www.acbsp.org/>).

The Metropolitan Campus has a consortium with our School of Law that will allow qualified students to earn a Master in Business Administration (MBA) and a Juris Doctor (JD). Interested students must contact the academic department at the Metropolitan Campus for information and requirements.

The campuses authorized to offer the specializations of this Program are:

1. Accounting: Aguadilla, Arecibo, Metropolitan, San Germán  
Accounting Online: San Germán
2. Digital Marketing and Electronic Commerce: Guayama  
Digital Marketing and Electronic Commerce Online: Guayama
3. Finance: Aguadilla, Arecibo, Bayamón, Metropolitan, San Germán  
Finance Online: Metropolitan
4. General Program: Fajardo, Metropolitan, San Germán, University Center of Caguas of the Metropolitan Campus  
General Program Online: Fajardo, Metropolitan, University Center of Caguas of the Metropolitan Campus
5. Health Services: Aguadilla
6. Human Resources: Aguadilla, Arecibo, Barranquitas, Bayamón, Fajardo, Metropolitan, San Germán  
Human Resources Online: Fajardo
7. Industrial Management: Aguadilla, Metropolitan, San Germán

Industrial Management Online:

San Germán

- 8. Management Information Systems: Aguadilla, Fajardo, Metropolitan, San Germán  
Management Information Systems Online: San Germán
- 9. Marketing: Aguadilla, Fajardo, Guayama, Metropolitan, San Germán
- 10. Social Entrepreneurship: Aguadilla
- 11. Tourism: Fajardo, Metropolitan

**Admission Requirements**

Students applying for admission to the Master in Business Administration must:

- 1. Comply with the requirements for admission to master's programs set forth in section "Admission requirements to MBA programs" of the current UIPR catalogue.
- 2. Hold a Bachelor in Business Administration (BBA) or
- 3. Hold a bachelor's degree in another discipline and provide proof of having passed the following courses or equivalent, at the undergraduate level with a minimum grade of C
  - a. Statistics: 3 credits
  - b. Economics: 3 credits
  - c. Accounting: 3 credits

In addition to the above requirements, students who choose any of the following specialties must comply with the following courses at the undergraduate level with a minimum grade of C.

**Accounting**

- Intermediate Accounting I and II (or equivalent)

**Management Information Systems**

- Introductory course in the computer area (or its equivalent)
- Computer programming course (or its equivalent)

If you have not taken all required courses, candidates for admission may receive a provisional admission as

established in the "Provisional Admission" section of this Catalogue.

- 4. Present the results obtained in the Admission Examination for Postgraduate Studies (EXADEP), or the *Graduate Management Admission Test (GMAT)* or its equivalent, with a minimum score of 300 points or meet any test measurement established by the Program, except for candidates of a 3.00 or more G.P.A. in their bachelor's degree or in the last 60 credits of studies.

**Additional Requirements for the Program in the Metropolitan Campus**

- 1. Students applying for admission to the Metropolitan Campus must have a minimum of 3 years working experience.
- 2. Students requesting transfer to the Metropolitan Campus must demonstrate having a minimum work experience of 3 years and take at least 70% of the courses in the Metropolitan Campus.

**Graduation Requirements**

As graduation requirements, the student must:

- 1. Have admission as a regular student of the program.
- 2. Have a general academic index of not less than 3.00.
- 3. Comply with the satisfactory academic progress standard at the graduate level.

**Requirements for a Minor Specialization in the Graduate Business Administration Programs**

A minor specialization will consist of a minimum of nine (9) credits and a maximum of twelve (12) credits, according to the applicable academic program. All students may opt for a minor specialization within their graduate program, as specified in this Catalog.

To obtain a minor specialization that is not within their study program, students must meet the requirements established in this Catalog in the section Student Financial Aid, as well as with the academic norms of the program to which this minor specialization belongs.

If students want the minor specialization to appear on their transcripts, they must formally request this by means of the appropriate form. The declaration of a minor specialization requires the approval of the Academic Adviser and the Directors of the appropriate Departments. This declaration must be made prior to the application for graduation.

Students must make sure they meet the academic progress norms and the minimum time required to complete their study program. A minimum academic index of 3.00 in the minor specialization is required for certification.

### Requirements for the Master of Business Administration

Core Course Requirements	30 credits
Specialization Requirements	15 credits
Total	45 credits

#### Core Course Requirements - 30 credits

BADM 5010	QUANTITATIVE METHODS FOR DECISION ANALYSIS	3
BADM 5020	BUSINESS ECONOMICS	3
BADM 5030	RESEARCH METHODOLOGY	3
BADM 5040	ACCOUNTING FOR MANAGERS	3
BADM 5060	MANAGEMENT INFORMATION SYSTEMS	3
BADM 5090	BUSINESS MARKETING	3
BADM 5100	ORGANIZATIONAL THEORY AND BEHAVIOR	3
BADM 5190	CORPORATE FINANCE	3
BADM 6295	GLOBAL OPERATIONS	3
BADM 6500	INTEGRATION SEMINAR ON ENTERPRENURIAL STRATEGIES	3

#### Specialization Requirements - 15 credits

Courses listed under each specialization.

## General Program

### Competencies Profile of Graduates for the Core Component and the General Program

The Master in Business Administration is designed to develop the competencies that allow the students to:

#### Knowledge

Demonstrate knowledge and understanding of:

1. the concepts, practices and managerial processes related to the area of the Business Administration.
2. the main qualitative and quantitative models used in the decision-making processes and problem-solving in the business context.
3. the business environment and their involvement in

financial planning.

#### Skills

1. Integrate concepts and managerial processes in their professional performance in the business management scenario.
2. Use quantitative and qualitative methods and methodology of research to substantiate decision making in the organization.
3. Use creativity and innovation to achieve the company's goals and objectives.

#### Attitudes

1. Recognize the importance of becoming an agent of change in the development and application of innovative practices and policies to achieve the organizational objectives and goals while integrating diversity in companies.
2. Recognize the importance of entrepreneurial thinking in business administration.
3. Demonstrate commitment in the performance of their duties, and be aware of the ethical and legal aspects that govern the profession.

### Requirements for the MBA General - 15 credits

Students interested in pursuing the General Program must approve: the Core Course Requirements in Business Administration, twelve (12) credits from the other specialization courses or from other related programs with the approval of their academic advisor, and BADM 697K (Integration Seminar in Research in the General Program).

## Specialization in Accounting

### Competencies Profile of Graduates for the Specialization in Accounting

The Master in Business Administration (MBA) with a specialization in Accounting is designed to develop skills that enable students to:

#### Knowledge

Demonstrate knowledge and understanding of:

1. the principles, current laws, and developing norms that govern the accounting profession in the national and international environment.
2. the different systems available for an enterprise to



- determine the cost of their products or services.
- 3. the generally accepted audit standards.
- 4. the relevant sections of the Federal Internal Revenue Code or the Internal Revenue Code of Puerto Rico applicable to individuals, partnerships, and corporations.
- 5. the research methodology in the accounting field.

**Skills**

- 1. Apply accounting principles and standards and developing that govern the accounting profession in the national and international environment.
- 2. Analyze the information related to the cost of a company's services and products.
- 3. Develop cost systems that provide the necessary information for decision-making by the management.
- 4. Apply the generally accepted auditing principles in the services provided by the auditor.
- 5. Apply the Federal Income Tax Act and that of Puerto Rico.
- 6. Prepare concise and accurate documents and presentations for decision-making of internal and external users.

**Attitudes**

- 1. Demonstrate a commitment of ethical conduct that governs the profession in a professional, global and diverse environment.
- 2. Evaluate the importance of continued education as a way to achieve personal and professional development and offer relevant responses to the demands of the environment.

**Requirement for the Specialization in Accounting - 15 credits**

Required Courses - 9 credits		
BADM 6180	ADVANCED COST ACCOUNTING	3
BADM 6300	ADVANCED AUDITING	3
BADM 6310	ADVANCED FINANCIAL ACCOUNTING	3
BADM 697A	INTEGRATION SEMINAR IN RESEARCH IN ACCOUNTING	3

One course selected from following:		
BADM 6320	FEDERAL INCOME TAXES – ADVANCED	3
BADM 6330	PUERTO RICO INCOME TAXES – ADVANCED	3

**Specialization in Digital Marketing and Electronic Commerce**

**Requirements for the Specialization in Digital Marketing and Electronic Commerce**

**Specialization in Finance**

**Competencies Profile of Graduates for the Specialization in Finance**

The Master in Business Administration (MBA) with a specialization in Finance is designed to develop skills that enable students to:

**Knowledge**

Demonstrate knowledge and understanding of:

- 1. the theoretical principles and practice of finance.
- 2. the accounting, economic and financial principles in decision making in enterprises or in the government.
- 3. the variables that influence or determine the financial decisions in the company, the government or in investment markets.

**Skills**

- 1. Use accounting, economic and financial terminology accurately in their relationships or profession.
- 2. Apply necessary information to be able to make the best financial and business decisions.
- 3. Work as a team in the search for solutions and contribute effectively to the achievement of the company's goals.

**Attitudes**

- 1. Recognize the importance of ethical and socially responsible behavior in all of its dimensions.
- 2. Assess the economic and financial situation of the current world and its impact on daily life of citizens and companies.
- 3. Recognize the importance of having a global vision

of business, of management, of government and to perceive the challenges of the future.

### **Requirement for the Specialization in Finance - 15 credits**

Required Courses - 9 credits

BADM 6190	ADVANCED CORPORATE FINANCE	3
BADM 6230	INVESTMENTS	3
BADM 697B	INTEGRATION SEMINAR IN RESEARCH IN FINANCE	3

Two courses selected from following:

BADM 6150	PUBLIC FINANCE AND FISCAL POLICY	3
BADM 6200	INTERNATIONAL BUSINESS FINANCE	3
BADM 6220	MONETARY THEORY AND POLICY	3
BADM 6240	FINANCIAL MARKETS	3

## **Specialization in Health Services**

The Master in Business Administration with a specialization in Health Services aims to train professionals who contribute with their knowledge, skills, abilities, and attitudes in the administration and decision-making of organizations that comprise the public and private health sector from the country. This specialization aims at training graduates capable of managing organizations in the health sector in difficult and changing environments.

### **Competencies Profile of Graduates for the Specialization in Health Services**

The Program is designed to develop the skills that allow the student:

#### **Knowledge**

Demonstrate knowledge and understanding of:

1. The structure, governance and administration of health service organizations in a variety of settings, such as hospitals, clinics, retirement homes and nursing homes.
2. Legal aspects related to the use of information systems in the health field.
3. Public health models, epidemiological principles and their role in prevention for the development of health programs.

#### **Skills**

1. Analyze public health problems and their effects on the administration of health care services.
2. Originate a health services program from its design to the evaluation of the results.
3. Integrate economic, institutional and social aspects to promote a balance between state and federal regulations and the administration of health services.

#### **Attitudes**

1. Value ethics and legislation in decision making.
2. Estimate the importance of research in administrative processes in the field of health services.

### **Requirement for the Specialization in Health Services - 15 credits**

Required Courses - 15 credits

BADM 6620	ADMINISTRATION OF HEALTH SERVICES	3
BADM 6630	PUBLIC HEALTH AND EPIDEMIOLOGY	3
BADM 6640	INFORMATION TECHNOLOGY IN HEALTH SERVICES	3
BADM 6650	PLANNING AND EVALUATION OF HEALTH SERVICES PROGRAMS	3
BADM 697L	INTEGRATING SEMINAR IN RESEARCH IN HEALTH SERVICES	3

## **Specialization in Human Resources**

### **Competencies Profile of Graduates for the Specialization in Human Resource**

The Master in Business Administration (MBA) with a specialization in Human Resources is designed to develop skills that enable students to:

#### **Knowledge**

Demonstrate knowledge and understanding of:

1. human resources practices related to the analysis and design of work, the recruitment and selection, training and development, performance evaluation, the compensation and relations with employees, considering their involvement in the strategic administration of organizations.

2. the main theories of human behavior associated with the environment organizations and their involvement in the management of human resources.
3. the legal framework, as well as of the different regulations and bylaws associated with the practices of human resources both domestically and internationally.

**Skills**

1. Implement effective human resource management strategies to the solution of problems considering the dynamics of the changing environment around organizations.
2. Integrate different human resource practices with a strategic approach and considering the development of competitive advantages.
3. Develop a strategic approach to decision making supported by research and avant-garde technologies applied to the human resource management field.

**Attitudes**

1. Demonstrate commitment to values, and ethical and moral principles with an emphasis on diversity and inclusion.
2. Demonstrate a professional attitude towards teamwork as an effective means of solving problems related to the management of human resources.

**Requirement for the Specialization in Human Resources - 15 credits**

Required Courses - 6 credits

BADM 6070	HUMAN RESOURCES MANAGEMENT	3
BADM 697C	INTEGRATION SEMINAR IN RESEARCH AND CONSULTING IN HUMAN RESOURCES	3
Three courses selected from following:		
BADM 6020	TRAINING AND DEVELOPMENT OF THE HUMAN RESOURCE	3
BADM 6080	ADMINISTRATION OF COMPENSATION AND BENEFITS	3
BADM 6090	SUPERVISION AND LEADERSHIP	3
BADM 6910	PRACTICUM IN HUMAN	3

LARE 5010	RESOURCES LABOR RELATIONS AND COLLECTIVE BARGAINING LEGISLATION	3
LARE 5400	LABOR LAW AND LABOR RELATIONS	3

**Specialization in Industrial Management**

**Competencies Profile of Graduates for the Specialization in Industrial Management**

The Master in Business Administration (MBA) with a specialization in Industrial Management is designed to develop skills that enable students to:

**Knowledge**

Demonstrate knowledge and understanding of:

1. the principles of operations management in a global environment.
2. the competitiveness variables to develop the business strategy.
3. the elements that affect the operations of the company in the local and global environment.

**Skills**

1. Apply concepts of operations management in the productive administration of a company.
2. Use the competitiveness variables to determine the competitive advantage of the company.
3. Use the analysis of the global elements that affect the implementation of the business strategy.

**Attitudes**

1. Recognize the importance of operations management to foster innovation and the competitiveness of enterprises.
2. Recognize the importance of operations science of as a tool for development of entrepreneurial thinking in business administration.
3. Assess the performance of managerial functions considering the ethical and legal aspects that govern the profession.

**Requirement for the Specialization in Industrial Management - 15 credits**

Required Courses - 6 credits

BADM 6100	INTRODUCTION TO OPERATIONS MANAGEMENT	3
BADM 697D	INTEGRATION SEMINAR IN RESEARCH IN INDUSTRIAL MANAGEMENT	3
Three courses selected from following:		
BADM 6130	PRODUCTION PLANNING AND CONTROL	3
BADM 6140	QUALITY MANAGEMENT AND CONTROL	3
BADM 6170	MANAGEMENT SCIENCE APPLIED TO OPERATIONS MANAGEMENT	3
BADM 6290	TRANSPORTATION SYSTEMS AND SUPPLY CHAIN	3

**Specialization in Managerial Information Systems**

**Competencies Profile of Graduates for the Specialization in Management Information Systems**

The Master in Business Administration (MBA) with a specialization in Management Information Systems is designed to develop skills that enable students to:

**Knowledge**

Demonstrate knowledge and understanding of:

1. the concepts of emerging technology that may apply to the management field.
2. the processes of evaluation, planning and selection of different managerial information systems.
3. the processes of evaluation and measurement of the different managerial areas with an emphasis on the in management information systems.

**Skills**

1. Evaluate and select the appropriate technology to develop a management information system according to the needs of the organization to which they belong.
2. Design management information strategies that meet

current and future information processing needs of the organization to which they belong.

3. Analyze and document the information requirements of an organization.

**Attitudes**

1. Be aware of the impact of information systems in the management process.
2. Recognize the importance of research in management processes.
3. Demonstrate compliance with the moral and ethical principles that govern the profession.

**Requirement for the Specialization in Managerial Information Systems - 15 credits**

Required Courses -12 courses

BADM 6030	DATABASE SYSTEMS	3
BADM 6040	SYSTEM ANALYSIS AND DESIGN	3
BADM 6045	TELECOMMUNICATIONS AND NETWORKING	3
BADM 6957	INTEGRATION SEMINAR IN RESEARCH IN INFORMATION SYSTEMS	3

Prescribed Distributive Requirements for this Specialization - 3 credits

One course selected from the following:

BADM 6260	ADVANCED PROGRAMMING	3
BADM 6265	KNOWLEDGE MANAGEMENT AND BUSINESS INTELLIGENCE	3
BADM 6275	INTERNET IN ORGANIZATIONS	3
BADM 6285	INFORMATION SECURITY, PRIVACY AND COMPLIANCE NORMATIVE	3

**Specialization in Marketing**

**Competencies Profile of Graduates for the Specialization in Marketing**

The Master in Business Administration (MBA) with a specialization in Marketing is designed to develop skills that enable students to:

**Knowledge**

Demonstrate knowledge and understanding of:

1. the concepts, theories and practices that serve as a basis for efficient and effective decision making in marketing-related fields.
2. the concepts, theories and practices and its relationship with strategic decision making in marketing companies.
3. trends in the domestic and international marketing environment that affect decision making.

**Skills**

1. Identify the information and the knowledge necessary for making strategic decisions in marketing.
2. Prepare quantitative and qualitative analysis in solving marketing problems.
3. Use critical thinking and analysis in decision-making.

**Attitudes**

1. Evaluate the importance of ethical behavior in decision-making.
2. Demonstrate a global vision and openness towards international markets.

**Requirement for the Specialization in Marketing - 15 credits**

Required Courses - 6 credits

BADM 6350	STRATEGIC MARKETING	3
BADM 697E	INTEGRATION SEMINAR IN RESEARCH IN MARKETING	3

Three courses selected from the following:

BADM 5480	DIGITAL MARKETING	3
BADM 6160	MARKETING RESEARCH	3
BADM 6360	MARKETING COMMUNICATION	3
BADM 6370	SALES ANALYSIS AND FORECASTING	3
BADM 6380	CONSUMER BEHAVIOR	3
BADM 6390	GLOBAL MARKETING	3
BADM 6480	INTERNATIONAL PRICING	3
BADM 6550	SEMINAR ON CURRENT MARKETING TOPICS	3

**Specialization in Social Entrepreneurship**

The Master of Business Administration with a

specialization in Social Entrepreneurship will provide students with the competencies to promote sustained social change and high impact in the administration of nonprofit, for-profit and for-profit corporations with non-profit subsidiaries that wants to be participants in solving the challenges that exist in the communities and countries where they operate.

**Competencies Profile of Graduates for the Specialization in Social Entrepreneurship**

The Master in Business Administration with a specialization in Social Entrepreneurship is designed to develop the competencies that will enable students:

**Knowledge**

Demonstrate knowledge and understanding of:

1. The concepts and practices of the administration of a social enterprise.
2. The managerial functions of an administrator of a social enterprise.
3. The social, economic and political context in which organizations in the third sector operate.

**Skills**

1. Recognize opportunities and propose solutions to social and environmental challenges in communities.
2. Design and develop social entrepreneurship programs.
3. Integrate managerial functions to manage a social enterprise.
4. Evaluate social entrepreneurship programs.

**Attitudes**

1. Assess the rules of legal and ethical behavior in the performance of their duties.
2. Estimate the social impact of your administrative decisions.
3. Support the improvement of the quality of life of both national and global society.

**Requirement for the Specialization in Social Entrepreneurship - 15 credits**

Required Courses - 15 credits

BADM 6660	SOCIAL	3
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BADM 6670	ENTREPRENEURSHIP MANAGEMENT OF NON- PROFIT ORGANIZATIONS	3
BADM 6680	EVALUATION OF SOCIAL ENTERPRISE PROJECTS AND PROGRAMS	3
BADM 6690	SOCIAL MARKETING	3
BADM 697M	INTEGRATED SEMINAR IN SOCIAL ENTREPRENEURSHIP RESEARCH	3

4. Master the communication skills in the tourist enterprise context.
5. Demonstrate leadership in the tourist company.
6. Foment team work in the tourist enterprise organization.
7. Master technology as a tool in handling information in the tourist enterprise.

## Specialization in Tourism

### Competencies Profile of Graduates for the Specialization in Tourism

The Master in Business Administration with a specialization in Tourism is designed to develop the competencies that will enable students:

#### Knowledge

To demonstrate knowledge and understanding of:

1. the concepts and practices related to the area of administration of tourist companies.
2. the managerial processes that allow them to perform as administrator of a tourist company.
3. the main quantitative and qualitative models used in the processes of decision making and solution of problems in the tourist enterprise context.
4. the tools for strategic planning in the enterprise organization.
5. the social, economic, political and global environment in which the tourist organizations operate.

#### Skills

1. Integrate managerial concepts and processes in their professional performance in the enterprise administration in the tourist scenario.
2. Apply the quantitative and qualitative methods in the critical analysis of the processes of decision making and solution of problems related to the operation of the tourist company.
3. Use the research methodology on which to base the decision making in the organization.

#### Attitudes

1. Demonstrate sensitivity to achieve the organizational goals and objectives in the matters related to cultural diversity.
2. Demonstrate the qualities of an enterprising professional who integrates collaboration, responsibility, ethics and dedication.

#### Requirement for the Specialization in Tourism - 16 credits

Required Courses - 12 credits

TURI 6010	ANALYSIS AND GENERAL POLICIES OF THE TOURIST INDUSTRY	3
TURI 6110	CULTURE AS A VIABLE TOURIST DEVELOPMENT	3
TURI 6210	ADMINISTRATION AND MARKETING OF TOURIST COMPANIES	3
TURI 6410	PLANNING AND ADMINISTRATION OF TOURIST DESTINIES	3

Select a course from the following:

TURI 697G	INTEGRATION SEMINAR IN RESEARCH IN TOURISM	3
TURI 6990	THESIS	3

## Minor Specialization in Business Management and Compliance

The minor specialization in Business Management and Compliance was designed for Metropolitan Campus Business Administration graduate students who wish to study the interrelationship between business management and governance principles and their relationship with business compliance.

The Metropolitan Campus is authorized to offer this minor specialization.

**Requirements for the Minor Specialization in Business Management and Compliance - 12 credits**

Required Courses

ECRE 5110	RISK MANAGEMENT, PREVENTION AND COMPLIANCE	3
ECRE 5220	OCCUPATIONAL FRAUD	3
INSE 5140	Security in E-Commerce	3
ACCT 6440	FORENSIC ACCOUNTING	3

**Minor Specialization in CPA Track**

The Minor Specialization in CPA Track has been designed for the students of the Master in Business Administration in Accounting program of the Metropolitan Campus who aspire to take the CPA exam. This takes into consideration the four areas that it includes.

The Metropolitan Campus is authorized to offer this minor specialization.

**Minor Specialization Requirements at CPA Track - 12 credits**

Required Courses

ACCT 6305	ADVANCED AND CURRENT TOPICS IN AUDIT	3
ACCT 6315	ADVANCED AND CURRENT TOPICS IN FINANCIAL ACCOUNTING	3
ACCT 6325	ADVANCED AND CURRENT TOPICS IN FEDERAL CONTRIBUTIONS	3
ACCT 6375	UNITED STATES UNIFORM COMMERCIAL CODE	3

**Minor Specialization in Economic and Social Dimensions of Globalization**

The minor specialization is designed to reflect on the meaning of the economic policy in the new context that defines the process of the globalization in the economic, social, and business activities. This process, driven by ideological reasons as well as by technological reasons, has substantially modified the effectiveness of the mechanisms of public intervention offered by economic literature.

The Metropolitan Campus is authorized to offer this minor specialization.

**Requirements for the Minor Specialization in Economic and Social Dimensions of Globalization - 12 credits**

Required Courses

Students will take the following 9 credits:

BADM 6555	INTRODUCTION TO RESEARCH IN SOCIAL SCIENCES	3
BADM 6580	GLOBALIZATION: INTERNATIONAL COMMERCE, CAPITAL FLOW, NEW GOVERNANCE AND FAIRNESS	3
BADM 6590	DIMENSIONS OF GLOBALIZATION AND INCIDENCES IN ECONOMIC, POLITICAL AND SOCIO LABOR RELATIONS	3
Select a course from the following:		
BADM 5776	TRANSFORMATION OF THE LIBERAL STATE IN CURRENT GLOBALIZATION	3
BADM 6559	ANALYSIS OF REGRESSION APPLIED TO SOCIAL SCIENCES	3
BADM 6577	INTRODUCTION TO ECONOMETRY	3
BADM 6600	POLICY OF INNOVATION IN GLOBALIZATION	3
BADM 6610	CULTURE, IDENTITY AND POLICY IN THE CONTEXT OF GLOBALIZATION	3

**Minor Specialization in Knowledge Management**

The Minor Specialization in Knowledge Management is designed for the graduate student of Business Administration. This minor specialization is aimed to develop the knowledge and skills in the areas of management and administration of intellectual capital, as assets of the company, contributing to its profitability.

The Metropolitan Campus is authorized to offer this minor specialization.

**Requirements for the Minor Specialization in Knowledge Management - 9 credits**

Required Courses

BADM 5470	FOUNDATIONS OF KNOWLEDGE MANAGEMENT	3
BADM 6430	ADMINISTRATION OF INTELLECTUAL CAPITAL	3
BADM 6470	STRATEGIES OF KNOWLEDGE MANAGEMENT	3

**Business Administration for Executives (MBA)**

The Master of Business Administration Program for Executives (Executive MBA) has the mission of developing business leaders in the Puerto Rican and global community. These leaders will be able to meet the highest standards of excellence and will acquire up-to-date knowledge and personal and professional competencies to improve their directive effectiveness and the competitiveness of their organizations. This accomplishment will be achieved together with ethical principles for the benefit of the community and society. The Master of Administration Degree for Executives or Executive MBA is the highest level program oriented towards the formation of business executives.

The Metropolitan Campus is authorized to offer this Program.

**Admission Requirements**

Students seeking admission to the Master in Business Administration Program for Executives must meet the admission requirements established for master’s programs in the current Graduate Catalog. In addition, they must meet the following specific Program requirements:

1. Occupy or have occupied a managerial position at the top or middle levels and have a minimum of five years of experience.
2. Have at least eight years of professional work experience.
3. If the student is in one of the following situations: a) has a Professional License issued by an entity of the Commonwealth of Puerto Rico, b) has a Professional License of some state of the United States or of a foreign State that is properly legalized and related to Business Administration disciplines or, c) has a

professional certification issued by a recognized entity in business disciplines, will be granted, at the time of admission, two years of work experience for each license or professional certification.

**Graduation Requirements**

In addition to fulfilling the graduation requirements of the Graduate Catalog, students of this Program must meet the following requirement.

1. Pass the seminars of the specialization INBS 6970 and BADM 697F with a minimum grade of B.

**Requirements for the Master of Business Administration for Executives (Executive MBA)**

Specialization Requirements 36 credits

Specialization Requirements - 36 credits

BADM 5060	MANAGEMENT INFORMATION SYSTEMS	3
BADM 5140	LEGAL AND SOCIAL ENVIRONMENT IN BUSINESS	3
BADM 6450	DECISION-MAKING	3
BADM 6500	INTEGRATION SEMINAR ON ENTERPRENURIAL STRATEGIES	3
BADM 6780	THE MANAGER IN AN INTERNATIONAL ECONOMY	3
BADM 6971	SEMINAR IN BUSINESS SOCIAL RESPONSIBILITY	3
BADM 697F	INTEGRATION SEMINAR FOR BUSINESS MANAGERS	3
INBS 6970	SEMINAR: BUSINESS ENVIRONMENT AND ADMINISTRATIVE PRACTICES OF THE CARIBBEAN AND LATIN AMERICA	3
LARE 6430	NEW ORGANIZATIONAL WORK PATTERNS	3
QODS 5010	STRATEGIC MANAGEMENT: INNOVATION AND CHANGE	3
QODS 6020	ACCOUNTING AS A TOOL FOR EXECUTIVE ACTION	3
QODS 6035	MARKETING INFORMATION AND COMPETITIVE ADVANTAGE	3

*Note: Course BADM 697F (Integration Enterprise Seminar for Managers) replaces the Integration Seminar*



*that this Catalog includes in Institutional Graduation Requirements for Master's Programs.*

## Business and Entrepreneurial Education (MA)

### Business and Entrepreneurial Education (MA) Requirements

The Master of Arts in Business and Entrepreneurial Education has the mission to create teachers and administrators trained in teaching, administration, supervision, and in leadership of Business and Entrepreneurial Education. This program will strengthen the teaching-learning process through the effective use of methodologies in the field of Business and Entrepreneurial Education. It will integrate avant-garde technologies as learning tools, as well as train graduates to assume leadership in the development of highly qualified educational programs.

The Metropolitan Campus is authorized to offer this Program.

#### Competencies Profile of Graduates

The Program is designed to develop the competencies that will enable students to:

#### Knowledge

Demonstrate knowledge and understanding of

1. the theories and principles that govern pedagogy, administration and supervision of Business and Business Education programs.
2. the methods, the techniques and the integration of technology in the area of Business and Entrepreneurial Education.
3. the different models that govern the curricular design and its implications in the development of educational programs and training business staff.
4. the most recent methods and techniques in the field of pedagogical research and business.

#### Skills

1. Apply methodologies and strategies to both face-to-face and virtual training technological environments.
2. Use the appropriate methodology in Business and Entrepreneurial Education courses at the secondary

and postsecondary level.

3. Apply the appropriate techniques when evaluating the student's achievements in Business and Entrepreneurial Education.
4. Evaluate and manage assistive technology to meet the specific needs of the students.

#### Attitudes

1. Recognize individual differences in students and their potential.
2. Create awareness towards intellectual activity and research of existing problems in Business and in Entrepreneurial Education.
3. Demonstrate ethical behaviors compatible with the demands of the societal knowledge.
4. Promote the development of business initiatives among its students.

#### Admission Requirements

In addition to satisfying the requirements of admission to the graduate study program that appear in this Catalog, students who request admission to the program must:

1. Have passed the following courses or their equivalents:  
 EDUC 2021 History and Philosophy of Education  
 EDUC 2031 Developmental Psychology  
 MAEC 2212 Economic Principles (Macro)  
 MAEC 2221 Basic Statistics I
2. Hold a Bachelor in Business Education, in Administration of Office Systems, in Entrepreneurial Administration or in Business Administration of a recognized university.

#### Requirements for the Master of Arts in Business and Entrepreneurial Education

Core Course Requirements	12 credits
Specialization Requirements	24 credits
Prescribed Distributive Requirements	3 credits
<b>Total</b>	<b>*39 credits</b>

\*Students who take course BUED 6970 Integrating Seminar to meet the Comprehensive Examination Requirements and other Master's Program Options must complete a total of 39 credits.

Core Course Requirements - 12 credits			Select nine (9) credits from the following courses:		
EDUC 5111	EDUCATIONAL RESEARCH I	3	BUED 5035	COMPUTERS IN THE TEACHING OF BUSINESS AND ENTREPRENEURIAL EDUCATION	3
EDUC 6046	CURRICULUM DEVELOPMENT	3	BUED 5040	CURRICULAR INNOVATIONS IN TEACHING	3
Students will select six (6) credits from the following courses:			BUED 5050	FUNDAMENTALS OF VIRTUAL LEARNING	3
EDUC 5013	SOCIOLOGICAL FOUNDATIONS OF EDUCATION	3	BUED 5060	PREPARATION OF MATERIALS FOR VIRTUAL EDUCATION	3
EDUC 5024	PSYCHOLOGICAL FOUNDATIONS OF EDUCATION	3	BUED 6000	ADMINISTRATION AND SUPERVISION OF BUSINESS AND ENTREPRENEURIAL EDUCATION	3
EDUC 6058	LEGAL FOUNDATIONS OF EDUCATION	3	BUED 6050	STRATEGIES FOR OFFICE PERSONNEL TRAINING	3
EDUC 6079	INSTRUCTIONAL LEADERSHIP	3	BUED 6060	INTEGRATION OF TECHNOLOGY IN BUSINESS AND ENTREPRENEURIAL EDUCATION	3
Specialization Requirements - 24 credits			BUED 6910	PRACTICUM IN TEACHING BUSINESS EDUCATION COURSES AT THE SECONDARY AND/OR POST SECONDARY LEVEL	3
BUED 6010	CURRICULUM DESIGN IN BUSINESS AND ENTREPRENEURIAL EDUCATION	3	Prescribed Distributive Requirements - 3 credits		
BUED 6020	ASSESSMENT, MEASUREMENT AND EVALUATION IN BUSINESS AND ENTREPRENEURIAL EDUCATION	3	BUED 5000	ADMINISTRATION OF OCCUPATIONAL AND TECHNICAL PROGRAMS	3
BUED 6970	INTEGRATING SEMINAR	3	BUED 6911	SUPERVISED PRACTICUM IN BUSINESS AND ENTREPRENEURIAL EDUCATION	3
Select six (6) credits from the following courses:			BADM 6440	ADVANCED PERSONNEL ADMINISTRATION	3
BUED 5010	METHODOLOGY IN THE TEACHING OF THE KEYBOARD AND PROCESSING INFORMATION	3	EDUC 5740	EDUCATION OF THE EXCEPTIONAL POPULATION	3
BUED 5015	METHODOLOGY IN THE TEACHING OF ENTREPRENEURIAL, BUSINESS ADMINISTRATION AND MARKETING	3	EDUC 6024	EDUCATIONAL MEASUREMENTS AND EVALUATION	3
BUED 5020	METHODOLOGY IN THE TEACHING OF ACCOUNTING	3	EDUC 6057	TEACHING MODELS AND STRATEGIES	3
BUED 5030	METHODOLOGY IN THE TEACHING OF SHORTHAND, TRANSCRIPTION OR ANOTHER SYSTEM OF ABBREVIATED WRITING	3	Students will follow the required course sequence, according to the guidance they receive from the program director or coordinator.		
BUED 5055	METHODOLOGY FOR THE TEACHING OF COURSES RELATED WITH HEALTH SERVICES	3	Students interested in obtaining a certificate as a school		

teacher, supervisor or director of regular or vocational schools must take the courses required by the Teachers Certification Regulation of the Department of Education that is in effect at the date of graduation.

## Minor Specialization in Business and Entrepreneurial Education with Exceptional Populations

The Minor Specialization in Business and Entrepreneurial Education with Exceptional Populations is designed for the graduate student of the Master of Arts in Business and Entrepreneurial Education. This minor specialization aims to develop knowledge and skills in the education of exceptional students, students with specific learning disabilities, and those with superior or talented intelligence. The student will be trained in the application of technology in Business and Entrepreneurial Education.

The student who has approved any of the required courses must complete the 12 credits with any of the other courses required for the minor specialization.

The Metropolitan and San Germán campuses are authorized to offer this minor specialization.

### Requirements for the Minor Specialization in Business and Entrepreneurial Education with Exceptional Populations - 15 credits

#### Required Courses

BUED 6060	INTEGRATION OF TECHNOLOGY IN BUSINESS AMND ENTREPRENEURIAL EDUCATION	3
BUED 6070	VIRTUAL LEARNING ENVIRONMENTS FOR EXCEPTIONAL STUDENTS	3
EDUC 5740	EDUCATION OF THE EXCEPTIONAL POPULATION	3
EDUC 6044	POPULATION WITH SPECIFIC LEARNING PROBLEMS	3
Select three (3) credits from the following courses:		
BUED 5040	CURRICULAR INNOVATIONS IN TEACHING	3
EDUC 6045	POPULATION WITH SUPERIOR INTELLIGENCE AND TALENTS	3
EDUC 6270	EVALUATION AND DESIGN OF TEACHING FOR	3

## EXCEPTIONAL STUDENTS

### Clinical Social Work (DSW)

The Doctoral Program in Clinical Social Work (DSW) is aimed at social workers interested in expanding their clinical knowledge, contributing to research and to the dissemination of the results of the effectiveness in the biopsychosocial intervention. In addition, it is oriented towards prevention, secondary and tertiary treatment in the field of mental health from a health perspective. Likewise, neuroscience is integrated into clinical practice.

The Metropolitan Campus is authorized to offer this Program.

#### Program Goals

1. Carrying out the practice of clinical social work with diverse populations to strengthen, maintain and restore the biological, psychological, social and spiritual functioning of people in their eco-systemic environment.
2. Contributing the scientific knowledge of clinical social work by investigating evidence-based practices that evaluate the effectiveness of professional intervention.

#### Competencies Profile of Graduates

The Doctoral Program in Clinical Social Work is designed to develop the professional skills that allow the student to:

#### Knowledge

Demonstrate knowledge and understanding of:

1. the cognitive, neurobiological and sociocultural bases of human behavior on which the practice of clinical social work is based.
2. the issues and ethical dilemmas that arise in clinical practice to act in accordance with the Code of Ethics.
3. evidence-based practices that can be integrated into your profession as a clinical social worker.
4. therapeutic models to be applied according to the needs of individuals, families and groups in the practice of clinical social work.
5. quantitative and qualitative methodologies for the evaluation of their clinical practice.

#### Skills

1. Apply ethical reasoning strategies in the management of ethical issues and dilemmas that are made in the practice of clinical social work.
2. Diagnose psychosocial conditions that affect human behavior through the use of a variety of instruments.
3. Carry out interventions documented by the psychosocial diagnosis.
4. Intercede in the defense of diverse populations for access to mental health services.
5. Apply practices based on scientific evidence to generate new knowledge in clinical social work.

**Attitudes**

1. Commit to disseminate knowledge derived from the practice of clinical social work.
2. Combat discrimination, oppression and stigma as conditions that perpetuate inequality in access to mental health services.

**Admission Requirements**

1. Have a command of the Spanish and English languages.
2. Hold a Master in Social Work from a graduate program accredited by the CSWE or its equivalent in other countries.
3. Submit an essay of their experiences in social work and their interest to be admitted to the doctoral program of clinical social work.
4. Take part in an interview and be recommended by the Program Admissions Committee.

**Admission of Transfer Students**

The admission of students transferred to the Doctoral Program will be taken into consideration if they satisfy the program conditions set out in the "Requirements for Admission to the Doctoral Program in Clinical Social Work".

Candidates must arrange with their university of origin to have their academic record sent directly to the Campus' Admission, so that they are granted credit for studies already done with the conditions stipulated below:

1. Candidates for admission as transferred students will be considered if they meet the conditions set forth in the section "Academic Admission Requirements".

2. Students who have begun studies for a doctoral degree in another professional discipline or in another doctoral program in social work can transfer up to 15 credits that have been approved with A or B. No substitution or equivalence will be authorized for methodology or practice in clinical social work.
3. The courses to be transferred must be equivalent to the courses offered in the Doctoral Program in Clinical Social Work of the Inter-American University and be approved by the faculty.

**Candidacy Requirements**

To obtain the candidacy for the Doctoral Degree in Clinical Social Work, students must present and receive approval of the publishable article by the evaluation committee. This candidacy requirement replaces the comprehensive exam and must be met prior to enrollment in Dissertation I.

**Graduation Requirements**

To graduate, students in this Program must meet the following requirements:

1. Have passed all courses with a minimum grade of B.
2. Defend and approve the doctoral dissertation.

**Non-validation Policy**

The Doctoral Program in Clinical Social Work (DSW) does not validate academic credit for previous life pr work experience.

**Requirements for the Doctorate in Clinical Social Work**

Specialization Requirements	28 credits
Operational Requirements	17 credits
Prescribed Distributive Requirements	2 credits
<b>Total</b>	<b>47 credits</b>

<b>Specialization Requirements - 28 credits</b>		
SOWO 7215	QUALITATIVE AND QUANTITATIVE INVESTIGATION IN CLINICAL SOCIAL WORK	3
SOWO 7230	NEUROSCIENCES AND CLINICAL INTERVENTION IN SOCIAL WORK	3
SOWO 7310	STATISTICS APPLIED TO THE EVALUATION OF CLINICAL SOCIAL WORK	2
SOWO	PSYCHOTHERAPEUTIC	2

7315	INTERVENTION MODELS	
SOWO 7410	CLINICAL THEORIES IN SOCIAL WORK	3
SOWO 8015	EVALUATION OF EFFECTIVENESS IN THE PRACTICE OF CLINICAL SOCIAL WORK	3
SOWO 8025	BIOPSYCOSOCIAL AND PSYCHOPATHOLOGICAL DIAGNOSIS IN CLINICAL SOCIAL WORK	3
SOWO 8030	CLINICAL INTERVENTION WITH FAMILIES	3
SOWO 8040	CLINICAL INTERVENTION WITH CHILDREN AND ADOLESCENTS	2
SOWO 8050	CONSTRUCTION OF MEASUREMENT INSTRUMENTS IN CLINICAL SOCIAL WORK	2
SOWO 8060	HEALTH PERSPECTIVE IN CLINICAL SOCIAL WORK	2
Operational Requirements - 17 credits		
SOWO 8026	BIOPSYCHOSOCIAL AND PSYCHOPATHOLOGICAL DIAGNOSTIC SEMINAR	2
SOWO 8016	EVALUATION OF PRACTICE EFFECTIVENESS SEMINAR	2
SOWO 8910	CLINICAL INTERNSHIP I	1
SOWO 8921	CLINICAL INTERNSHIP II	2
SOWO 892A	Or CLINICAL INTERNSHIP II A	1
SOWO 892B	And CLINICAL INTERNSHIP II B	1
SOWO 8931	CLINICAL INTERNSHIP III	2
SOWO 893A	Or CLINICAL INTERNSHIP III A	1
SOWO 893B	And CLINICAL INTERNSHIP III B	1
SOWO 8985	DISSERTATION AND PUBLICATION SEMINAR	2
SOWO	DISSERTATION I	3

8991		
SOWO 8992	DISSERTATION II	3
Prescribed Distributive Requirements - 2 credits		
The student must pass one course from the following:		
SOWO 8110	TRAUMA AND ADVANCED CLINICAL PRACTICE IN SOCIAL WORK	2
SOWO 8120	ADDICTIONS AND THE PRACTICE OF CLINICAL SOCIAL WORK	2
SOWO 8130	THERAPEUTIC GROUPS WITH VARIOUS POPULATIONS	2
PSYC 8650	CLINICAL PSYCHOPHARMACOLOGY	2

### Clinical Social Work (Post Master Degree Professional Certificate)

The Post Master Degree Professional Certificate Program in Clinical Social Work aims to prepare social workers with a biopsychosocial and interdisciplinary approach to work in independent practice in diverse scenarios by integrating models for primary, secondary and tertiary prevention.

Current clinical social work deals with care of diverse human systems without excluding the possibility of intervening with broader social systems. Clinical social work with a biopsychosocial approach transfers its center of attention from the individual as the main client to the evaluation, diagnosis and intervention in and between human systems. It integrates diverse biological, psychological and social variables and associates them to explain behavior in family, group and interpersonal relations that individuals have with their environment. With this approach, social intervention moves, in addition, towards intervention centered on the family, consultation and evaluation of the professional practice. This can be conducted in public or private scenarios.

The Metropolitan Campus is authorized to offer this Program.

#### Admission Requirements

1. Hold a Master in Social Work from a program accredited by the Council on Social Work Education (CSWE).

#### Non-validation Policy

The Post Master Professional Certificate in Clinical Social Work does not validate academic credit for previous life or work experience.

**Graduation Requirements**

In order to complete the Post Master Professional Certificate in Clinical Social Work, students must pass at least 18 credits with a general average of 3.00.

**Requirements for Post Masters Professional Certificate in Clinical Social Work Professional Certificate Requirements - 18 credits**

Certificate Requirements - 18 credits			
SOWO 7130	CONCEPTUAL APPROACHES IN CLINICAL SOCIAL WORK		3
SOWO 7140	COORDINATED HANDLING OF MENTAL HEALTH AND CLINICAL SOCIAL WORK		3
SOWO 7150	FAMILY THERAPY IN SOCIAL WORK		3
SOWO 7153	SOCIAL WORK IN COUPLES THERAPY		3
SOWO 7154	GROUP THERAPY IN SOCIAL WORK		3
SOWO 7156	PRACTICUM IN CLINICAL SOCIAL WORK		3

**Computer Science (MS)**

The program of studies for this degree has been designed to provide students a real option to the immediate demands of the labor market. It represents a formal higher education alternative in the computer field, with emphasis on programming at the master’s level, through the most sophisticated and accessible networks in any company.

The program follows the path of a master’s degree without specializations, which should be developed according to the technological advances. This program aspires to prepare graduates as specialists in the distributed system area, software engineering specialized in communication networks, operating systems and high-level languages. These capacities will permit the graduates to be incorporated into the industrial sector as constituents capable of promoting the adoption of new technologies as well as developing basic or applied research with the aim of continuing doctoral studies.

The Fajardo Campus is authorized to offer this Program in-campus and through online education.

**Admission Requirements**

In addition to fulfilling the admission requirements for master’s degree studies appearing in this Catalog, candidates desiring to enter this Program must meet the following requirements:

1. Hold a Bachelor in: (a) Computer Programming, (b) Information Systems or other disciplines. Students from other disciplines must have approved nine (9) credits in Computers. These courses must be authorized by the academic adviser or the person designated.
2. Have obtained a minimum average of 250 in the major, as well as in the general average of the bachelor’s degree.

**Requirements for the Master of Science in Computer Science**

Specialization Requirements	31 credits
Prescribed Distributive Requirements	6 credits
<b>Total</b>	<b>37 credits</b>

**Specialization Requirements - 31 credits**

COMP 5100	DESIGN OF ALGORITHMS	3
COMP 5110	AUTOMATA THEORY AND FORMAL LANGUAGES	3
COMP 5120	ARTIFICIAL INTELLIGENCE	3
COMP 5325	PROGRAMMING LANGUAGES	3
COMP 5510	SOFTWARE DEVELOPMENT AND DESIGN	3
COMP 5525	SEMINAR I	3
COMP 6300	NETWORKS I	3
COMP 6315	OPERATING SYSTEMS	3
COMP 6400	NETWORKS II	3
COMP 6970	INTEGRATED SEMINAR	4

**Prescribed Distributive Requirements**

Students will select one course from the following:

COMP 6010	OPERATIONS RESEARCH	3
COMP 6200	MULTIMEDIA AND HYPERMEDIA	3
COMP 6250	COMMUNICATION PROTOCOLS	3

Students will select one course from the following:

COMP 6500	DATABASE WORKSHOP	3
COMP 6525	PROGRAMMING	3

COMP 6615	WORKSHOP SEMINAR II: COMPUTATION AND SOCIETY	3
COMP 6650	SYSTEMS ADMINISTRATION	3

## Computer Science with Specialization in Networks and Security (MS)

The Master in Computer Sciences with Specialization in Networks and Security aims to prepare professionals in the areas of analysis, design, implementation and development of efficient and secure computer network systems. This Program seeks to have students attain advanced, updated and research knowledge in the new technologies.

As part of the philosophy of the program, it is expected that a professional (graduate) possessing the following competencies and characteristics will be prepared as:

1. An authority in the theories, principles, techniques, methods and technological trends in the area of networks and security of computerized systems;
2. Qualified to apply research methodologies for problem solving;
3. An authority in the problems that will affect the operation of computer networks; and
4. Qualified to apply research methodologies for problem solving and analysis of situations.

The Guayama Campus is authorized to offer this Program in-campus and through online education.

### Admission Requirements

In order to enter the Master in Computer Science with a Specialization in Networks and Security students must meet the admission requirements of Inter American University of Puerto Rico, as established in the current Graduate Catalog, and in addition, must have passed the following courses or their equivalents:

1. Information and Computer Literacy
2. Introduction to Data Communication
3. Network Management I and II
4. Computerized Systems Analysis and Design

### Graduation Requirements

1. Comply with the satisfactory academic progress norms at the graduate level.
2. Approve the thirty-nine (39) credits of the program with a minimum grade point index of 3.00.
3. Have approved the research project.

### Competencies Profile of Graduates

This program is designed to develop the competencies that will enable students to:

#### Knowledge

Demonstrate knowledge and understanding of:

1. The characteristics and the fundamental technological elements of a computer network.
2. The principles of security for computerized systems and their interrelation with the computer networks.
3. The theoretical and technical principles that explain the movement of data in different types of networks.
4. The importance of security methods for computerized systems and their interrelation with computer networks.
5. The process of research in the network and security areas.

#### Skills

1. Design the necessary infrastructure for the development of safe and reliable network systems.
2. Use the techniques and method of evaluation, measurement and assessment, of traffic in a network.
3. Apply the communication protocols that govern the operation of computer networks.
4. Use the method of problem solving (“troubleshooting”) in situations related to the practice of the profession.
5. Integrate the technological changes related to the area of networks and security of computerized systems.
6. Apply to the principles of research in the area of networks and security.

#### Attitudes

1. Show interest in research to improve the practice of the profession.
2. Recognize the importance of applying ethical principles in the network and security of computerized systems areas.

**Requirements for the Master of Science in Computers with Specialization in Networks and Security**

Specialization Requirements	33 credits
Prescribed Distributive Requirements	6 credits
<b>Total</b>	<b>39 credits</b>

Specialization Requirements - 36 credits

CSNS 5100	NETWORK ANALYSIS AND DESIGN	3
CSNS 5110	PRINCIPLES OF RESEARCH	3
CSNS 5121	ROUTING TECHNOLOGIES I	3
CSNS 5131	NETWORK SWITCHING TECHNOLOGIES I	3
CSNS 5222	ROUTING TECHNOLOGIES II	3
CSNS 5232	NETWORK SWITCHING TECHNOLOGIES II	3
CSNS 6100	FIREWALLS	3
CSNS 6110	SECURITY AND FORENSIC COMPUTING	3
CSNS 6220	INTRUSION DETECTION SYSTEMS	3
CSNS 6230	SECURITY DESIGN IN NETWORKS	3
CSNS 6240	ASSESSMENT OF SECURITY IN NETWORKS	3
CSNS 6330	RESEARCH PROJECT	3
Prescribed Distributive Requirements - 3 credits		
CSNS 5220	CRYPTOGRAPHY IN NETWORKS	3
CSNS 6310	NETWORK TROUBLESHOOTING TECHNIQUES	3
CSNS 6320	SATELLITE COMMUNICATIONS SYSTEMS	3

**Criminal Justice (MA)**

The Master of Arts in Criminal Justice aims to provide an education of excellence to students interested in the field of Criminal Justice, so that they can perform effectively in public, private, state and federal agencies.

The Program aims to prepare the student to do research in the field of criminal justice; respond to the need for maintaining highly qualified professionals that master the competencies required in this discipline; and to train professionals to get involved with the different populations and problems that society faces.

The Metropolitan Campus has a consortium with our School of Law that will allow qualified students to earn an MA in Criminal Justice and a Juris Doctor (JD). Interested students must contact the academic department at the Metropolitan Campus for information and requirements.

The Aguadilla, Barranquitas, Fajardo, Metropolitan and Ponce campuses and the University Center of Caguas of the Metropolitan Campus are authorized to offer this Program. The Barranquitas Campus is authorized to offer this Program through online education.

**Competencies Profile of Graduates**

The Program is designed to develop the competencies that will enable students to:

**Knowledge**

1. Know the existing interaction between the state and federal legal systems, and between individuals and society.
2. Know the stages of the penal procedural right and the right of proof related to the Puerto Rico Justice System.
3. Know the social and legal aspects of juvenile delinquency.
4. Know the social-scientific research method.

**Skills**

1. Apply the criminological theories to the comprehensive study of the relation between laws, individuals and society.
2. Analyze the social and legal aspects of juvenile delinquency, as well as the theories, factors and conditions associated with this social problem.
3. Analyze the factors and conditions that lead people to create dependency on psycho addictive or illegal substances and to criminal conduct.
4. Apply the social-scientific research method to the development of research in the area of criminal justice.



- Evaluate the effectiveness of the prevention, treatment and rehabilitation strategies used with people with deviant behavior.

CJUS 5310	STATE AND FEDERAL JUSTICE SYSTEMS CRIMINAL PROCEDURE AND EVIDENCE LAW	3
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**Attitudes**

- Demonstrate a critical attitude towards the study of the interaction of the Puerto Rico legal system, individuals and society.
- Demonstrate a positive attitude towards the people with deviant behavior who are in the rehabilitation process.
- Recognize the importance of research as an effective means for the production and construction of knowledge in the area of criminal justice.
- Recognize the importance of a ethical-legal conduct in the field of criminal justice.

Select one course from the following:

CJUS 5237	JUVENILE JUSTICE	3
CJUS 5613	ADDICTION, CRIMINALITY AND REHABILITATION	3

Prescribed Distributive Requirements - 9 credits

Select nine (9) credits from the following courses:

CJUS 5023	ELEMENTS OF CRIMINAL LAW	3
CJUS 5299	LAW AND CORRECTION	3
CJUS 5900	SPECIAL ASSIGNMENT	3
CJUS 5970	SPECIAL TOPICS	3

**Graduation Requirements**

- Have a minimum general average of 3.00.
- Approve one of the following options, as determined by the campus:
  - A comprehensive examination, which those students who have approved 30 credits including the Specialization Requirements, may request. Students will graduate with a total of 33 credits.
  - The course CJUS 6970 Integration Seminar results in 3 additional credits, therefore the student will graduate with a total of 36 credits.\*

**Crisis Intervention (Post-Bachelor Professional Certificate)**

The Professional Certificate in Crisis Intervention aims to train professionals capable of offering competent, sensitive, effective, safe and quality care to the individual, family, group, and community that are going through times of crisis.

The San Germán Campus is authorized to offer this certificate.

**Competencies Profile of Graduates**

This Professional Certification in Crisis Intervention is designed to develop the competences that allow the student to:

**Knowledge**

Demonstrate knowledge and understanding of:

- the fundamental concepts of nursing interventions in crisis situations.
- the process of decision making and problem solving as a basis for providing safe and rapid care during a crisis situation.
- nursing intervention models in crisis situations according to the stages of growth and development.

**Abilities**

- Execute competent and safe care in accordance with the practice standards of the profession.

**Requirements for the Master of Arts in Criminal Justice**

Specialization Requirements	21 credits
Prescribed Distributive Requirements	9 credits
Elective Courses	3 credits
Total	*33-36 credits

Specialization Requirements - 21 credits

CJUS 5010	LAW AND SOCIETY	3
CJUS 5055	CRIMINOLOGY	3
CJUS 5060	METHODOLOGY OF SOCIAL-SCIENTIFIC RESEARCH	3
CJUS 5070	SOCIAL-SCIENTIFIC RESEARCH APPLIED TO CRIMINAL JUSTICE	3
CJUS 5080	PUBLIC POLICY AND THE	3

2. Participate with the health team in the rapid and safe intervention, so that the person can return to his way of functioning prior to the crisis.
3. Apply management and leadership skills to promote changes in the benefits of the person in crisis.

**Attitudes**

1. Evaluate your professional role with responsibility and commitment.
2. Value ethical-legal principles by offering care in response to changing needs in crisis situations.
3. Demonstrate responsibility and commitment to their own development and to the profession.

**Admission Requirements**

1. Comply with all the admission regulations established in the Graduate Catalog.
2. To be a candidate for admission to the Program, the student must:
  - a. Submit evidence of holding a Bachelor in Nursing from a recognized and accredited institution of higher education with a minimum average of 2.50.
  - b. Hold a Generalist Nurse license issued by the Board of Examiners of Nurses of Puerto Rico.

**Academic Progress Requirements**

1. Comply with all the academic progress rules established in the Graduate Catalog.
2. Pass all courses with a minimum grade of B.

**Graduation Requirements**

In addition to fulfilling all the graduation requirements established in the Graduate Catalog, the applicant for this Professional Certificate in Crisis Intervention through the one-year program must:

1. Be a regular student.
2. Obtain a minimum academic index of 3.00.

**Requirements for the Professional Certificate in Crisis Intervention**

Professional Certificate Requirements - 18 credits  
 CRIN 5000 FOUNDATIONS OF THE

3

	INTERVENTION IN CRISIS	
CRIN 5001	INTERVENTION IN CRISIS: CHILDHOOD TO ADOLESCENCE	3
CRIN 5002	INTERVENTION IN CRISIS: ADULTHOOD	4
CRIN 5003	INTEGRATED PRACTICE I	4
CRIN 5004	INTEGRATED PRACTICE II	4

**Cyber Security (Post Bachelor Professional Certificate)**

The Post Bachelor Professional Certificate in Cyber Security contains a curriculum that trains the student with the essential elements for the security of information systems. The Program emphasizes the fundamental techniques for the detection of threats and vulnerabilities, as well as the protection of computerized information systems and computer networks. In addition, the laws related to security are studied, as well as the operation of the agencies that are responsible for compliance with them. The student will know the essential elements of the threats to the security of an information system, security assessment techniques, related laws and analysis and mitigation of cybercrimes.

The Ponce Campus is authorized to offer this Program through online education.

**Competencies Profile of Graduate**

The Program is designed to develop the skills that allow the student:

**Knowledge**

Demonstrate knowledge and understanding of:

1. concepts and techniques for security in computerized information systems and computer networks.
2. systems, security applications and physical security policies, laws and protection of computerized networks.

**Skills**

1. Use essential methods in the protection of computerized information systems and computer networks.
2. Employ assessment, design, protection and mitigation techniques in computer systems.

**Attitudes**

1. Recognize the ethical principles that apply to the field of cybersecurity.

**Admission Requirements**

1. Comply with the admission rules established in the Graduate Catalog of the Inter-American University of Puerto Rico.
2. Hold a Bachelor in Computer Science, in Engineering or related areas.

**Professional Certificate Requirements in Cyber Security (Post Bachelor)**

Specialization Requirements	12 credits
Distributive Prescribed Requirements	3 credits
<b>Total</b>	<b>15 credits</b>

Specialization Requirements - 12 credits		
CYSE 5000	INTRODUCTION TO CYBER SECURITY	3
CYSE 5010	DESIGN, IMPLEMENTATION AND ASSESSMENT IN SECURITY	3
CYSE 5020	ETHICAL AND LEGAL ASPECTS	3
CYSE 5030	CYBER CRIMES: ANALYSIS AND MITIGATION	3

Distributive Prescribed Requirements - 3 credits

(Select one course among the followings)

CYSE 5040	FORENSIC SECURITY AND COMPUTERS	3
CYSE 5050	NETWORK PENETRATION TESTS	3

**Databases (MS)**

The Master of Science in Databases is designed to provide a formal higher education alternative in the field of design, creation and management of databases and communication networks. This Program aims to train the graduate as a specialist in the area of distributed systems, software engineering specialized in communication networks, operating systems and high-level languages.

The Fajardo Campus is authorized to offer this program.

**Competencies Profile of Graduates**

The Master of Science in Databases is designed to develop the skills that allow the student:

**Knowledge**

1. Be updated with the different technologies that are used for the creation, administration, implementation, and improvement of databases.
2. Develop formal research work in the field of databases that explore and allow the use of computer technology in different areas of knowledge and human activity.
3. Detect problems and propose the respective solution in situations where knowledge-based systems of management, programming and database administration are suitable to support decision-making.
4. Integrate an effective and productive work team.
5. Study formal computational models such as algorithm complexity theory and see their usefulness in the design, development, management, use of programming and information management.

**Skills**

1. Propose technological solutions in databases to process them and convert them into useful information for decision making.
2. Apply computational knowledge that will be useful in solving problems of database design and development.
3. Apply formal methods in solving computational problems, such as development of Entity-Relationship models and specification of relational databases.
4. Design, develop, manage, and administer distributed and relational databases with progressive achievements proportional to the increase in their depth and complexity.
5. Apply the methodologies, tools and techniques for planning, design and implementation of projects.

**Attitudes**

1. Recognize the importance of technically specialized teamwork.
2. Recognize the importance of using professional skills and available resources to solve problems in your work area.

- 3. Demonstrate commitment to professional performance framed by ethical and legal principles applicable to the profession.

**Requirements of the Master in Science in Database**

Specialization Requirements	34 credits
Prescribed Distributive Requirements	3 credits
<b>Total</b>	<b>37 credits</b>

Specialization Requirements - 34 credits		
COMP 5100	DESIGN OF ALGORITHMS	3
COMP 5105	DISTRIBUTED DATABASE SYSTEMS	3
COMP 5125	PARALLEL DATABASE SYSTEMS	3
COMP 5130	DATABASE MANAGEMENT SYSTEMS	3
COMP 5320	CRYPTOGRAPHY AND DATA SECURITY	3
COMP 5425	DATABASE SEMINAR	3
COMP 6310	INTERNAL DESIGN IN DATABASE SYSTEMS	3
COMP 6410	ANALYSIS, DESIGN AND STRUCTURE OF DATABASES	3
COMP 6530	APPLICATION OF DATABASE SYSTEMS	3
COMP 6540	ADVANCED DATABASE PROGRAMMING PROJECT	3
COMP 6970	INTEGRATED SEMINAR	4
Prescribed Distributive Requirements - 3 credits		
The student will select one (1) of the following courses:		
COMP 6500	DATABASE WORKSHOP	3
COMP 6525	PROGRAMMING WORKSHOP	3
COMP 6650	SYSTEMS ADMINISTRATION	3

**Database Technology and Administration (Post-Bachelor Professional Certificate)**

The Metropolitan Campus is authorized to offer this Professional Certificate.

**Requirements for the Professional Certificate In Database Technology and Administration**

Core Courses Requirements 21 credits

Core Courses Requirements - 21 credits		
COIS 5100	RELATIONAL DATA BANKS	3
COIS 5120	CLIENT-SERVER NETWORKS AND ARCHITECTURE	3
COIS 5130	DESIGN METHODOLOGY AND ADVANCED TOOLS	3
COIS 5200	APPLICATION OF PROGRAMMING LANGUAGES IN DATABASES	3
COIS 5210	DATABASE MANAGEMENT	3
COIS 5400	RAPID APPLICATION DEVELOPMENT	3
COIS 6200	SYSTEM TUNING, TROUBLESHOOTING, CODIFICATION, SECURITY AND QUALITY	3

**Distribution and Global Logistics (MS)**

The Master of Science in Distribution and Global Logistics (online) aims to prepare graduates with the competencies, skills and knowledge needed to work in the fields of transportation, distribution and logistics.

This degree is aimed at professionals, administrators, managers, engineers, executives, directors, owners of businesses and would-be entrepreneurs, interested in analyzing processes, developing and implementing strategies for distribution and logistics that respond to changes in local and global markets. Competencies are provided so that they can occupy positions of analysts of processes of business logistics, administrative distribution managers, or other areas of management support that do not require a professional license.

The Ponce Campus is authorized to offer this program through online education.

**Program Goals**

1. Meet the needs of businesses, organizations, and government agencies through the training of specialists in the field of distribution and logistics.
2. Promote the development and application of knowledge in distribution and logistics operations.
3. Contribute to the development of professionals

providing them with the knowledge, skills and attitudes that enable them to solve problems, evaluate and analyze the performance of the distribution and logistics management.

logistics as key role to meet the challenges and needs in the management of marketing products and services.

3. Demonstrate continuous commitment to their professional development and ethical principles.

**Program Objectives**

1. Provide the fundamental aspects related to the processes and operations of transportation, distribution and logistics in the local and international level.
2. Encourage the development of skills for the analysis of processes of transportation, distribution and logistics through analysis of routes and the design of distribution channels.
3. Promote the importance of distribution and logistics functions in international organizations.

**Requirements of the Master of Science in Distribution and Global Logistics (Online)**

Core Requirements	6 credits
Specialization Requirements	24 credits
<b>Total</b>	<b>30 credits</b>

Core Requirements - 6 credits

IBAD 5210	INTERNATIONAL INFORMATION SYSTEMS	3
IBAD 5220	INTERNATIONAL BUSINESS MARKETING	3

Specialization Requirements - 24 credits

GLLO 6100	INTRODUCTION TO GLOBAL LOGISTICS	3
GLLO 6150	MARINE LOGISTICS	3
GLLO 6200	TECHNOLOGY FOR GLOBAL LOGISTICS	3
GLLO 6250	MANAGEMENT OF INTERNATIONAL DISTRIBUTION CHANNELS	3
GLLO 6300	SECURITY IN THE GLOBAL VALUE CHAIN	3
GLLO 6400	ADVANCED GLOBAL LOGISTICS	3
GLLO 6970	INTEGRATIVE SEMINAR IN DISTRIBUTION AND GLOBAL LOGISTICS	3
GLLO 6971	SPECIAL PROJECT IN DISTRIBUTION AND GLOBAL LOGISTICS	3

**Competencies Profile of Graduates**

The program is designed to develop the skills that enable the student to:

**Knowledge**

1. Know the theoretical and practical foundations related to the field of distribution and global logistics.
2. Recognize the aspects necessary to develop plans and models for the management of business logistics and distribution.
3. Identify business strategies that complement the corporate strategy.

**Skills**

1. Develop models of enterprise distribution of products and services.
2. Interpret indicators, coefficients, and metrics for the evaluation of the distribution and logistics operations.
3. Apply theories, principles and models of operation and logistics to the analysis of efficiency and optimization of enterprise supply chain.

**Attitudes**

1. Disseminate the importance of the principles and objectives in the analysis of distribution and logistics as a tool to add value to the enterprise business model.
2. Value the management of distribution and global

**Economic Crimes Research (MA)**

The Master of Arts in Economic Crimes Research is aimed at effectively training professionals in the prevention, detection, investigation and prosecution of economic crimes, through the development of advanced skills and knowledge in the use of new technologies and techniques of research related to this field.

The purpose of this Program is to develop research in state and federal government, as well as in private institutions.

The Metropolitan Campus is authorized to offer this program.

**Competencies Profile of Graduates**

The Program is designed to develop the skills that allow the student:

**Knowledge**

1. Recognize the socioeconomic, ethical, political, technological, cultural and legal factors that affect the commission of economic crimes.
2. Analyze areas of risk and compliance in order to avoid losses to both the public and private organizations for which it works.
3. Evaluate the individual and collective data that allow the design and development of prevention, detection, investigation and prosecution plans for economic crimes.

**Skills**

1. Design strategic plans aimed at the prevention, detection and investigation of different types of economic crimes, within an organization.
2. Determine the use of applicable technology in the analysis and investigation of economic crimes.

**Attitudes**

1. Demonstrate the interpersonal, practical and ethical skills of an economic crime investigator.
2. Appreciate the impact that economic crimes have on national and international trade.

**Graduation Requirements**

1. Approve all specialization requirements with a minimum grade of B.

**Requirements of the Master in Arts in Economic Crimes Research**

Specialization Requirements	30 credits
Prescribed Distributive Requirements	6 credits
<b>Total</b>	<b>36 credits</b>

Specialization Requirements - 30 credits

ECRE 5010	THEORETICAL FUNDAMENTALS OF ECONOMIC CRIMES	3
ECRE 5020	ETHICS IN ORGANIZATIONS	3
ECRE 5060	LEGAL ASPECTS OF	3

ECRE 5080	ECONOMIC CRIMES ORGANIZED CRIME, NATIONAL SECURITY AND TERRORISM	3
ECRE 5110	RISK MANAGEMENT, PREVENTION AND COMPLIANCE	3
ECRE 5210	FRAUD RESEARCH	3
ECRE 5220	OCCUPATIONAL FRAUD	3
ECRE 5410	CYBER CRIMES	3
ECRE 6931	RESEARCH PROJECT	3
ACCT 6440	FORENSIC ACCOUNTING	3

Prescribed Distributive Requirements - 6 credits

Select six (6) from the following courses:

ECRE 5420	MODERN TECHNIQUES FOR THE COLLECTION OF THE EVIDENCE	3
ECRE 5430	INTERVIEW AND INTERROGATORY PROCESSES	3
ECRE 597_	SPECIAL TOPICS	3
CJUS 5080	PUBLIC POLICY AND THE STATE AND FEDERAL JUSTICE SYSTEMS	3
CJUS 5410	WHITE COLLAR CRIME	3
CJUS 5520	MANAGERIAL ASPECTS IN PUBLIC AND PRIVATE SECURITY	3
BADM 5100	ORGANIZATIONAL THEORY AND BEHAVIOR	3
INSE 5140	Security in E-Commerce	3
INSE 5201	Forensic Informatics I	3

**Education (MA, MEd and EdD)**

**Master of Arts in Education (MA)**

The Master of Arts in Education offers graduate students a wide variety of specializations. Applicants for admission to these programs, besides meeting the admission requirements for studies at the master's level, must be capable of reading and interpreting professional matter in both Spanish and English and possess the ability to express themselves correctly in writing in one of these languages. This ability will be determined through an examination or other appropriate means. For specialization in a teaching field, the applicant must have an undergraduate major in the field of specialization.

**Comprehensive Examination**

Students may take the comprehensive examination or one of the other options explained in this Catalog after having passed all of their program’s foundation and specialization courses.

## Specialization in Counseling

The specialization in Counseling is oriented toward the training of high quality professionals who can perform in organizations, corporations, institutions, government agencies, and educational institutions, both public and private.

The Arecibo, Metropolitan and San Germán campuses are authorized to offer this Specialization.

### Program Objective

1. Develop a counseling and health professional with self-identity, and the knowledge, skills, sensitivity, and ethics that allows for efficient performance in the functions stipulated by the laws and codes of ethics that regulate the profession.
2. Prepare counseling professionals equipped with research skills and who can implement counseling programs that facilitate the academic progress and development of the biopsychosocial dimensions of students.
3. Train students to use different assessment tools in personal and vocational decision making processes.

### Competencies Profile of Graduates

The graduate of the Master of Arts in Education with a specialization in Counseling will be able to:

#### Knowledge

1. Integrate the theoretical and ethical knowledge of the discipline as a professional counselor in the different educational levels.
2. Evaluate counseling programs according to research findings and the needs of the population to be served.

#### Skills

1. Demonstrate the required skills during the case management data collection process that includes the intervention and evaluation plan.
2. Develop therapeutic interpersonal skills appropriate for professional practice.

3. Design a counseling program that incorporates technology and that responds to the needs identified in the educational community.

### Attitudes

1. Value personal, psychological and social development that encourages the optimal use of human potential.
2. Act in accordance with the ethical standards of respect and sensitivity in working with the needs of diverse populations.

### Admission Requirements

In addition to meeting the admission requirements for master’s degree studies established by the University, candidates for admission to the Master of Arts in Education with a Specialization in Counseling Program must satisfy the following requirements:

Have approved the following courses or equivalents with a minimum grade of B:

1. EDUC 2022 Society and Education (3 credits)
2. EDUC 2060 Integration of Technology in Education (2 credits)
3. EDUC 2870 Exceptional Student Population (4 credits)
4. PSYC 1051 General Psychology I (3 credits)
5. PSYC 3001 Statistical Methods I (3 credits)

Have a minimum academic index of 3.00 points in the last sixty (60) credits of academic work.

Note: Candidates interested in becoming certified as a school counselor must comply with the general requirements stipulated by the Department of Education of Puerto Rico.

### Requirements for the Master of Arts in Education with a Specialization in Counseling

Foundation Requirements	9 credits
Specialization Requirements	43 credits
Total	*52 credits

Foundation Requirements - 9 credits  
 EDUC 5047 PSYCHO-SOCIAL FOUNDATIONS OF EDUCATION

EDUC 6220	HUMAN DEVELOPMENT AND DIVERSITY PROCEESS	3	theoretical foundations, the use and promotion of scientific research, the integration of technology to practice, the application of the highest ethical principles of the profession and participation in practical experiences in teaching scenarios.
EDUC 6931	RESEARCH OR APPLICATION PROJECT IN THE AREA OF SPECIALIZATION I	3	
Specialization Requirements - 43 credits			
EDUC 5370	FOUNDATIONALS OF COUNSELING AND PROFESSIONAL ETHICS	3	The Aguadilla, Arecibo, Barranquitas, Fajardo, Metropolitan and San Germán campuses are authorized to offer this Program.
EDUC 6420	COUNSELING FOR LIFE AND CAREER TRANSITION	3	
EDUC 6451	COUNSELING THEORIES	3	
EDUC 6452	INDIVIDUAL COUNSELING	3	
EDUC 6455	ASSESSMENT OF THE INDIVIDUAL	3	
EDUC 6457	ASSESSMENT AND EVALUATION IN COUNSELING	3	
EDUC 6460	CHILD AND ADOLESCENT COUNSELING	3	
EDUC 6470	GROUP COUNSELING	3	
EDUC 6472	FAMILY COUNSELING AND CONSULTATION	3	
PSYC 6090	PSYCHOPATHOLOGY THROUGHOUT THE LIFE CYCLE	3	
EDUC 6912	PRACTICUM IN COUNSELING	2	
EDUC 6918	INTERNSHIP IN COUNSELING I	3	
EDUC 6919	INTERNSHIP IN COUNSELING II	5	
EDUC 697G	INTEGRATION SEMINAR IN COUNSELING	3	

\*The course EDUC 697G should be taken after having approved the specialization courses and prior to the practical experiences.

## Specialization in Educational Management and Leadership

The specialization in Management and Instructional Leadership aims to form excellent professionals in the field of administration of educational programs. This specialization contributes to the development of educational managers and leaders who demonstrate mastery in the solution of problems inherent to the contemporary professional environment at the different teaching levels. This specialization focuses on the study of

### Competencies Profile of Graduates

This Program is designed to develop the competencies that will enable students to:

#### Knowledge

1. Know useful strategies that contribute to improve the management of the fiscal, administrative and human resources operations of the teaching scenario.
2. Know the principles of educational management considering the social changes, recent laws, the rules, the regulations, and the current educational-labor jurisprudence.
3. Know the due process of law applicable to the educational scenarios.

#### Skills

1. Design plans based on principalship that contributes to the professional development of teaching and non-teaching personnel.
2. Develop teaching environments of quality and excellence for the development of innovating teaching strategies, with a scientific and inclusive base to attend to the diversity of learning styles and needs of the students.
3. Use the information and communications technologies (ICT's) as a means to improve the educational, instructional, administrative and fiscal processes of educational scenarios.
4. Make administrative-participative decisions considering the opinions and suggestions of the parents, students and the teaching personnel in the instructional processes.
5. Apply the scientific method to solve problems inherent to management and educational leadership, and to the teaching strategies.

#### Attitudes



1. Respect the ethical and moral values related to the good administration of the institution’s fiscal, human, technological, and educational management.
2. Promote collaborative environments that contribute to the development of learning communities.
3. Appreciate the development of innovating activities that contribute to the achievement of the educational philosophy, vision, goals, and the objectives of the institution.

In addition to meeting the admission requirements for Master Degree studies established in this Catalog, candidates for admission to this Program must satisfy the following requirements:

1. Bachelor Degree in Education or a Bachelor Degree and Teacher Certification or
2. A bachelor’s degree, three credits in Teaching Methodology and six (6) additional credits in Education.
3. Three (3) credits in statistics are also required.

Have a minimum academic index of 3.00 points in the last sixty (60) credits of academic work.

**Requirements for the Master of Arts in Education in Educational Management and Leadership**

Foundation Requirements	9 credits
Specialization Requirements	27 credits
<b>Total</b>	<b>36 credits</b>

Foundation Requirements - 9 credits

EDUC 6931	RESEARCH OR APPLICATION PROJECT IN THE AREA OF SPECIALIZATION I	3
	Or	
EDUC 5111	EDUCATIONAL RESEARCH I	3
EDUC 6004	INFORMATION SYSTEMS IN EDUCATIONAL MANAGEMENT	1
EDUC 6058	LEGAL FOUNDATIONS OF EDUCATION	3

Specialization Requirements - 27 credits

EDUC 6000	HUMAN RESOURCES MANAGEMENT AND LABOR RELATIONS IN	3
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	EDUCATIONAL SCENES	
EDUC 6001	FISCAL MANAGEMENT	1
EDUC 6013	ORGANIZATIONAL BEHAVIOR IN EDUCATIONAL INSTITUTIONS	1
EDUC 6046	CURRICULUM DEVELOPMENT	3
EDUC 6057	TEACHING MODELS AND STRATEGIES	3
EDUC 6079	INSTRUCTIONAL LEADERSHIP	3
EDUC 6380	ADMINISTRATION OF SPECIAL EDUCATION PROGRAMS	3
EDUC 6915	INTERNSHIP IN MANAGEMENT AND EDUCATIONAL LEADERSHIP	3
	Requirements for completing the degree	
EDUC 697D	INTEGRATION SEMINAR: EDUCATIONAL MANAGEMENT AND LEADERSHIP	3

**Specialization in Physical Education: Teaching of Physical Education**

The Master of Arts Program in Education with a specialization in Physical Education enables the student to study the complexities of movement of the human body in its diverse manifestations. Graduates will be able to design, to implement and evaluate programs that promote active and healthy life styles in the context of formal as well as in informal education. The courses of this Program promote research and the integration of technology related to the field. Two subspecializations are offered: Teaching Physical Education and Sports Training and Performance. The subspecialization in Teaching Physical Education is oriented towards excellence in the preparation of effective professionals at the graduate level that have a formation in research, the design and implementation of the teaching and learning process in physical education. The subspecialization in Sports Training and Performance is directed to the development of physical training and sports programs in schools, sports and recreation.

In addition to meeting the master studies admission requirements established by Inter American University, candidates desiring to enter this Program must comply with the following requirements: A Bachelor in Physical Education, health or related areas and a course in statistics

for both subspecializations: Teaching of Physical Education and Sport Training and Performance.

The San Germán Campus is authorized to offer the Master of Arts in Physical Education with both subspecializations.

**Competencies Profile of Graduates**

The **subspecialization in Teaching of Physical Education** is designed to develop the competencies that will allow students to:

**Knowledge**

1. Know the concepts, terms and epistemological principles related to the processes of teaching and learning.
2. Identify the general standards for physical education of the Physical Education Program assigned to the Department of Education of Puerto Rico, the national standards NASPE and their application in the planning and development of learning experiences.
3. Know the philosophical, conceptual and theoretical framework that undergirds the Physical Education Program assigned to the Department of Education of Puerto Rico and to apply it to the design and implementation of educational programs.
4. Demonstrate knowledge of models and theories applicable to the design of curriculum in Physical Education.
5. Identify appropriate methods of evaluation and assessment to evidence the students' psychomotor, affective and cognitive skills.

**Skills**

1. Evaluate Public Policy documents established by the State and National educational agencies and to propose changes in harmony with current needs.
2. Use different methods of evaluation and assessment to identify students' needs in the development of cognitive capacities.
3. Apply different models, methods and teaching techniques in educational scenarios that respond to the cognitive needs.
4. Use theoretical knowledge in the revision of Physical Education programs.
5. Use models for the development of the curriculum in

the physical education that respond to the social, psychological and physical needs.

6. Put the scientific method into practice for the analysis, understanding and development of educational projects that benefit the quality from life of human beings.

**Attitudes**

1. Appreciate the advance of the communication technologies and their impact in the dissemination of scientific and nonscientist information.
2. Foment the modeling and the clarification of universal values that promote physical education and sports.
3. Model a practice as a health professional framed in principles of respect and esteem for the study of physical education.

**Requirements for the Master of Arts Degree in Education with Specialization in Physical Education**

Core Course Requirements in Education	9 credits
Core Course Requirements in Physical Education	9 credits
Subspecialization Requirements	12 credits
Elective Courses	6 credits
<b>Total</b>	<b>36 credits</b>

Core Course Requirements in Education - 9 credits		
EDUC 5111	EDUCATIONAL RESEARCH I	3

Six credits from the following orientations (Sociological EDUC 5013 or EDUC 5046; Psychological EDUC 5024 or EDUC 5047; Philosophical EDUC 5035):

EDUC 5013	SOCIOLOGICAL FOUNDATIONS OF EDUCATION	3
EDUC 5024	PSYCHOLOGICAL FOUNDATIONS OF EDUCATION	3
EDUC 5035	VALUES AND PERSPECTIVES IN CONTEMPORARY EDUCATION	3
EDUC 5046	THE INDIVIDUAL, SOCIETY AND EDUCATION	3

EDUC 5047	PSYCHO-SOCIAL FOUNDATIONS OF EDUCATION	3
Core Course Requirements in Physical Education - 9 credits		
HPER 5000	SELECTED BIBLIOGRAPHY IN PHYSICAL EDUCATION	3
HPER 6440	MOTOR LEARNING AND CONTROL	3
HPER 6910	PRACTICUM	3
Courses for the Subspecialization in Teaching of Physical Education - 12 credits		
HPER 5040	CURRICULUM DEVELOPMENT IN PHYSICAL EDUCATION	3
HPER 5050	EVALUATION, ASSESSMENT AND MEASUREMENT IN PHYSICAL EDUCATION	3
HPER 5070	MODELS AND STYLES OF TEACHING PHYSICAL EDUCATION	3
HPER 6010	SUPERVISION IN PHYSICAL EDUCATION	3

**Thesis Option**

Students may substitute a thesis for six (6) elective credits. In such cases, they must take:

EDUC 6900	THESIS SEMINAR	3
EDUC 6990	THESIS	3

**Specialization in Physical Education: Sport Training and Performance**

The Master of Arts Program in Education with a specialization in Physical Education enables the student to study the complexities of movement of the human body in its diverse manifestations. Graduates will be able to design, to implement and evaluate programs that promote active and healthy life styles in the context of formal as well as in informal education. The courses of this Program promote research and the integration of technology related to the field. Two subspecializations are offered: Teaching Physical Education and Sports Training and Performance. The subspecialization in Teaching Physical Education is oriented towards excellence in the preparation of effective professionals at the graduate level that have a formation in research, the design and implementation of the teaching and learning process in physical education. The subspecialization in Sports Training and Performance is

directed to the development of physical training and sports programs in schools, sports and recreation.

In addition to meeting the master studies admission requirements established by Inter American University, candidates desiring to enter this Program must comply with the following requirements: A Bachelor in Physical Education, health or related areas and a course in statistics for both subspecializations: Teaching of Physical Education and Sport Training and Performance.

The San Germán Campus is authorized to offer the Master of Arts in Physical Education with both subspecializations.

**Competencies Profile of Graduates**

The **subspecialization in Sport Training and Performance** is designed to develop the competencies that will allow the student to:

**Knowledge**

1. Know the concepts, terms and epistemological principles related to the function and movement of the human body.
2. Identify the trends of the discipline and their application in the planning and development of sport training programs.
3. Know the main current declarations of the American Sport Medicine School and apply them to the design and implementation of sport training programs.
4. Demonstrate knowledge of the laws, models and theories applicable to the development of the physical activity and physical exercise in different athletic populations.
5. Identify appropriate methods of evaluation and assessment to evidence athletic performance.
6. Recognize indicators of over training and its impact in sport performance.

**Skills**

1. Evaluate of Public Policy documents established by the State and National sport and recreational agencies and propose changes in harmony with the current needs.
2. Use different methods of evaluation and assessment to identify needs in the development of the athlete's physical capacities.

3. Apply different models and sport methods of training that respond to the needs of the athlete.	EDUC 5024	PSYCHOLOGICAL FOUNDATIONS OF EDUCATION	3
4. Apply different models of prevention and techniques for the rehabilitation of athletic injuries.	EDUC 5035	VALUES AND PERSPECTIVES IN CONTEMPORARY EDUCATION	3
5. Use theoretical knowledge in the revision of sport training programs.	EDUC 5046	THE INDIVIDUAL, SOCIETY AND EDUCATION	3
6. Use models for the development of physical training programs that respond to the social, psychological and physical needs.	EDUC 5047	PSYCHO-SOCIAL FOUNDATIONS OF EDUCATION	3
7. Put the scientific method into practice for the analysis, understanding and development of functional aspects of the human body in physical exercise.	Core Course Requirements in Physical Education - 9 credits		

**Attitudes**

1. Recognize the advance of communication technologies and their impact in the dissemination of scientific and nonscientist information.	HPER 5000	SELECTED BIBLIOGRAPHY IN PHYSICAL EDUCATION	3
2. Foment the modeling, clarification and practice of universal values that promote health, the integral well-being and the quality of life.	HPER 6440	MOTOR LEARNING AND CONTROL	3
3. Model a practice as a health a professional framed in the principles of respect and esteem for the study of the sport training.	HPER 6910	PRACTICUM	3
	Courses for the Subspecialization in Sports Training and Performance - 12 credits		
	HPER 5300	SPORTS PSYCHOLOGY	3
	HPER 6030	PREVENTION AND REHABILITATION OF ATHLETIC INJURIES	3
	HPER 6100	TRAINING THEORY AND METHODOLOGY	3
	HPER 6110	PHYSIOLOGY OF EXERCISE	3

**Requirements for the Master of Arts Degree in Education with Specialization in Physical Education**

Core Course Requirements in Education	9 credits
Core Course Requirements in Physical Education	9 credits
Subspecialization Requirements	12 credits
Elective Courses	6 credits
<b>Total</b>	<b>36 credits</b>

Core Course Requirements in Education - 9 credits		
EDUC 5111	EDUCATIONAL RESEARCH I	3

Six credits from the following orientations (Sociological EDUC 5013 or EDUC 5046; Psychological EDUC 5024 or EDUC 5047; Philosophical EDUC 5035):		
EDUC 5013	SOCIOLOGICAL FOUNDATIONS OF EDUCATION	3

Core Course Requirements in Physical Education - 9 credits		
HPER 5000	SELECTED BIBLIOGRAPHY IN PHYSICAL EDUCATION	3
HPER 6440	MOTOR LEARNING AND CONTROL	3
HPER 6910	PRACTICUM	3
Courses for the Subspecialization in Sports Training and Performance - 12 credits		
HPER 5300	SPORTS PSYCHOLOGY	3
HPER 6030	PREVENTION AND REHABILITATION OF ATHLETIC INJURIES	3
HPER 6100	TRAINING THEORY AND METHODOLOGY	3
HPER 6110	PHYSIOLOGY OF EXERCISE	3

**Thesis Option**

Students may substitute a thesis for six (6) elective credits. In such cases, they must take:

EDUC 6900	THESIS SEMINAR	3
EDUC 6990	THESIS	3

**Specialization in Special Education**

The Program leading to the Master of Arts in Special Education prepares teachers to work with exceptional students.

The Arecibo, Barranquitas, Fajardo, and San Germán campuses are authorized to offer this Specialization.

**Program Goals**

The Master of Arts in Special Education aspires to:

1. Prepare special education teachers who perform with excellence in the teaching of exceptional students who know and make good use of the theories, principles, concepts and norms that govern the

educational processes.

2. Prepare teachers with the necessary competencies for scientific research, design of creative and innovating projects and use of technology in the educational processes.
3. Train special education teachers with leadership who contribute in a proactive way to accomplish significant changes in the teaching of exceptional students.

### **Program Objectives**

The objectives of the Master of Arts in Special Education are to:

1. Prepare professional personnel in the field of Special Education with an ample knowledge of the nature and needs of students of an exceptional nature from the level of infants to the secondary level.
2. Develop competent professionals able to comply with the prevailing legal requirements of the federal and state legislation, as well as in the areas of diagnosis, evaluation and educational assessment in the teaching of students of an exceptional nature.
3. Develop a human resource with the appropriate knowledge and competencies to offer educational services from the level of infants to the secondary level.
4. Prepare a human resource with the skills and methods of quantitative and qualitative research and their implications in the educational task related to the teaching and learning of students of an exceptional nature.

### **Competencies Profile of Graduates**

The Program is designed to develop the competencies that will enable students to:

#### **Knowledge**

Demonstrate knowledge and understanding of:

1. The state and federal legislation prevailing in the education of the exceptional student.
2. The theories and the principles related to the evaluation, diagnosis and assessment of the exceptional population.
3. The strategies, methods and appropriate techniques of

education for the exceptional population.

4. The program individualized of education, the integration of the educational technology, the technological attendance, the reasonable arrangement and the process of transition of the exceptional student.
5. The theories, principles and concepts on the human development, the curricular design, in addition to the methods and quantitative and qualitative techniques in the research.

#### **Skills**

1. Evaluate the impact of current state and federal legislation in education of the exceptional population.
2. Analyze the theories and principles of the evaluation, diagnosis and assessment of the exceptional population.
3. Analyze the strategies, methods and teaching techniques of the exceptional population.
4. Evaluate the individualized program of teaching, the integration of the educational technology, technological assistance, the reasonable arrangement and the transition process of the exceptional population.
5. Examine the theories, principles and concepts related to human development. Curricular design and the quantitative and qualitative methods and techniques in research are included.

#### **Attitudes**

1. Value professional ethics as a means to substantiate the decisions and actions related to contents, teaching, learning and other behaviors related to the profession in the field of special education.
2. Recognize the importance of the efficiency and effectiveness of the models concerned with improving the quality of the processes of teaching and learning of exceptional students.
3. Evaluate the models related to professional development, effective communication with parents, mothers or tutors, the collaboration with the transdisciplinary team of related services, support, and program managers.

### **Requirements for Admission to the Program**

In addition to satisfying the requirements of admission to masters' studies established by the University, the candidate who wishes to be admitted to the Master of Arts in Special Education must hold a Bachelor in Education or another discipline from an accredited university and have approved a course of statistics.

**Certification of Teaching Personnel of Puerto Rico**

Students interested in obtaining the certification of teaching personnel to work in Puerto Rico must meet the current requirements of the Department of Education of the Commonwealth of Puerto Rico.

**Graduation Requirements**

Students may choose one of the following options to fulfill the "Institutional Graduation Requirements for a Master's Degree" established in this Catalog.

1. Comprehensive Examination.
2. Integration Seminar (EDUC 697F).

**Requirements for the Master of Arts in Special Education**

Foundation Requirements	9 credits
Specialization Requirements	15 credits
Prescribed Distributive Requirements	6 credits
Total	*30-33 credits

Foundation Requirements - 9 credits	
EDUC 5047	PSYCHO-SOCIAL FOUNDATIONS OF EDUCATION 3
EDUC 5111	EDUCATIONAL RESEARCH I 3
EDUC 6220	HUMAN DEVELOPMENT AND DIVERSITY PROCESSES 3

Specialization Requirements - 15 credits	
EDUC 6066	TECHNOLOGICAL AID IN TEACHING EXCEPTIONAL STUDENTS 3
EDUC 6143	TRANSITION PROCESS AND EMPLOYMENT IN SPECIAL EDUCATION AND VOCATIONAL REHABILITATION 3
EDUC 6300	STRATEGIES, METHODS AND TECHNIQUES FOR TEACHING READING AND 3

EDUC 6340	WRITING TO THE EXCEPTIONAL POPULATION DEVELOPMENT OF LANGUAGE AND READING 3
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Prescribed Distributive Requirements - 6 credits

Select 6 credits from the following courses:

EDUC 5740	EDUCATION OF THE EXCEPTIONAL POPULATION 3
EDUC 6043	POPULATION WITH INTELLECTUAL IMPEDIMENTS 3
EDUC 6044	POPULATION WITH SPECIFIC LEARNING PROBLEMS 3
EDUC 6045	POPULATION WITH SUPERIOR INTELLIGENCE AND TALENTS 3
EDUC 6047	NATURE AND NEEDS OF HANDICAPPED INFANTS AND PRESCHOOL CHILDREN 3
EDUC 6048	ASSESSMENT AND PROGRAMMING FOR HANDICAPPED INFANTS AND PRESCHOOL CHILDREN 3
EDUC 6049	DEALING WITH BEHAVIORAL DISORDERS 3
EDUC 6058	LEGAL FOUNDATIONS OF EDUCATION 3
EDUC 6090	STUDENTS WITH AUTISM 3
EDUC 6380	ADMINISTRATION OF SPECIAL EDUCATION PROGRAMS 3

Graduation Requirements

Students may choose one of the following options to fulfill the "Institutional Graduation Requirements for a Master's Degree" established in this Catalog.

1. Comprehensive Examination.
2. Integration Seminar (EDUC 697F).

\*Students who choose the Integration Seminar (EDUC 697F) will complete a total of 33 credits.

## Master of Education (MEd)

### Specialization in Bilingual Education

The Master of Education with specialization in Bilingual Education aims to prepare professionals with the theoretical and practical knowledge of bilingual education. The professionals will stand out for their understanding of the socio-cultural aspects, the linguistic, psycholinguistic and sociolinguistics theories of bilingual education, and the teaching methodology.

The Aguadilla Campus is authorized to offer this Program and through online education.

#### Admission Requirements

Persons seeking admission to the Master of Education with a specialization in Bilingual Education must meet the admission requirements established in the section “Admission Requirements for Master’s Programs” in effect at the time of their admission. In addition, they must meet the following conditions:

1. Hold a Bachelor in Education from a accredited institution.
2. Persons who have completed a bachelor’s degree in another field with a minimum academic index of 3.00 in their major will be considered for admission to the program after passing the courses indicated below at the undergraduate level (or their equivalents) with a minimum grade of B:
  - a. EDUC 2032 Learning Psychology
  - b. EDUC 3013 Teaching Strategies
  - c. EDUC 4011 Evaluation and Assessment
  - d. EDUC 4050 Curriculum Design
3. Demonstrate mastery of the competencies in English and Spanish, by means of the approval of an examination to be administered by the Institution, as applicable.
4. Have taken one of the following tests: Graduate Record Examination (GRE) or Examen de Admisión a Estudios de Postgrado (EXADEP).

#### Graduation Requirements

In order to obtain the Master of Education in Bilingual Education students must have approved the following 36 credit requirements with a minimum grade point index of

3.00.

#### Requirements for the Master of Education in Bilingual Education

Core Courses Requirements	12 credits
Sepecialization Requirements	24 credits
Total	36 credits

Core Courses Requirements - 12 credits		
BLED 5020	SOCIOCULTURAL ASPECTS IN BILINGUAL TEACHING	3
EDUC 6046	CURRICULUM DEVELOPMENT	3
ENGL 6130	BILINGUAL EDUCATION FUNDAMENTALS	3
ENGL 6530	TESOL RESEARCH	3
Specialization Requirements - 24 credits		
BLED 5040	MATERIALS AND TECHNOLOGY IN THE BILINGUAL CLASSROOM	3
BLED 5050	BILINGUAL EDUCATION FOR DIVERSE AND EXCEPTIONAL STUDENTS	3
BLED 6020	METHODS OF BILINGUAL TEACHING AT THE ELEMENTARY LEVEL	3
BLED 6040	CONTEMPORARY TOPICS IN BILINGUAL EDUCATION	3
BLED 6510	ASSESSMENT IN A BILINGUAL EDUCATIONAL SCENARIO	3
ENGL 6100	THEORIES AND PRINCIPLES OF TESOL	3
ENGL 6904	APPLIED LINGUISTIC IN THE TEACHING OF ENGLISH AS A SECOND LANGUAGE	3
EDUC 697A	INTEGRATION SEMINAR	3

### Specialization in Information Technology and Library Services

The Master of Education with a Specialization in Information Technology and Library Services has as its mission the preparation of librarian teachers that can offer information services giving emphasis to the new technologies, to meet the needs and interests of students, teachers and other members of the community. In addition, it aims to have this professional evaluate, select and it use information technology as a means to support and improve educational services, and therefore, the quality of the

teaching and learning processes.

The Barranquitas Campus is authorized to offer this Program.

**Competencies Profile of Graduates**

This program is designed to develop the competencies that will enable students to:

**Knowledge**

Know and Understand:

1. The theoretical and philosophical frame of library science and information science.
2. Its history, the terminology, literature, the associations, the education and the challenges of the profession.
3. The role of the library as the research and information center.
4. The library resources including the printed and not printed materials available in school libraries.
5. The information and reference services with emphasis on the appropriate resources for the users of school libraries.
6. The models of curricular design and their implications in education.

**Skills**

1. Design studies to diagnose the information needs of your school community.
2. Produce programs for skills in information and computer literacy destined for the different types of users.
3. Evaluate the computer applications and products used in the process of selection of printed and electronic resources.
4. Evaluate the general, printed and digital bibliographical resources.
5. Apply the teaching and learning models for the development of the skills in information and computer literacy by disciplines and levels.
6. Integrate the information and computer literacy skills in the teaching and learning processes.

7. Categorize the general, printed and electronic reference sources.
8. Apply the techniques of assessment in the teaching of information and computer literacy skills.
9. Apply the policies and the programs that stimulate the use of informative resources and strengthen the information infrastructure.

**Attitudes**

1. Demonstrate a critical attitude towards the information originating from different sources.
2. Recognize the importance of objectivity in information management.
3. Show interest for the contribution of informative resources to the field of research.

**Admission Requirements**

In addition to fulfilling the entrance requirements for master’s degree programs as established in the section “Admission Requirements for Master’s Programs” of this Catalog, the following admission requirements for the Master in Information Technology and Library Services are established:

1. Have approved one course in statistics.
2. Hold a bachelor’s degree and a regular teaching certificate, if the candidate is interested in the certificate as a library teacher that is granted by the Puerto Rico Department of Education.

Or

Hold a bachelor’s degree, if the candidate is not interested in certification by the Puerto Rico Department of Education.

**Requirements for the Master of Education with Specialization in Information Technology and Library Services**

Core Course Requirements	9 credits
Specialization Requirements	27 credits
Elective Courses	3 credits
<b>Total</b>	<b>36 credits</b>

Core Course Requirements - 9 credits		
EDUC 6046	CURRICULUM DEVELOPMENT	3
EDUC 6057	TEACHING MODELS AND STRATEGIES	3



LISC 6750	BIBLIOGRAPHIC INSTRUCTION	3
Specialization Requirements - 27 credits		
LISC 5000	LIBRARY FUNDAMENTALS AND INFORMATION SCIENCES	3
LISC 5200	INFORMATION SERVICES AND DOCUMENTATION	3
LISC 5300	CATALOGING AND BIBLIOGRAPHIC DESCRIPTIONS	3
LISC 5450	COLLECTION, ACQUISITION, DEVELOPMENT AND EVALUATION	3
LISC 6150	ADMINISTRATION OF SCHOOL LIBRARIES	3
LISC 6250	RESEARCH METHODS APPLIED TO LIBRARY AND INFORMATION SERVICES	3
LISC 6350	EDUCATIONAL TECHNOLOGY: USE, PRODUCTION AND EVALUATION	3
LISC 6910	INTERNSHIP IN LIBRARIES	3
EDUC 697_	INTEGRATION SEMINAR IN SPECIAL EDUCATION	3

### Specialization in Interdisciplinary Special Education

The specialization in Interdisciplinary Special Education aspires to develop a professional in special education properly endowed with the knowledge, necessary skills and attitudes so that he can: (a) provide interdisciplinary services to the student population with and without disabilities from childhood to high school; (b) become involved effectively with the families of the student population with and without disabilities; (c) offer educational services in inclusive classrooms, in other natural environments and in special classrooms.

The Guayama Campus is authorized to offer this Program.

#### Admission Requirements

To be admitted to the Master of Education with a specialization in Interdisciplinary Special Education, the student must meet the admission requirements established by the University and the following:

1. Hold a Bachelor in Education or another discipline.

2. Have a general average of 2.50 or more.
3. Hold a valid Teaching Certification from Puerto Rico.

Note: All students interested in being certified to practice as teaching staff in Special Education must comply with the current requirements of the Department of Education of the Commonwealth of Puerto Rico.

#### Requirements for the Master of Education in Interdisciplinary Special Education

Specialization Requirements	24-27 credits
Prescribed Distributive Requirements	6 credits
Total	30-33 credits

#### Specialization Requirements - 24-27 credits

EDUC 5047	PSYCHO-SOCIAL FOUNDATIONS OF EDUCATION	3
EDUC 5111	EDUCATIONAL RESEARCH I	3
EDUC 5740	EDUCATION OF THE EXCEPTIONAL POPULATION	3
EDUC 6053	INTERVENTION WITH FAMILIES IN INCLUSIVE ENVIRONMENTS	3
EDUC 6054	ASSESSMENT IN INTERDISCIPLINARY SPECIAL EDUCATION	3
EDUC 6059	DESIGN AND DEVELOPMENT OF INTERDISCIPLINARY SPECIAL CURRICULA	3
EDUC 6066	TECHNOLOGICAL AID IN TEACHING EXCEPTIONAL STUDENTS	3
EDUC 6340	DEVELOPMENT OF LANGUAGE AND READING	3
EDUC 691A	INTERNSHIP IN INTERDISCIPLINARY SPECIAL EDUCATION	5

*EDUC 5740 and EDUC 691A: \*Students with a Bachelor in Special Education who have at least one year of experience working with the exceptional population are exempted from the EDUC 5740 Exceptional Population Education and EDUC 691A Internship in Interdisciplinary Special Education courses and must take 9 credits between distributive for a total of 30 credits.*

#### Prescribed Distributive Requirements - 6 credits

Select six to nine\* credits from the following courses:

EDUC 6043	POPULATION WITH INTELLECTUAL	3
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EDUC 6044	IMPEDIMENTS POPULATION WITH SPECIFIC LEARNING PROBLEMS	3	program based on the study, analysis, reflection, investigation and application of current educational theories to teaching at the elementary level. In addition, the Program integrates technology in the teaching-learning process, online learning, and in the search for information.
EDUC 6047	NATURE AND NEEDS OF HANDICAPPED INFANTS AND PRESCHOOL CHILDREN	3	
EDUC 6048	ASSESSMENT AND PROGRAMMING FOR HANDICAPPED INFANTS AND PRESCHOOL CHILDREN	3	
EDUC 6050	CURRENT ISSUES IN INTERDISCIPLINARY SPECIAL EDUCATION	3	
EDUC 6055	SEMINAR IN INTERDISCIPLINARY SPECIAL EDUCATION	3	
EDUC 6060	CURRICULUM, ASSESSMENT AND INTERVENTION METHODS FOR SPECIAL STUDENTS	3	
EDUC 6240	TECHNIQUES IN BEHAVIOR ANALYSIS	3	
EDUC 6300	STRATEGIES, METHODS AND TECHNIQUES FOR TEACHING READING AND WRITING TO THE EXCEPTIONAL POPULATION	3	
EDUC 6320	STRATEGIES, METHODS AND TECHNIQUES FOR TEACHING MATHEMATICS TO THE EXCEPTIONAL POPULATION	3	
			The Program is based on a constructivist and pragmatic approach by requiring the implementation of projects that add, develop or expand the knowledge of elementary level teaching, with emphasis on the development of teaching methods, strategies and materials. This results in a variety of integrated and integral experiences directed to foment reflection, research and analysis on important matters in elementary education and that, simultaneously, contribute in a creative manner to the improvement of learning in the classroom. The Program deals with, by means of reflection and application, the ethical principles characteristic of a professional in elementary education as an agent of change, a leader in the school and in the school community.

## Specialization in Teaching at the Elementary Level

The Master in Education in Teaching at the Elementary Level has as its goal to provide students an excellent preparation in content, theories and current educational methodologies in teaching at the elementary level as well as the foundations and techniques of educational research to develop a professional who contributes in an integral and competent way to teaching with an ethical, social and cultural formation.

The Master in Education in Teaching at the Elementary Level aims to develop a professional who can offer quality services. Its purpose is to provide an excellent preparation for professionals who are going to be or are teachers at the elementary level. This Program is directed to those graduates from Education, Arts and Sciences Programs from accredited universities that wish to complete a

The Aguadilla, Arecibo, Barranquitas, Guayama, and San Germán campuses are authorized to offer this Program.

### Program Goals

1. Provide students with an excellent preparation in the curricular content and in teaching at the elementary level.
2. Evaluate the foundations and techniques of educational research so that they may contribute, in an integral and competent way, to the professional, ethical, social, cultural and evaluative tasks of the teaching profession.

### Program Objectives

1. Develop students’ skills in critical and creative thought and in decision making in the, as well as in technology, research and in the assessment process and its application in the classroom.
2. Apply significant experiences and current methodologies that will permit students to effectively develop in their teaching competency.
3. Apply ethical values and principles to their teaching.
4. Evaluate the competencies of the students in the different subjects taught at the elementary level.

**Competencies Profile of Graduates**

This Program is designed to develop the competencies that will allow students to:

**Knowledge**

1. Know the foundations of teaching at the elementary level.
2. Know the subject matter of the elementary level curriculum.
3. Know about evaluation and assessment in the classroom.
4. Know the different developmental stages of human beings and how these affect the capacity to learn.

**Skills**

1. Apply the use of the research process in the classroom.
2. Use processes of design and evaluation of the curriculum to attain the educational goals.
3. Integrate technology in the field of education.
4. Apply the use of the critical and creative thought in the teaching performance.

**Attitudes**

1. Show ethical, social, cultural and value-based principles of teaching.
2. Promote favorable changes in society through solutions or alternatives that will improve the quality of teaching at the elementary level.
3. Posses tools for assertive decision making by means of the application of values.

**General Admission Requirements**

According to those established in the current Graduate Catalog.

**Admission Requirements for the Program**

Hold a Bachelor in Education or of another major with a minimum grade point index of 2.50.

**Graduation Requirements**

Students will graduate in agreement with the master’s program requirements and the norms established in the applicable Graduate Catalog. In addition, students must pass 36 credits of the master’s program with a minimum general grade index of 3.00. By passing course EDUC 6932, students will comply with Section “Institutional Graduation Requirements for Master’s Programs” of this Catalog.

**Requirements for the Masters of Education with a Specialization in Teaching at the Elementary Level**

Specialization Requirements	33 credits
Prescribed Distributive Requirements	3 credits
<b>Total</b>	<b>36 credits</b>

Specialization Requirements - 33 credits		
EDUC 5045	THE FAMILY, SCHOOL, COMMUNITY AND ETHICAL-MORAL AWARENESS	3
EDUC 5114	CURRICULUM AND TEACHING OF SOCIAL STUDIES AT THE ELEMENTARY LEVEL	3
EDUC 5115	CURRICULUM AND TEACHING OF SCIENCE AT THE ELEMENTARY LEVEL	3
EDUC 5116	CURRICULUM AND TEACHING OF SPANISH AT THE ELEMENTARY LEVEL	3
EDUC 5117	CURRICULUM AND TEACHING MATHEMATICS AT THE ELEMENTARY LEVEL	3
EDUC 5120	STATISTICS APPLIED TO THE FIELD OF EDUCATION	3
EDUC 5122	CRITICAL ANALYSIS OF CHILDREN’S LITERATURE AT THE ELEMENTARY LEVEL	3
EDUC 6024	EDUCATIONAL	3

	MEASUREMENTS AND EVALUATION	
EDUC 6580	INTEGRATION OF TECHNOLOGY IN INSTRUCTIONAL DESIGN	3
EDUC 6931	RESEARCH OR APPLICATION PROJECT IN THE AREA OF SPECIALIZATION I	3
EDUC 6932	RESEARCH OR APPLICATION PROJECT IN THE AREA OF SPECIALIZATION II	3
<b>Prescribed Distributive Requirements - 9 credits</b>		
Three (3) credits selected from the following courses:		
EDUC 5047	PSYCHO-SOCIAL FOUNDATIONS OF EDUCATION	3
EDUC 5125	THE FINE ARTS AND CORPORAL EXPRESSION IN TEACHING AT THE ELEMENTARY LEVEL	3
EDUC 597_	SPECIAL TOPICS IN ELEMENTARY EDUCATION	3
EDUC 6046	CURRICULUM DEVELOPMENT	3
EDUC 6050	CURRENT ISSUES IN INTERDISCIPLINARY SPECIAL EDUCATION	3
EDUC 6933	CONTINUATION OF THE PREPARATION OF THE RESEARCH OR APPLICATION PROJECT	3

## Specialization in Teaching of Biology

The Master in Education in the Teaching of Biology and the Teaching of Chemistry has the purpose of developing professionals with broad knowledge of the teaching and learning processes of sciences and a major depth of scientific knowledge. It aspires that program graduates will make a significant contribution to the education system through curriculum review and educational innovations directed towards an education of excellence in the area of sciences.

The San Germán Campus is authorized to offer this program.

### Program Goals

1. Offer a graduate program of excellence.

2. To train the student in the use of the contemporary methodology of science education.
3. Prepare teachers with innovative teaching methodologies.
4. Prepare teachers with scientific and technological knowledge that meets the needs of society.
5. Prepare educators who own the knowledge and skills to integrate the theoretical and philosophical framework of educational processes with the processes of science.
6. Encourage the development of ethical behavior and attitudes in scientific processes.

### Program Objectives

It is expected that at the end of the program the participants will be able to:

1. Develop knowledge, techniques and scientific tools that enrich the process of teaching science.
2. Participate in the curricular design and evaluation processes.
3. Evaluate the academic achievement of the student using a constructivist approach.
4. Develop practices aimed at planning, implementation and evaluation of teaching that reflect academic rigor.
5. Develop skills of interpretation and analysis of data and information in science or in science education using statistical methods.
6. Create research experiences that apply to science teaching processes.
7. Establish the relationship between science and technology and its impact on society.
8. Recognize that scientific activity is governed by ethical and moral principles.
9. Recognize the value of honesty, objectivity and the absence of prejudices in the teaching-learning process and those of scientific research.
10. Use interdisciplinary connections.

### Competencies Profile of Graduates

#### Knowledge

1. Demonstrate and master knowledge in:
  - a. Contemporary methodologies of science education.
  - b. Techniques for measurement and evaluation of learning.
  - c. Development, implementation and evaluation of the science curriculum.
  - d. The main research of education in science and science itself.
  - e. Statistical analysis of the tests, their interpretation and their application to teaching processes.
  - f. Strategies and teaching models and their application in the various disciplines and levels.
2. Scientific thinking.
3. The current topics in the sciences.
4. The role of technology to facilitate the teaching and learning of science.
5. Scientific knowledge to interpret and analyze daily life situations.
6. Constructivist vision as a framework for teaching science in a way that promotes the acquisition of knowledge through the principles and techniques of this type of learning.
7. Science from an interdisciplinary perspective.
8. The relationship that exists between science, technology and society.

**Skills**

1. Apply in the classroom the content, the methodology and the ways of evaluating learning, studied through the different courses of the program.
2. Promote a scientific culture.
3. Develop and evaluate the science curriculum within the social and cultural context of Puerto Rico.
4. Demonstrate understanding of knowledge and scientific research and its relationship to technology.
5. Interpret information and new experiences from a prior knowledge standpoint.
6. Promote reflective thinking to encourage the learning

of science.

7. Develop interpretation and analysis skills for the appropriate use of scientific knowledge.
8. Demonstrate the skills of a science instruction designer.
9. Recognize and use technology as a facilitator of new knowledge and of the better techniques and instruments for studying science.
10. Reinforce the ability to critically analyze situations and apply scientific knowledge to find logical solutions to problems.
11. Design activities for the classroom where the constructivist learning postulates are integrated through the design and use of didactic materials.
12. Use the scientific methodology as a tool to solve science or real-life problems.
13. Use assessment techniques that are consistent with the curriculum and the teaching-learning process of the sciences.
14. Recognize the classroom as a dynamic laboratory for the teaching-learning process of science.
15. Manage scientific literacy to strengthen science education.
16. Establish a climate in the classroom that meets the learning, social, and emotional needs of students.

**Attitudes**

1. Recognize and apply the ethical and moral values of justice, truth and intellectual honesty in the sciences and identify the consequences if those values become absent in scientific research procedures.
2. Recognize that technological activity must use scientific knowledge to improve the quality of life and the development of the society where it has lived.
3. Promote respect and appreciation for nature.
4. Develop an interest in having an environmental conscience.
5. Recognize the teaching role as that of a constructive change agent and a facilitator of learning.
6. Identify the scientific culture as a tool that enables you to act responsibly with yourself and with the

society in which you live.

7. Consider being part of the community of science educators committed to sharing the instructional ideas and current reforms of science education with one another, which will result in the appreciation and advancement of the teaching of the discipline.
8. Develop a positive attitude toward the interdisciplinary approach in science education.
9. Take responsibility for contributing to the development of an educated being in the field of science.
10. Promote the design of curricula that stimulate the formation of citizens with deep levels of thought, which will contribute to improving the quality of individual life and society in general.

**Admission Requirements**

In addition to satisfying the requisites for admission to master's studies established by the University, the candidate who wishes to enter the Master of Arts in Education with a Specialization in the Teaching of Science must meet the requirements of the specialization, as explained below.

One of the following options:

1. Bachelor of Arts in Secondary Education in Biology or Chemistry.
2. Certificate of Master of Secondary Education in Sciences in the concentration to which he aspires to be admitted.
3. Bachelor of Science in Biology, Chemistry or Physics, six (6) credits in Foundations of Education and three (3) credits in Methodology of Teaching in the area of Natural Sciences.

**Graduation Requirements**

In addition to satisfying the graduation requirements established in this Catalog, the student must approve one of the following three modalities:

1. Comprehensive Exam
2. Research Project
3. Integrative Seminar

**Requirements for the Master of Education in the Teaching of Biology**

Core Requirements	12 credits
Specialization Requirements	18 credits
Total	*30-33 credits

Core Requirements - 12 credits		
EDUC 5107	TECHNOLOGICAL INNOVATIONS IN THE TEACHING OF SCIENCES	3
EDUC 5133	STATISTICS	3
EDUC 6061	CONTEMPORARY METHODS IN THE TEACHING OF SCIENCES	3
EDUC 6063	CURRICULAR DESIGN AND EVALUATION IN EDUCATION IN SCIENCE	3

Specialization Requirements - 18 credits		
BIOL 5011	ORGANISMS: DIVERSITY AND INTERACTIONS	3
BIOL 5012	HUMAN BIOLOGY	3
BIOL 6000	ECOLOGY, EVOLUTION AND ENVIRONMENTAL SCIENCES	3
BIOL 6050	CELLULAR AND MOLECULAR BIOLOGY	3
BIOL 6110	RESEARCH SKILLS IN BIOLOGY	3
BIOL 6111	CURRENT TOPICS IN BIOLOGY	3

**Graduation Requirement**

The student must approve one of the following three modalities:

\*The students opting for the Integrative Seminar in Biology or the Research Project in Biology will complete a total of 33 credits.

**Specialization in Teaching of Chemistry**

The Master in Education in the Teaching of Biology and the Teaching of Chemistry has the purpose of developing professionals with broad knowledge of the teaching and learning processes of sciences and a major depth of scientific knowledge. It aspires that program graduates will make a significant contribution to the education system though curriculum review and educational innovations directed towards an education of excellence in the area of sciences.

The San Germán Campus is authorized to offer this program.

### Program Goals

1. Offer a graduate program of excellence.
2. To train the student in the use of the contemporary methodology of science education.
3. Prepare teachers with innovative teaching methodologies.
4. Prepare teachers with scientific and technological knowledge that meets the needs of society.
5. Prepare educators who own the knowledge and skills to integrate the theoretical and philosophical framework of educational processes with the processes of science.
6. Encourage the development of ethical behavior and attitudes in scientific processes.

### Program Objectives

It is expected that at the end of the program the participants will be able to:

1. Develop knowledge, techniques and scientific tools that enrich the process of teaching science.
2. Participate in the curricular design and evaluation processes.
3. Evaluate the academic achievement of the student using a constructivist approach.
4. Develop practices aimed at planning, implementation and evaluation of teaching that reflect academic rigor.
5. Develop skills of interpretation and analysis of data and information in science or in science education using statistical methods.
6. Create research experiences that apply to science teaching processes.
7. Establish the relationship between science and technology and its impact on society.
8. Recognize that scientific activity is governed by ethical and moral principles.
9. Recognize the value of honesty, objectivity and the absence of prejudices in the teaching-learning process and those of scientific research.

10. Use interdisciplinary connections.

### Competencies Profile of Graduates

#### Knowledge

1. Demonstrate and master knowledge in:
  - a. Contemporary methodologies of science education.
  - b. Techniques for measurement and evaluation of learning.
  - c. Development, implementation and evaluation of the science curriculum.
  - d. The main research of education in science and science itself.
  - e. Statistical analysis of the tests, their interpretation and their application to teaching processes.
  - f. Strategies and teaching models and their application in the various disciplines and levels.
2. Scientific thinking.
3. The current topics in the sciences.
4. The role of technology to facilitate the teaching and learning of science.
5. Scientific knowledge to interpret and analyze daily life situations.
6. Constructivist vision as a framework for teaching science in a way that promotes the acquisition of knowledge through the principles and techniques of this type of learning.
7. Science from an interdisciplinary perspective.
8. The relationship that exists between science, technology and society.

#### Skills

1. Apply in the classroom the content, the methodology and the ways of evaluating learning, studied through the different courses of the program.
2. Promote a scientific culture.
3. Develop and evaluate the science curriculum within the social and cultural context of Puerto Rico.
4. Demonstrate understanding of knowledge and

scientific research and its relationship to technology.

5. Interpret information and new experiences from a prior knowledge standpoint.
6. Promote reflective thinking to encourage the learning of science.
7. Develop interpretation and analysis skills for the appropriate use of scientific knowledge.
8. Demonstrate the skills of a science instruction designer.
9. Recognize and use technology as a facilitator of new knowledge and of the better techniques and instruments for studying science.
10. Reinforce the ability to critically analyze situations and apply scientific knowledge to find logical solutions to problems.
11. Design activities for the classroom where the constructivist learning postulates are integrated through the design and use of didactic materials.
12. Use the scientific methodology as a tool to solve science or real-life problems.
13. Use assessment techniques that are consistent with the curriculum and the teaching-learning process of the sciences.
14. Recognize the classroom as a dynamic laboratory for the teaching-learning process of science.
15. Manage scientific literacy to strengthen science education.
16. Establish a climate in the classroom that meets the learning, social, and emotional needs of students.

### **Attitudes**

1. Recognize and apply the ethical and moral values of justice, truth and intellectual honesty in the sciences and identify the consequences if those values become absent in scientific research procedures.
2. Recognize that technological activity must use scientific knowledge to improve the quality of life and the development of the society where it has lived.
3. Promote respect and appreciation for nature.
4. Develop an interest in having an environmental conscience.

5. Recognize the teaching role as that of a constructive change agent and a facilitator of learning.
6. Identify the scientific culture as a tool that enables you to act responsibly with yourself and with the society in which you live.
7. Consider being part of the community of science educators committed to sharing the instructional ideas and current reforms of science education with one another, which will result in the appreciation and advancement of the teaching of the discipline.
8. Develop a positive attitude toward the interdisciplinary approach in science education.
9. Take responsibility for contributing to the development of an educated being in the field of science.
10. Promote the design of curricula that stimulate the formation of citizens with deep levels of thought, which will contribute to improving the quality of individual life and society in general.

### **Admission Requirements**

In addition to satisfying the requisites for admission to master's studies established by the University, the candidate who wishes to enter the Master of Arts in Education with a Specialization in the Teaching of Science must meet the requirements of the specialization, as explained below.

One of the following options:

1. Bachelor of Arts in Secondary Education in Biology or Chemistry.
2. Certificate of Master of Secondary Education in Sciences in the concentration to which he aspires to be admitted.
3. Bachelor of Science in Biology, Chemistry or Physics, six (6) credits in Foundations of Education and three (3) credits in Methodology of Teaching in the area of Natural Sciences.

### **Graduation Requirements**

In addition to satisfying the graduation requirements established in this Catalog, the student must approve one of the following three modalities:

1. Comprehensive Exam



- 2. Research Project
- 3. Integrative Seminar

**Requirements for the Master of Education in the Teaching of Biology**

Core Requirements	12 credits
Specialization Requirements	18 credits
Total	*30-33 credits

Core Requirements - 12 credits

EDUC 5107	TECHNOLOGICAL INNOVATIONS IN THE TEACHING OF SCIENCES	3
EDUC 5133	STATISTICS	3
EDUC 6061	CONTEMPORARY METHODS IN THE TEACHING OF SCIENCES	3
EDUC 6063	CURRICULAR DESIGN AND EVALUATION IN EDUCATION IN SCIENCE	3

Specialization Requirements - 18 credits

CHEM 5001	CONCEPTUALIZATION AND APPLICATION OF CHEMISTRY IN THE CLASSROOM	3
CHEM 5005	CHEMISTRY APPLIED IN THE DAILY LIVE	3
CHEM 5009	DEVELOPMENT OF DIDACTIC MATERIALS IN CHEMISTRY	3
CHEM 6000	CHEMISTRY IN THE ENVIRONMENT	3
CHEM 6110	SCIENTIFIC RESEARCH SKILLS IN CHEMISTRY	3
CHEM 6111	CURRENT TOPICS IN CHEMISTRY	3

Graduation Requirement

The student must approve one of the following three modalities:

CHEM 6970	INTEGRATOR SEMINAR IN CHEMISTRY	3
CHEM 6995	RESEARCH PROJECT IN CHEMISTRY	3

The students opting for the Integrative Seminar in Chemistry or the Research Project in Chemistry will complete a total of 33 credits.

**Specialization in Teaching of Visual Arts**

The Master of Education in the Teaching of Visual Arts intends to expand and refine the skills of training teachers and facilitators or supervisors of education through educational experiences that will enable them to expand their knowledge of the Visual Arts teaching and learning processes. It enables graduates of the program to contribute to the education system through curricular revisions and educational innovations targeting an excellent education in the area of Visual Arts. It promotes the development and interest in the arts, the appreciation for the artistic creation and cultural identity of learners. Attached to the art program.

The San German Campus is authorized to offer this program.

**Competencies Profile of Graduates**

The Master in Education in the Teaching of Visual Arts is designed to develop the skills that enable the student to:

**Knowledge**

Demonstrate knowledge of:

1. the philosophical, educational, and social theories that influence the emergence and development of the teaching of Visual Arts.
2. the theories about the relationship between individuals and society and the functions of art as a mirror of human knowledge.
3. the use of technology in the development of teaching material, its possibilities as a tool of education and source for the investigation and search for the teaching of Visual Arts.
4. the construction of cognitive, affective, and psychomotor processes related to visual arts education.

**Skills**

1. Analyze the philosophical, educational, and social theories that influence the development of the teaching of art.
2. Critically analyze the theoretical perspectives that help to understand and appreciate the qualities of Visual Arts.
3. Apply the methods and process research in the teaching of Visual Arts.

4. Develop educational materials to reinforce the teaching of Visual Arts.
5. Apply different methodological approaches in the process of the teaching of the arts.

**Attitudes**

1. Respect individual differences and show flexibility to consider different factors influencing the artistic expression of the human being.
2. Appreciate the collaborative work with various sectors of the educational community.
3. Develop a role of leadership and responsibility in an educational environment of the Visual Arts.

**Admission Requirements**

In addition to complying with the general admission to graduate program requirements, as provided in the current Graduate Catalogue, to be admitted to this program, the student must have one of the following:

1. Bachelor in Art Education
2. Teacher Certification in Visual Arts

If you have a Bachelor in Visual Arts, have passed the following courses:

1. Statistics
2. Fundamentals of the Teaching of Art
3. Method of the Teaching of Arts

If you have a teacher's certificate in another discipline, have passed the following courses:

1. Statistics
2. Art History
3. Drawing
4. Design
5. Theory of Color

If you hold a bachelor's degree in any other specialization, have passed the following courses:

1. Statistics
2. Fundamentals of the Teaching of Art

3. Method of the Teaching of Art
4. Art History
5. Drawing
6. Design
7. Theory of Color

**Requirements for the Master in Education in the Teaching of Visual Arts**

Core Education	9 credits
Specialization Requirements	*21-24 credits
<b>Total</b>	<b>*30-33 credits</b>

**Core Education Requirements - 9 credits**

EDUC 6931	RESEARCH OR APPLICATION PROJECT IN THE AREA OF SPECIALIZATION I	3
EDUC 6046	CURRICULUM DEVELOPMENT	3
EDUC 6057	TEACHING MODELS AND STRATEGIES	3

**Specialization Requirements - 21-24 credits\***

ARED 5221	EVALUATION OF TEACHING AND LEARNING IN THE ARTS	3
ARED 5301	HISTORY OF VISUAL ARTS EDUCATION	3
ARED 5401	METODOLOGY OF THE TEACHING OF VISUAL ARTS	3
ARED 5421	USE OF TECHNOLOGY IN THE TEACHING OF VISUAL ARTS	3
ARED 5500	VISUAL ARTS EDUCATION, CULTURE AND SOCIETY IN JOINT ACTION	3
ARED 6010	TECNICAL MEDIA AND METHODS FOR THE TEACHING OF VISUAL ARTS	3
ARED 6011	BIDIMENSIONAL MEDIA WORKSHOP	3
ARED 6012	TRIDIMENSIONAL MEDIA WORKSHOP	3

As a requirement for graduation from this program, the student must pass one of the following three methods.

- (a) Comprehensive examination

- (b) Research project of Education in Visual Arts
- (c) Integrative Seminar in Visual Arts

\*Students who opt for the research project in Visual Arts education or the Integrative Seminar in Visual Arts Education will complete a total of 33 credits.

ARED 6901	RESEARCH IN VISUAL ARTS PROJECT	3
ARED 6902	SEMINAR IN VISUAL ARTS	3

## Master of Education in Curriculum and Teaching (MEd)

### Master of Education in Curriculum and Teaching (MEd) Requirements

The Master of Education in Curriculum and Teaching is oriented towards curriculum development in diverse, local or international educational settings. Integrates technology in learning and teaching processes, online education and the search for information within the structural components of the curriculum.

It is also aimed at developing leaders in curriculum and teaching, with professional skills focused on research and analysis of problems that lead to the creative and innovative reformulation of the school curriculum. In addition, it helps to develop in the student a broad, critical and creative vision of the curricular components of an educational system, as well as the understanding of the controversial issues and core problems that afflict it.

The theoretical-practical approach of this master's degree promotes the development of an educational project that impacts the school curriculum within the selected specialization. The Master of Education in Curriculum and Teaching offers a set of integrated experiences that direct the student to address important issues of education - local and international - that contribute to the improvement of the school community. The Program is based on the ethical and legal principles of the profession.

The Aguadilla, Arecibo, Barranquitas, and Ponce campuses are authorized to offer the following specializations:

1. Biology: Arecibo, Barranquitas, Ponce  
Biology Online: Ponce
2. English as a Second Language: Arecibo,  
Barranquitas, Ponce

English as a Second Language Online: Ponce

3. History: Barranquitas
4. Mathematics: Arecibo, Ponce  
Mathematics Online: Ponce
5. Spanish: Barranquitas, Ponce  
Spanish Online: Ponce

### Program Goals

The Master of Education in Curriculum and Teaching aims to achieve the following goals:

1. Develop education professionals focused on mastery of the discipline, contextualized in curricular development in local or international educational settings.
2. Promote research, information management and the use of technology as means for the development of the curriculum.
3. Promote the solution of problems related to the development of the curriculum in different educational environments within the framework of ethical, legal and social responsibility.
4. Develop educational leaders committed to their professional development and curriculum development as central axes of educational management.

### Program Objectives

The Master of Education in Curriculum and Teaching aims to achieve the following general objectives:

1. Apply in an integrated way the theoretical and methodological knowledge to the practice of curriculum development in local or international educational settings.
2. Use research, information sources and technological advances to support the development of curricular innovations.
3. Apply the ethical, legal and social dimensions in the processes of solving problems related to the development of the curriculum in the different educational contexts.
4. Demonstrate commitment to the continuous improvement of the professional skills required in the discipline.

**Competencies Profile of Graduates**

The Program is designed to develop the general competences that allow the student:

**Knowledge**

Demonstrate knowledge and understanding of:

1. psychosocial theories of education.
2. teaching and learning styles.
3. teaching models and strategies.
4. the evaluation and assessment techniques of the curriculum, and of the learning and teaching processes.
5. the methodology of research and curriculum evaluation.

**Skills**

1. Analyze teaching methods to facilitate learning in diverse educational settings.
2. Apply research techniques to promote curricular changes.
3. Design curricular projects taking into account various teaching methods within the context of differentiated learning.
4. Apply educational technology to curriculum development.
5. Evaluate curricular programs in force in local or international education systems.

**Attitudes**

1. Assume leadership and professional responsibility roles in the different educational scenarios and community contexts to promote the learning and integral development of students.
2. Demonstrate respect and tolerance towards individual and cultural differences of students in educational settings.
3. Demonstrate a critical and creative attitude towards the management of the information available in different sources related to the discipline.

**Admission Requirements to the Program**

To be admitted, the student must:

1. Hold a bachelor’s degree from an accredited university.
2. Have a minimum academic index of 3.00 in the last 60 credits at the undergraduate, graduate level or a combination of both.
  - a. A student with postgraduate credits from an accredited university can combine these postgraduate credits with the last credits approved at the undergraduate level until completing the 60 stipulated credits.
  - b. Students who apply to graduate programs that do not meet the required academic index, repeated courses after graduation for purposes of the entry rate, rather than the original grades, may be counted on.
3. Academic degrees earned in institutions outside the United States must be verified and accredited by World Education Service (WES) organizations: International Credential Evaluation (<https://www.wes.org/>), Josef Silny & Associates (<http://www.jsilny.com/>), FCSA = Foreign Credential Service of America (<http://www.foreigncredentials.org/>) Foreign Credential Evaluation Service (<https://fceatlanta.net/>) or some similar entity for the determination of equivalences with degrees of universities in the United States.
4. Demonstrate command of the language in English and Spanish. This includes the ability to interpret professional material and to express oneself appropriately in written form in one of the two languages
5. Have passed a statistics course or its equivalent.

**Requirements for the Master of Education in Curriculum and Teaching in Biology, English as a Second Language, History, Mathematics, and Spanish**

Core Course Requirements in Education	9 credits
Specialization Requirements in Curriculum and Teaching	15 credits
Specialization Requirements (Subjects)	15 credits
<b>Total</b>	<b>39 credits</b>

Core Course Requirements in Education - 9 credits  
 EDUC 5047 PSYCHO-SOCIAL

	FOUNDATIONS OF EDUCATION	
EDUC 6580	INTEGRATION OF TECHNOLOGY IN INSTRUCTIONAL DESIGN	3
EDUC 6931	RESEARCH OR APPLICATION PROJECT IN THE AREA OF SPECIALIZATION I	3

Requirements in Curriculum and Teaching - 15 credits

EDUC 6024	EDUCATIONAL MEASUREMENTS AND EVALUATION	3
EDUC 6046	CURRICULUM DEVELOPMENT	3
EDUC 6056	CURRICULUM EVALUATION	3
EDUC 6057	TEACHING MODELS AND STRATEGIES	3

Student will select one course from the following

EDUC 6932	RESEARCH OR APPLICATION PROJECT IN THE AREA OF SPECIALIZATION II	3
Or		
EDUC 697_	INTEGRATION SEMINAR IN SPECIAL EDUCATION	3

An elective course in the Specialization at the 5000 or major level 3

*An elective course in the Specialization at the 5000 or major level: In case the option of Comprehensive Examination is selected.*

*Students of the Master in Curriculum and Teaching may choose among three options to fulfill the requirements of their academic degree:*

1. Continue with the completion of a research project or of the application in the specialization area (EDUC 6932).
2. Take the course Integration Seminar (EDUC 697-).
3. Take aa three credit elective course at the 5000 or major level in the Specialization if they decide on the Comprehensive Examination.

**Graduation Requirements**

In order to meet the institutional graduation requirements for the Master in Curriculum and Teaching, students must

satisfy on of the following options:

EDUC 6932	RESEARCH OR APPLICATION PROJECT IN THE AREA OF SPECIALIZATION II	3
Or		
EDUC 697_	INTEGRATION SEMINAR IN SPECIAL EDUCATION	3

A Comprehensive Examination and an elective three credit course in the Specialization at the 5000 level or above

**Specialization in Biology**

**Specialization Requirements in Biology - 15 credits from the following courses**

Required Courses

BIOL 6904	CELLULAR BIOLOGY	3
BIOL 6905	MOLECULAR BIOLOGY	3
BIOL 6906	HUMAN PHYSIOLOGY	3
BIOL 6907	IMMUNOLOGY	3
BIOL 6908	MARINE BIOLOGY	3
BIOL 6909	BIOGEOGRAPHY	3
BIOL 6910	ENVIRONMENTAL SCIENCE	3

**Specialization in English as Second Language**

**Specialization Requirements in English as Second Language - 15 credits**

Required Courses

ENGL 6904	APPLIED LINGUISTIC IN THE TEACHING OF ENGLISH AS A SECOND LANGUAGE	3
ENGL 6905	A SECOND LANGUAGE ACQUISITION AND SOCIOCULTURAL ANALYSIS	3
ENGL 6906	FUNDAMENTALS OF TEACHING OF ENGLISH AS A SECOND LANGUAGE: THEORY, PRACTICE AND ASSESSMENT	3
ENGL 6907	ADVANCED RESEARCH AND TECHNIQUES IN READING INSTRUCTION AND ASSESSMENT	3
ENGL 6908	ADVANCED RESEARCH	3

ENGL 6909	AND TECHNIQUES IN WRITING INSTRUCTION AND ASSESSMENT LITERARY CRITIQUE: ANALYSIS, TECHNIQUES AND ASSESSMENT	3
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## Specialization in History

### Specialization Requirements in History - 15 credits

#### Required Courses

HIST 6904	ANALYSIS AND DEVELOPMENT OF HISTORICAL THOUGHT I	3
HIST 6905	ANALYSIS AND DEVELOPMENT OF HISTORICAL THOUGHT II	3
HIST 6906	HISTORICAL CONTEXT OF THE WESTERN WORLD	3
HIST 6907	HISTORICAL CONTEXT OF CONTEMPORARY PUERTO RICO	3
HIST 6908	HISTORICAL CONTEXT OF THE UNITED STATES	3
HIST 6909	HISTORICAL CONTEXT OF LATIN AMERICA	3

## Specialization in Mathematics

### Specialization Requirements in Mathematics - 15 credits

#### Required Course - 3 credits

MATH 6909	PROBLEM SOLVING	3
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Students will select 12 credits from the following courses:

MATH 6904	ADVANCED ALGEBRA	3
MATH 6905	MODERN GEOMETRY	3
MATH 6906	REAL NUMBER ANALYSIS	3
MATH 6907	PROBABILITY AND STATISTICS	3
MATH 6908	DISCRETE MATHEMATICS	3
MATH 6910	HISTORY OF MATHEMATICS	3
MATH 6911	ANALYTICAL GEOMETRY	3
MATH ____	Special Topics	3

## Specialization in Spanish

### Specialization Requirements in Spanish - 15 credits

#### Required Courses

SPAN 6904	IMPORTANCE AND PERTINENCE OF APPLIED LINGUISTICS IN THE STUDY OF THE SPANISH LANGUAGE IN PUERTO RICO	3
SPAN 6905	APPLICATION OF ADVANCED GRAMMAR IN MODERN COMPOSITION	3
SPAN 6906	CRITICAL VIEW OF PUERTO RICAN LITERATURE: 20TH CENTURY TO THE PRESENT	3
SPAN 6907	IMPORTANT FIGURES IN CONTEMPORARY SPANISH-AMERICAN LITERATURE	3
SPAN 6908	NEW APPROACHES OF THE TEACHING OF SPANISH	3
SPAN 6909	STUDY AND APPLICATION OF READING AND WRITING AS TEACHING TOOLS	3
SPAN 6910	TRAJECTORY AND EVOLUTION OF THE CONCEPT OF IDENTITY IN PUERTO RICAN POETRY OF THE 20TH CENTURY	3
SPAN ____	Special Topics	3

## Doctor of Education (EdD)

### Doctor of Education (EdD) Requirements

#### Philosophy and Mission of the Program

The philosophy of the Doctor of Education degree is to contribute to the improvement of the educational situation by the formation of people with sensitivity, alertness, receptiveness, competence and who are able to advance in a specialization area while rendering services of excellence to society.

The mission of the Doctoral Program in Education is to prepare professionals who can undertake the management and support of instructional programs in different contexts and scenarios. In addition, the program aspires to contribute to the encouragement, development and appreciation of scientific research as a means of analysis and solution of problems that affect education.

The Doctor in Education degree offers specializations in Business Education, Counseling, Curriculum and Teaching, Education in Mathematics, Educational Management and Leadership, Higher Education, Special Education and Transition Services.

The campuses authorized to offer the specializations of this Program are:

1. Business Education: San Germán
2. Counseling: Metropolitan and San Germán (51% of the specialization courses)
3. Curriculum and Teaching: Metropolitan and San Germán
4. Education in Mathematics: San Germán
5. Educational Management and Leadership: Metropolitan and San Germán
6. Higher Education: Metropolitan
7. Special Education and Transition Services: Metropolitan

### **Program Goals**

The Doctoral Program in Education aspires to achieve the following goals:

1. Promote the development of professionals with the critical capacity, ethical attitude and creative disposition that enables them to understand and act in the diverse contexts and educational scenarios,
2. Integrate in a critical manner the economic, political, social, psychological, philosophical and historical analysis in the comprehensive study of education;
3. Promote research as a foundation for the study and development of educational projects.
4. Refine the communication skills so that they reflect complex levels of thought and produce coherent and appropriate documents in accord with the norms, the styles and the principles of academic rigor.

### **Admission as a Candidate to the Doctoral Degree**

In order to be considered a candidate to the Doctoral Degree, the student must pass the comprehensive examination. The student will have three opportunities to pass.

The Doctor in Education degree offers specializations in

Business Education, Counseling, Curriculum and Teaching, Education in Mathematics, Educational Management and Leadership, Higher Education and Special Education and Transition Services.

### **Academic Advisement**

1. Once admitted to the Program a professor will be assigned to each student. This professor will perform the function of academic advisor.
2. Before initiating registration of his first term of study the student, together with his academic advisor, will elaborate his plan of studies.
3. This plan of study will be considered as an agreement between the student and the Program. It must be approved by the Director of the Program.
4. The student, together with the advisor, will evaluate the plan of study periodically to verify its status.

### **Admission Requirements**

To be admitted to this program, students must:

1. Have earned a master's degree at an accredited university with an academic average of at least 3.00.
2. Demonstrate mastery of English and Spanish according to the criteria established by the Program.
3. Have approved one of the tests for admission to graduate programs, officially accepted by the University, with an acceptable grade, within five years immediately preceding the date of admission.
4. Present evidence of having approved: a statistics course, a human development and learning course, another in general psychology; and a course in research methods at the master's level. Candidates to the specialization of Curriculum and Teaching must have passed a course in educational philosophy or its equivalent. This requirement replaces the course of general psychology.
5. Present three (3) letters of recommendation from professors, supervisors or other people that demonstrate the professional development of the candidate.
6. Have an interview with and be recommended by the Admissions Committee.
7. In addition, to meeting the admission requirements to doctoral studies established by the University, the

<p>candidate who wishes to enter the Doctoral Program in Education with a Specialization in Counseling and whose master's degree is not in this area of specialization will have to meet the following thematic areas:</p> <p>a. Foundations of counseling</p> <p>b. Theoretical foundations of counseling</p> <p>c. The aid process</p> <p>d. Occupational development</p> <p>e. Group counseling process</p> <p>f. Measurement and evaluation</p>	EDUC 2031	Development Psychology	3 credits
	EDUC 5111	Educational Research I	
		Or	
	EDUC 6931	Research or Application Project in the Area of Specialization I	3 credits
	EDUC 5740	Education of the Exceptional Population	3 credits
<p>8. Applicants for the doctorate in Education with specialization in Special Education and Transition Services, in addition to meeting the requirements for admission to the program, must have the following courses at the bachelor or master's level or their approved equivalents with a minimum grade of B.</p>	EDUC 6066	Technological Aid in Teaching Exceptional Students	3 credits
	EDUC 6143	Transition Process and Employment in Special Education and Vocational Rehabilitation	3 credits
	EDUC 6360	The Family in the Education of Handicapped Students	3 credits
	PSYC 1051	General Psychology I	3 credits
	PSYC 3001	Statistics Methods I	3 credits
		<p>9. In addition to fulfilling the admission requirements to doctoral studies established by the University, the candidate who wishes to enter the Doctoral Program in Education with a Specialization in Business Education and whose master's degree is not in this area, must hold a Bachelor in Office Administration, Business Administration or equivalent, in addition to fulfilling the following thematic areas at the master's level:</p> <p>a. Measurement and Evaluation in Business Education</p> <p>b. Administration and Supervision in Business Education</p> <p>c. Curriculum Design in Business Education</p>	



d. Two courses of Methodology in Business Education

**Graduation Requirements**

1. Students must pass:
  - a. all Program courses with a minimum grade of B.
  - b. the doctoral comprehensive examination in all the parts (oral and written) for which students will have a maximum of three opportunities.
  - c. the doctoral dissertation.
2. The Program Director in common agreement with the student, will designate a Dissertation Committee composed of three members of the Faculty, one of which will preside over the Committee. The candidate’s Dissertation Committee will have, from then on, the function of advising and directing the student until the completion of his dissertation. Prior to the defense, two members will join as readers. The Committee in its entirety will recommend the defense of the Dissertation.
3. The student must meet the requirements for the degree within an eight (8) year period. The Program Director can recommend to the appropriate authorities the extension of this term for a period not greater than two (2) years only in exceptional cases.

**Requirements for the Doctor of Education Program**

Core Course Requirements	15 credits
Specialization Requirements	*18-24 credits
Operational Requirements	9 credits
Elective Courses	*3-9 credits
<b>Total</b>	<b>51 credits</b>

\*The number of credits varies according to the specialization.

Core Course Requirements - 15 credits

The Core Course Requirements are divided into two components: Research and Foundations.

Research Component - 9 credits

EDUC 7050	Statistics	3
EDUC 7060	Quantitative Research	3
EDUC 7070	Qualitative Research	3

Foundations Component - 6 credits

Select 6 credits from the following:

EDUC 7003	FORMATION AND DEVELOPMENT OF EDUCATIONAL THOUGHT IN PUERTO RICO	3
EDUC 7010	SOCIO-SCIENTIFIC CONCEPTS OF EDUCATION	3
EDUC 7020	CULTURE, EDUCATION AND PHILOSOPHY	3
EDUC 7030	ANALYSIS OF HUMAN BEHAVIOR	3
EDUC 7100	FOUNDATIONS OF DESIGN OF TEACHING PROGRAMAS	3
EDUC 7510	COMPARATIVE EDUCATION	3

Operational Requirements - 9 credits

EDUC 8960	RESEARCH SEMINAR	3
EDUC 8991	DISSERTATION I	3
EDUC 8992	DISSERTATION II	3

Specialization Requirements - 18-24 credits

Courses listed under each specialization.

Elective Courses - 3-9 credits

Courses selected at the doctoral level in consultation with the academic advisor.

**Specialization in Business Education**

The specialization in Business Education is aimed to satisfy the needs for continuous professional growth of Business Education teachers of Puerto Rico and the Caribbean, by means of the creative and reflective search for alternatives for the development of pedagogical practices. This program aspires to develop professionals who can assume leading positions in harmony with the needs of the public and private educational systems, especially at the higher education level. In addition, it will train leaders in Business Education who will contribute to advance the mission of the different academic programs in public and private scenarios in and outside Puerto Rico.

**Requirements for the Specialization in Business Education**

Core Courses

Foundations	6 credits
Research	9 credits
Specialization Requirements	21 credits
Operational Requirements	9 credits
Elective Courses	9 credits
Total	51 credits

EDUC 8570	LEADERSHIP CONTEMPORARY AND OPERATIONAL APPROACHES OF EDUCATIONAL MANAGEMENT	3
HURS 8060	HIGH-TECHNOLOGY MANAGEMENT	3
HURS 8070	HUMAN RESOURCES PLANNING, RECRUITMENT AND SELECTION	3
INBU 7130	MULTINATIONAL AND GLOBAL MANAGEMENT AND STRATEGY	3

Specialization Requirements in Business Education - 21 credits

Required Courses - 15 credits

BUED 7030	CONTEMPORARY APPROACHES AND TEACHING STRATEGIES IN BUSINESS EDUCATION	3
BUED 8500	BUSINESS EDUCATION IN THE GLOBAL CONTEXT	3
BUED 8520	EVALUATION AND SELECTION OF EMERGENT TECHNOLOGY IN BUSINESS EDUCATION	3
BUED 8525	ASSESSMENT AND EVALUATION OF BUSINESS EDUCATION PROGRAMS	3
BUED 8615	DESIGN AND ADMINISTRATION OF BUSINESS EDUCATION PROGRAMS	3

Courses selected from the following - 6 credits

BUED 7020	HISTORICAL, SOCIAL AND ETHICAL ASPECTS IN BUSINESS EDUCATION	3
BUED 7050	BUSINESS EDUCATION AT THE POST-SECONDARY AND UNIVERSITY LEVELS	3
BUED 8620	INSTRUCTIONAL DESIGN FOR ONLINE BUSINESS COURSES	3
BUED 797_	SPECIAL TOPICS IN BUSINESS EDUCATION	3
BADM 7010	ENTERPRISE DEVELOPMENT	3
EDUC 8500	MODELS, NORMATIVE AND DESCRIPTIVE THEORIES IN EDUCATIONAL MANAGEMENT AND	3

**Specialization in Counseling (EdD)**

The specialization in Counseling aspires to develop leaders with an integrated humanistic and socio-cultural formation that allows them to have a global conception of education and society. Problems will be presented with a universal scheme of values, in an interdisciplinary manner and put in the Puerto Rican socio-cultural context. These professionals will have the knowledge, skills and attitudes that enable them to effectively intervene in the processes of individual, group and familiar assistance. They will have to recognize the function that research plays in the educational field and in the development and effectiveness of professional counseling programs. Graduates of counseling will be able to perform with effectiveness as advisors and consultants in organizations, corporations, institutions, government agencies, public and private educational institutions and special populations.

This program has the following goals:

1. Form professional advisors by means of the scientific-practical model.
2. Prepare professional advisors that master the competences required by the profession based on theory and research.
3. Develop professional advisors committed with their profession and growth as humans and professionals.
4. Have an academic offering in harmony with the diversification of counseling scenarios, student interests and the trends within the profession.

### Requirements for the Specialization in Counseling

#### Core Courses

Foundations	6 credits
Research	9 credits
Specialization Requirements	18 credits
Operational Requirements	9 credits
Elective Courses	9 credits
Total	51 credits

#### Specialization Requirements in Counseling - 18 credits

EDUC 8300	COUNSELING AND CONSULTING PROGRAM DESIGN	3
EDUC 8330	STRATEGIES, METHODS, AND TECHNIQUES IN INDIVIDUAL COUNSELING	3
EDUC 8360	MARRIAGE AND FAMILY COUNSELING	3
EDUC 8390	GROUP COUNSELING SEMINAR	3
EDUC 8410	SEMINAR OF TRENDS AND CONTROVERSIAL MATTERS IN COUNSELING	3
EDUC 8910	INTERNSHIP	3

Students interested in the Professional Counseling license must meet the requirements established by the law governing the profession.

### Specialization in Curriculum and Teaching (EdD)

The mission of the specialization in Curriculum and Teaching is to develop transforming educators with the intellectual depth, the competencies for research, pedagogical knowledge, ethical sensitivity and the opening to change. They will also design and propose innovating alternatives that solve the problems of education in contemporary society. This specialization admits candidates of a multiplicity of disciplinary backgrounds and educational levels that aspire to develop an integral vision of education that values and promotes constructive dialog, diversity and social justice. The graduates of this program can perform as consultants or facilitators for the design, development, implementation and evaluation of teaching programs in variable scenarios, as well as investigators in educational projects.

The goals of this specialization are the following:

1. Establish a diverse interchange of intellectual and practical experiences among educators of different academic backgrounds and educational levels that will facilitate the exploration and extension of traditional disciplinary limits and promote a transforming vision of education.
2. Prepare top level educators with the knowledge, abilities and the attitudes necessary to design, implement and evaluate programs and to promote learning in diverse social and educational contexts.
3. Develop top level educators with a reflective, critical and ethical attitude that will take into consideration the historical, economic, political, social, and cultural factors in the analysis of the curricula and propose alternatives to take care of contemporary problems.
4. Strengthen the professional communicative abilities to make curricular proposals, related research and other projects.

#### Competencies Profile of Graduates

Graduates of the specialization in Curriculum and the Teaching of the Doctoral program in Education (Ed. D.) will demonstrate the following competencies:

#### Knowledge

Demonstrate knowledge and understanding to:

1. Interpret the diverse factors that sustain the historical, philosophical, psychological and sociological evolution in which one frames the curriculum and teaching as fields of study.
2. Analyze the economic, social, cultural and political factors that affect decision making regarding the elaboration of educational programs in diverse sociocultural contexts.
3. Compare the theories and the diverse approaches that orient research of the teaching processes, the learning and the elaboration of curricula.
4. Analyze the methodological theories and approaches that guide the evaluation processes of curriculum and teaching in diverse educational and cultural contexts.

#### Skills

1. Develop educational programs that respond to the needs of the students within the framework of the corresponding institutional, cultural and social contexts.

2. Develop teaching models that consider research related to the ways of knowing and learning and the diversity of the students.	EDUC 8103	TEACHING CONTEMPORARY THEORETICAL PERSPECTIVE FOR THE STUDY OF CURRICULUM AND TEACHING	3
3. Develop evaluation processes for appropriate educational programs according to the diverse institutional, educational, social and cultural contexts.	EDUC 8130	LEARNING AND TEACHING	3
4. Design educational research which advances knowledge in areas related to curriculum and teaching.	EDUC 8135	DEVELOPMENT OF TEACHING MODELS	3
	EDUC 8160	DESIGNS OF CURRICULAR EVALUATION	3
	EDUC 8190	DESIGN AND CONSTRUCTION OF EDUCATIONAL PROGRAMAS	3

**Attitudes**

1. Show a disposition for continuous and ample learning with an integrated and transdisciplinary vision that foments the construction of a contextualized, globalized, open and reflective thought for curriculum and teaching.			
2. Show openness for creativity, change and innovation with particular attention to social, cultural and technological changes that lead and affect transformations of an educational and social nature.			
3. Demonstrate an ethical conduct that considers the interests, problems and needs of all sectors from which the participants in the educational process come.			
4. Demonstrate a critical and creative perspective in your approach to educational practices that respond to the human cultural diversity that promotes social justice.			

**Prescribed Descriptive Requirements in Curriculum and Teaching - 6 credits**

Students will select two (2) of the following courses:

EDUC 8150	CURRICULUM AT THE POSTSECONDARY LEVEL	3
EDUC 8151	CHANGE AND CURRICULAR INNOVATION	3
EDUC 8152	EDUCATIONAL POLICY AND CURRICULAR IMPLEMENTATION	3
EDUC 8153	NEUROSCIENCE APPLIED TO CURRICULUM AND TEACHING	3
EDUC 8154	TECHNOLOGY, CURRICULUM AND TEACHING	3

**Requirements for the Specialization in Curriculum and Teaching**

Core Courses	
Foundations	6 credits
Research	9 credits
Specialization Requirements	18 credits
Operational Requirements	9 credits
Prescribed Descriptive Requirements	6 credits
Elective Courses	3 credits
<b>Total</b>	<b>51 credits</b>

**Elective Courses in the Specialization in Curriculum and Teaching - 3 credits**

Students will select one (1) course at the doctoral level to complete the three (3) credits.

**Specialization in Education in Mathematics (EdD)**

The specialization in Education in Mathematics is aimed at meeting the professional growth needs at the doctoral level of Math teachers and other educators and professionals interested in Math education. By seeking the best practices for teaching mathematics, this specialization recognizes the changing and dynamic nature of mathematical theory, its applications in Science and in daily life and technology. In addition, it will train leaders in Mathematics Education that contribute to advancing the mission of the different academic programs, in public and private settings, inside

Specialization requirements in Curriculum and Teaching - 18 credits

EDUC 8100	THEORETICAL PRINCIPLES FOR THE STUDY OF CURRICULUM AND	3
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and outside of Puerto Rico.

**Competencies Profile of Graduates**

The Doctorate in Education in Education in Mathematics is designed to develop the competencies that allow the student:

**Knowledge**

1. Know and understand the theoretical foundations of mathematics taught at the K-14 levels, which includes algebra, geometry, mathematical logic, calculus and statistics.
2. Know and understand the main applications of mathematics in science, industry and economics, in a theoretical and practical way through the use of technology.
3. Know and understand the theories, concepts and pedagogical principles of the main mathematical disciplines, such as algebra, geometry, analysis, logic and statistics.
4. Know and understand the methodology of pedagogical research in the areas of mathematics.
5. Know and understand the methodology for the planning of mathematics courses and the assessment in the classroom.

**Skills**

1. Design and solve mathematical problems for the classroom.
2. Evaluate electronic resources to support math research and teaching.
3. Use cutting-edge technology as an educational resource in math courses and programs.
4. Design and apply effective strategies for recruiting and retaining students in math courses and programs.
5. Apply the theories, principles, techniques and practices for teaching mathematics at the levels of K-14.

**Attitudes**

1. Recognize the importance of research in the development of knowledge and effective pedagogical practices.
2. Recognize the importance of creating a network of

close communication between colleagues, which allows for constant dialogue to develop new teaching approaches in their area of expertise.

3. Demonstrate a professional and ethical attitude that allows a successful professional performance.
4. Show interest in your professional development.

**Requirements for the Specialization in Education in Mathematics**

Core Courses

Foundations	6 credits
Research	9 credits
Specialization Requirements	21 credits
Operational Requirements	9 credits
Elective Courses	6 credits
<b>Total</b>	<b>51 credits</b>

Specialization Requirements - 21 credits

MATH 7110	TEACHING AND LEARNING IN MATHEMATICS	3
MATH 7210	MATHEMATICAL COMPUTATION AND ITS TEACHING	3
MATH 7220	ADVANCED ALGEBRA	3
Select four courses from the following:		
MATH 7310	MODERN GEOMETRIES	3
MATH 7410	LOGIC AND MATHEMATICAL LANGUAGE	3
MATH 7510	PROBABILITY AND STOCHASTIC PROCESSES	3
MATH 7610	ANALYSIS OF REAL AND COMPLEX VARIABLE FUNCTIONS	3
MATH 797	MATHEMATICAL EDUCATION RESEARCH TOPICS	3
MATH 8320	ADVANCED GEOMETRY	3
MATH 8420	MATHEMATICAL LOGIC MODELS	3
MATH 8520	ADVANCED METHODS OF MATHEMATICAL STATISTICS	3
MATH 8620	FUNCTIONAL ANALYSIS AND ITS PPLICATIONS	3

### Elective Courses - 6 credits

Through academic counseling, the student will select two courses at the doctoral level according to their interests and professional projections.

## Specialization in Educational Management and Leadership (EdD)

The specialization in Educational Management and Leadership combines the conceptual, technical, and attitudinal competencies to prepare professionals that will hold leadership positions in the area of education. The curriculum responds to the most recent trends related to the preparation of educational managers.

### Program Goals

1. Contribute to the development and continuous progress of the organizations and educational institutions by means of training of effective and transformational leaders in the field of management.
2. Train managers as leaders who denote a moral, ethical and intellectual practice.
3. Develop managers as leaders in investigative, critical, reflective and evaluative capacity for the treatment of the managerial matters and their tangencies with educational, political, technological and socio-economic development.
4. Develop managers as leaders with an ample mentality, who are receptive to change and innovations with a positive attitude to cultural diversity.
5. Recognize the importance of continuous retraining as a vehicle for professional development.

### Competencies Profile of Graduates

Graduates of the specialization in Education Management and Leadership of the Doctoral program in Education (EdD) will demonstrate the following competencies:

#### Knowledge

Demonstrate knowledge and understanding of:

1. the diverse factors that sustain the historical, philosophical, psychological and sociological evolution that frames educational management and leadership as fields of study.
2. the socioeconomic, cultural and political factors that

affect decision making of education management in diverse sociocultural contexts.

3. the theories, approaches and methods that orient research in administration, management and educational leadership.
4. the theories, the methodologic and technological approaches that orient planning and organizational development in educational systems management.

#### Skills

1. Design, develop and implement programs of organizational development that attend to the needs of students within the framework of the corresponding institutional, cultural and social contexts.
2. Design, develop and implement administrative models and approaches that consider pertinent research.
3. Design, develop and implement evaluation processes of appropriate educational programs, in agreement with the diverse institutional, educational and sociocultural contexts.
4. Realize educational research that advances knowledge in the areas related to educational management and leadership.

#### Attitudes

1. Show a disposition for continuous learning with a transdisciplinary vision that foment the construction of a contextualized, globalized, receptive and reflective thought for educational management and leadership.
2. Show receptiveness for creativity, change and innovation with emphasis on social, cultural and technological changes, that foment transformations of a socio-educational nature.
3. Demonstrate an ethical conduct that considers the interests, problems and needs of all the sectors that make up the educational community.
4. Demonstrate a critical and creative attitude in managerial and leadership practices that respond to the cultural and human diversity to promote social justice.

**Requirements for the Specialization in Educational Management and Leadership**

Core Courses	
Foundations	6 credits
Research	9 credits
Specialization Requirements	18 credits
Prescribed Distributive Requirements	6 credits
Operational Requirements	9 credits
Elective Courses	3 credits
<b>Total</b>	<b>51 credits</b>

Specialization Requirements in Educational Management and Leadership - 18 credits	
EDUC 8500	MODELS, NORMATIVE AND DESCRIPTIVE THEORIES IN EDUCATIONAL MANAGEMENT AND LEADERSHIP 3
EDUC 8530	LEADERSHIP IN EDUCATIONAL MANAGEMENT 3
EDUC 8550	CONTEMPORARY PROBLEMS IN EDUCATIONAL MANAGEMENT SEMINAR 3
EDUC 8560	EVALUATIVE PROCESS IN MANAGEMENT AND INSTRUCTIONAL LEADERSHIP 3
EDUC 8570	CONTEMPORARY AND OPERATIONAL APPROACHES OF EDUCATIONAL MANAGEMENT 3
EDUC 8575	PUBLIC POLICY IN EDUCATIONAL MANAGEMENT AND LEADERSHIP 3

Prescribed Distributive Requirements - 6 credits

Students will select two courses from the following:

EDUC 8505	INFORMATION PROCESSING IN EDUCATIONAL MANAGEMENT 3
EDUC 8515	EDUCATIONAL MANAGEMENT AND LEADERSHIP SEMINAR 3
EDUC 8520	HUMAN RESOURCES 3

EDUC 8545	MANAGEMENT IN EDUCATIONAL INSTITUTIONS PLANNING OF THE EDUCATIONAL BUDGET 3
EDUC 8670	ORGANIZATION AND ADMINISTRATION OF SPECIAL EDUCATION PROGRAMS 3
EDUC 8690	ASSESSMENT IN SPECIAL EDUCATION AND TRANSITION SERVICES 3

Students will select one (1 doctoral level) course to complete the three (3) elective credits.

**Specialization in Higher Education (EdD)**

The specialization in Higher Education considers the graduate as a professional prepared to perform effectively in positions of leadership in institutions of higher education. The institutions at the post-secondary level need professionals capable of analyzing social, cultural, political and economic factors that affect decision making and who may reach beyond the mere adaptation to the profound technological and social changes, to become designers of a new future vision for higher education in Puerto Rico.

In addition to the requirements established in the Catalog, the candidate must have two years of educational or administrative experience in institutions of Higher Education.

**Requirements for the Specialization in Higher Education**

Core Courses	
Foundations	6 credits
Research	9 credits
Specialization Requirements	24 credits
Operational Requirements	9 credits
Elective Courses	3 credits
<b>Total</b>	<b>51 credits</b>

Specialization Requirements in Higher Education - 24 credits

EDUC 7205	HISTORICAL FOUNDATIONS OF HIGHER EDUCATION 3
EDUC 8130	LEARNING AND TEACHING 3
EDUC 8150	CURRICULUM AT THE 3

EDUC 8215	POSTSECONDARY LEVEL PUBLIC POLICY IN HIGHER EDUCATION	3
EDUC 8225	LEGAL FOUNDATIONS OF HIGHER EDUCATION	3
EDUC 8230	STUDENT POPULATION IN HIGHER EDUCATION	3
EDUC 8240	INSTITUTIONAL EVALUATION IN HIGHER EDUCATION	3
EDUC 8500	MODELS, NORMATIVE AND DESCRIPTIVE THEORIES IN EDUCATIONAL MANAGEMENT AND LEADERSHIP	3

well as the instructional methods that make the curricular adaptation relevant to the Individualized Educational Plan (PEI).

**Skills**

1. Design teaching processes and teaching philosophy projects that promote the transformation of inclusive education of people with functional diversity, from pre-school stages to adulthood.
2. Conduct action research to determine how to improve the educational process and the quality of life of the student population with special needs.

**Attitudes**

1. Act in accordance with ethical principles to work with sensitivity toward the needs of diverse special education populations.

**Specialization in Special Education and Transition Services (EdD)**

The doctoral specialization in Special Education and Transition Services offers advanced professional preparation for students interested in becoming pioneering research leaders. The areas of assessment, curricular adaptations, technological assistance, processes and procedures in educational areas, and special education and transition services are emphasized. Due to its interdisciplinary nature, the student can take elective courses from other doctoral specializations with the authorization of his academic adviser. This allows the student to diversify, as well as to develop his capacities and knowledge to the maximum in order to make an impact and achieve changes in educational services and other related services.

This program aims to develop a professional with the knowledge, skills and attitudes necessary to successfully provide Special Education and Transition services.

**Competencies Profile of Graduates**

Graduates of the specialization in Special Education and Transition Services of the Doctoral program in Education (Ed. D.) will demonstrate the following competencies:

**Knowledge**

1. Apply the fundamentals and theories in special education practices and transition processes from preschool (K-12) to adulthood.
2. Interpret evaluation and assessment methods to determine eligibility for special education services.
3. Select the school and occupational environments, as

**Requirements for the Specialization in Special Education and Transition Services**

Core Courses

Foundations	6 Credits
Research	9 Credits
Specialization Requirements	21 Credits
Operational Requirements	9 Credits
Elective Courses	6 Credits
<b>Total</b>	<b>51 Credits</b>

Specialization Requirements - 18 credits

EDUC 8103	CONTEMPORARY THEORETICAL PERSPECTIVE FOR THE STUDY OF CURRICULUM AND TEACHING	3
EDUC 8153	NEUROSCIENCE APPLIED TO CURRICULUM AND TEACHING	3
EDUC 8645	TEACHING METHODOLOGIES AND STRATEGIES FOR STUDENTS WITH SPECIAL NEEDS	3
EDUC 8653	ASSESSMENT AND EVALUATION IN SPECIAL EDUCATION AND TRANSITION SERVICES	3
EDUC 8655	CURRICULAR ADAPTATION FOR TEACHING STUDENTS	3



EDUC 8665	WITH SPECIAL NEEDS PROCEDURES IN SPECIAL EDUCATION AND TRANSITION SERVICES	3
EDUC 8915	SEMINAR IN SPECIAL EDUCATION AND TRANSITION SERVICES	3
Operational Requirements - 9 credits		
EDUC 8960	RESEARCH SEMINAR	3
EDUC 8991	DISSERTATION I	3
EDUC 8992	DISSERTATION II	3

Elective Courses - 6 credits

By means of academic counseling students will select the specialization courses at the doctoral level in curriculum and teaching, guidance and counseling, school psychology and management and leadership among others, according to their professional interests and projections.

## Doctorate in Education in Leadership and Instruction in Online Education (EdD)

The doctoral degree in education in Leadership and Instruction in Online Education is designed to develop avant-garde educational leaders who promote the quality, evolution and development of online education. Graduates of this program will show evidence of leadership skills in effective decision making in the management and operation of an educational program. The program promotes pedagogical mastery, the application of theories, models and strategies tailored for the online teaching-learning process. Emphasis is given to the application of innovating strategies for the best practices in the online instructional process.

This program will be offered by means of the online studies modality.

The Ponce Campus is authorized to offer this program through online education.

### Program Goals

1. Provide the theoretical bases for putting into practice the leadership skills in the decision making, administrative and evaluation processes in education.
2. Bring about the enrichment of the instructional process in virtual education through the implementation and valuation of innovating pedagogical strategies.

3. Enrich online education with the diverse technologies of information and communication.
4. Foment the development of research designs in areas related to the subject matter.

### Competencies Profile of Graduates

The program is designed to develop the skills that enable students to:

#### Knowledge

1. Demonstrate knowledge and understanding of the new paradigms and challenges of a leader of online education programs.
2. Identify the methods and techniques of teaching suitable for online education.
3. Demonstrate knowledge and understanding of the instructional design models that make possible the creation of virtual learning environments.
4. Acknowledge the impact of instructional technology in the evolution of online education.
5. Describe the methods and statistical procedures used in educational research.

#### Skills

1. Apply the theories, principles and models of evaluation in the evaluation process of the organization, management and administration of the online education program.
2. Develop strategic plans that will enable the implementation and operation of a online education program.
3. Apply the principles and theories of the virtual teaching-learning process.
4. Application of descriptive, inferential, parametric and non-parametric statistics through a computer program.
5. Apply various technological means for the production of instructional multimedia materials.
6. Apply the techniques and research methods proposed for the solution of problems in the area of leadership and instruction of online education.

#### Attitudes

1. Evaluate the challenges facing institutions who venture in offering online education programs.
2. Appreciate the actions that encourage interaction and active learning in the virtual learning process.
3. Assess technology as a useful means to address various learning styles, and needs in the leadership of online education programs.
4. Demonstrate the importance of the ethical principles of research.

**Admission Requirements**

1. Meet the admission requirements in the current Graduate Catalog.
2. Hold a master’s degree.
3. Realize an argumentative article, evaluated by the Admissions Committee of the program.

**Graduation Requirements**

1. Pass all the courses of the program with a minimum grade of B.
2. Successful complete, present and defend a doctoral dissertation.
3. The approval of a comprehensive examination is not required to pass to the dissertation phase.

Students must meet the requirements for the degree within the term of eight (8) years. The graduate committee may recommend to the pertinent authorities the extension of this term by a term no greater than two (2) years in exceptional worthy cases.

**Requirements for the Doctoral Degree in Education in Leadership and Instruction in Online Education**

Core Course Requirements in Education	18 credits
Specialization Requirements	15 credits
Operational Requirements	6 credits
<b>Total</b>	<b>39 credits</b>

**Core Courses in Education - 18 credits**

EDUC 7000	Educational Research Writing	3
EDUC 7050	Statistics	3
EDUC 7060	Quantitative Research	3
EDUC 7070	Qualitative Research	3
LIDE 7005	Online Teaching and Learning	3
LIDE 7080	Leadership in Online	3

**Education**

**Specialization Requirements - 15 credits**

LIDE 7030	Instructional Technology in Online Education	3
LIDE 7060	Instructional Design for Virtual Environments	3
LIDE 7090	Planning and Management of Online Education Programs	3
LIDE 8010	Evaluation of Online Programs	3
LIDE 8970	Research Seminar	3

**Operational Requirements - 6 credits**

LIDE 8991	Dissertation I	3
LIDE 8902	Dissertation II	3

**Doctorate in Education in Visual Arts (EdD)**

The Doctorate in Education in Visual Arts, aims to contribute to the completion of academic training, in the highest level of the area of teaching visual arts. It aims to develop in students a theoretical and practical basis that will help them to systematize and deepen knowledge in their area and in the reality in which we live. The Doctorate in Education in Visual Arts will prepare students for the design of new principles, models, and methods that relate to their field of specialization.

The San German Campus is authorized to offer this program.

**Competencies Profile of Graduates**

The program is designed to develop the competencies that allow the student to:

**Knowledge**

Demonstrate knowledge and understanding of:

1. the principles and rules applicable to the pedagogical work of the visual arts.
2. the meanings of specialized languages of visual arts.
3. the problems that affect the education of the visual arts in educational institutions within and outside the country.
4. the areas of methodology of research, theory of artistic culture and teaching of the visual arts, in order to give them more theoretical strength in their research and in their professional profile.

**Skills**

1. Design research projects in the teaching of visual arts.
2. Design strategies for the transformation of education in visual arts from the critical appreciation of works of art.
3. Design and evaluate visual arts teaching programs considering changes and new trends in the discipline.
4. Develop strategies for teaching and learning of visual arts education programs.

**Attitudes**

1. Value social commitment and an ethical attitude as a guide to decisions that benefit the visual arts.
2. Strengthen respect for the personality of learners at any level, in the social, family and academic sphere, in order to promote the personal, socio-cultural, moral, aesthetic, intellectual and affective values through artistic sensitivity.
3. Assess the development of innovative projects that promote the quality of education in the visual arts.

**Admission Requirements**

For admission to this program the student must:

1. Possess a Master of Arts in Education with a specialization in the Teaching of Visual Arts or a
2. Master in Fine Arts (MFA), or master 's degree of a university accredited with an academic average of 3.00.
3. Present evidence of having passed at the master's level: statistics, human development and learning, general psychology. and research methods.

Submit three (3) letters of recommendation from professors, supervisors or others who show academic or professional development of the applicant.

4. Hold an interview with the Admissions Committee and be recommended by them.

**Graduation Requirements**

1. In order to meet the graduation requirements of the Doctorate in Education in Visual Arts, the student must pass:
  - a. all courses of the program with a minimum grade of B.

- b. the doctoral comprehensive exam in all its parts (oral and written) for which a maximum of 3 opportunities are given.

- c. the doctoral dissertation.

2. The director of the program, in common agreement with the student, shall appoint a dissertation committee comprising three members of the faculty, one of these will chair the Committee. The candidate's dissertation committee will have henceforth the role to advise and direct the student until the completion of the dissertation. Before the defense, two other members as readers, will be added. The committee as a whole will recommend the defense of the dissertation.

3. The student must meet the requirements for the degree within a period of eight (8) years. In meritorious cases, the director of the program may recommend to the relevant authorities to extend the term for a period not to exceed two (2) years.

**Requirements of the Doctorate in Education in Visual Arts**

Core Requirements	9 credits
Prescribed Distributive Requirements	9 credits
Specialization Requirements	21 credits
<b>Total</b>	<b>39 credits</b>

Core Requirements - 9 credits

The core requirements are divided in two components: Research and Fundaments.

Research Component - 3 credits

ARED 7000	RESEARCH IN VISUAL ARTS EDUCATION I	3
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Fundamental Component - 6 credits

Select 6 credits from the following:

ARED 7010	SOCIO-CULTURAL CONCEPTS OF ARTISTIC EDUCATION	3
ARED 7030	CREATIVITY IN THE ARTISTIC PROCESS	3
ARED 7065	HISTORY OF VISUAL ARTS TEACHING IN PUERTO RICO	3
ARED 7080	CURRICULUM DEVELOPMENT IN VISUAL ARTS TEACHING	3

Prescribed Distributive Requirements - 9 credits

ARED 8960	THESIS SEMINAR IN ART TEACHING	3
ARED 8991	DISSERTATION I	3
ARED 8992	DISSERTATION II	3

*ARED 8991 and ARED 8992: The student will continue to register in the course until all requirements have been completed.*

Specialization Requirements - 21 credits

Required Courses - 15 credits

ARED 7055	ART APPRECIATION OF ARTISTIC WORKS IN VISUAL ARTS TEACHING	3
ARED 7075	TEACHING LEARNING IN THE VISUAL ARTS	3
ARED 7510	COMPARED EDUCATION: VISUAL ARTS EDUCATION	3
ARED 7520	AESTHETICS IN THE TEACHING OF VISUAL ARTS	3
ARED 8100	CONSTRUCTIONIST ANALYSIS OF ARTISTIC KNOWLEDGE	3

6 credits selected from the following

ARED 7015	DIVERSITY, VISUAL CULTURE and ARTISTIC EDUCATION	3
ARED 7070	THEORIES OF ART, CULTURE AND EDUCATION	3
ARED 8001	WORKSHOP: APPRECIATION, EXPRESSION AND REFLECTION	3
ARED 8010	EMERGING ART, TECHNOLOGY AND COMMUNICATION IN THE TEACHING OF VISUAL ARTS	3
ARED 8025	EDUCATIONAL PROCESSES OF CREATIVE COGNITION	3
EDUC 7050	Statistics	3

## Education in Autism Spectrum Disorder (Post-Bachelor Professional Certificate)

The Professional Certificate in Education in Autism Spectrum Disorder is designed for professionals with a bachelor's, master's or doctoral degree who wish to learn about and develop skills for screening, evaluation,

intervention and recognition of the core characteristics of Autism Spectrum Disorder, and completing referrals. The program will prepare the student to develop, in a psychoeducational context, skills for diagnosis, management and appropriate interventions, as well as the treatment of students with autism spectrum disorder.

The San Germán campus is authorized to offer this Certificate.

### Competencies Profile of Graduates

The Program is designed to develop the competencies that will enable the student to:

#### Knowledge

Demonstrate knowledge and understanding of:

1. the theoretical principles of autism, as well as the different explanatory theories.
2. Autism Spectrum Disorders (ASD), according to the current DSM.
3. the special educational needs of children with Autism Spectrum Disorder.
4. the needs of families of individuals with ASD.
5. aspects of preference-based measures in the evaluation of ASD.
6. treatment of Autism Spectrum Disorder.
7. educational intervention, as well as mastery of methods used with students with ASD.
8. appropriate technological assistance for the intervention and improved functioning of students with ASD.
9. adaptation of teaching skills for students with ASD.

#### Skills

Evaluate and diagnose students with ASD.

1. Use different treatments for ASD.
2. Design intervention plans for students with ASD.
3. Use in a psychoeducational context, the competencies of diagnosis, management and appropriate intervention and treatment of students with ASD.
4. Use technological assistance.

**Attitudes**

1. Value one’s professional role with responsibility and commitment.
2. Identify family, educational, legal and health services available to students with Autism Spectrum Disorder.
3. Value the ethical and legal principles involved in the intervention of students with Autism Spectrum Disorder.
4. Demonstrate responsibility and commitment to personal and professional development, and toward teamwork.

EDUC 6092	METHODS OF MULTISENSORY AND MULTIMODAL COMMUNICATION FOR STUDENTS WITH ASD	3
EDUC 6093	BEHAVIOR MANAGEMENT AND INTERVENTIONS FOR STUDENTS WITH ASD	3
EDUC 6095	CURRICULUM AND EDUCATIONAL METHODOLOGIES FOR STUDENTS WITH ASD	3
EDUC 6096	CURRICULAR ADAPTATION OF TEACHING SKILLS FOR THE STUDENT WITH ASD	3

**Admission Requirements**

To be admitted to the Program, the student should:

1. Hold a bachelor’s, master’s, or doctoral degree from an acknowledged and accredited institution of higher education.
2. Comply with all admission regulations as stated in the Graduate Catalog.

**Academic Progress Requirements**

The academic progress requirements for the Professional Certificate in Autism Spectrum Disorder Education are:

1. Comply with all academic progress norms as stated in the University catalog.
2. Pass all courses with a minimum B grade.

**Graduation Requirements**

In addition to meeting all the graduation requirements established in the Graduate Catalog, the applicant for this professional certificate in Autistic Spectrum Disorder Education throughout the one-year program must:

1. Be a regular student.
2. Have a grade point average of 3.00 or more in the courses required for the degree.

**Requirements of the Professional Certificate in Education in Autism Spectrum Disorder**

Requirements of the Professional Certificate - 15 credits

EDUC 6091	PSYCHOSOCIAL AND NEUROPHYSIOLOGICAL ASPECTS OF STUDENTS WITH ASD	3
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**Education in Diabetes (Post-Bachelor Professional Certificate)**

Education in diabetes applies knowledge and educational skills to provide competent educational services to the population in risk of diabetes, pre-diabetes, people with diabetes and the important people in the life of the patient. The Certificate is offered to different health professionals (doctors, professional nurses with a Bachelor in Nursing (BSN) or a master’s (MS, MSN), dietitians, psychologists, exercise physiologists, pharmacists, health educators, occupational and physical therapists with a bachelor’s degree, who have an interest in developing competences in the prevention, assessment, and in the clinical and educational administration of diabetes. This Certificate provides the development of the skill to realize individualized assessment of the person with diabetes, pre-diabetes and their caretakers. In addition, it provides for the formulation of an educational plan. It promotes critical thinking to consider, plan and initiate interventions to prevent the health problems presented by the person with diabetes, pre-diabetes and their caretakers. It will promote healthful lifestyles as part of the strategies of promoting and maintaining the health of the people with diabetes/pre-diabetes and their caretakers. The selected interventions are based on the evidence obtained by research within the field of the administration of and education about diabetes.

The Ponce Campus is authorized to offer this Program.

**Admission Requirements**

Have a current license in the health profession in which you work with at least a bachelor’s degree. If it is in nursing, it is required to at least have completed a Bachelor of Science in Nursing (BSN) from an accredited institution with a minimum academic index of 2.50 in the major.

1. Minimum of two (2) years of work experience in one of the following disciplines: pharmacist, dietitian, social worker, occupational and physical therapist, and health educator. The psychologists, doctors and dentists must have a current license.
2. Interview with the coordinator of the Certificate in Diabetes or the person designated by the Academic Director.
3. Submit the following up-to-date documents:
  - a. Health Certificate.
  - b. Vaccination Certificate against Hepatitis B and Influenza.
  - c. Negative Certificate of Criminal Records.
  - d. License and Registry of the health profession of in which you work, emitted by the Examining Board of the specialization field.
  - e. Membership in your professional association.

Meet the established admission norms in the Graduate Catalog of Inter American University of Puerto Rico.

All those interested in entering this Program must be admitted to the University and meet the admission norms. Due to the exigencies of the regulating health agencies, students are asked to present original and up-to-date documentation of: Health Certificate, recent Criminal Record, and Certificate of immunization against Hepatitis B and Influenza.

**Requirements for the Professional Certificate in Education in Diabetes - 15 credits**

Required Courses

DIAB 5000	FUNDAMENTALS FOR CARE OF THE PERSON WITH DIABETES	4
DIAB 5010	ADMINISTRATION OF AN EDUCATIONAL PROGRAM IN DIABETES	4
DIAB 5020	DIABETES IN DIFFERENT STAGES OF GROWTH AND DEVELOPMENT	4
DIAB 5030	DIABETES AND ITS COMPLICATIONS	3

## Educational Computing (MA)

The Master of Arts in Educational Computing has the goal

of preparing specialized professionals in the teaching of computer science and E-Learning in education with an interdisciplinary approach.

Cases for transfer, equivalencies and validations, etc. will be considered by the Admissions Committee or by the Program Coordinator.

The Metropolitan Campus and University Center of Caguas of the Metropolitan Campus are authorized to offer this Program in campus and through online education.

**Competencies Profile of Graduates**

The program of the Master of Arts in Computer Education is designed to develop the professional competencies that will enable students to:

**Knowledge**

Demonstrate knowledge and understanding of:

1. The foundations of computer science for teaching at different educational levels.
2. The computerized technologies of information and communication in the development of *e-learning*.

**Skills**

1. Develop algorithms for the solution of problems and codify them in a high level programming language.
2. Design, develop and implement educational contents of *e-learning* in computer network systems.

**Attitudes**

1. Promote ethics in the study of computer science as a professional alternative that will permit the establishment of fairness in the different social groups and at the diverse educational levels.

**Graduation Requirements**

1. Maintain a 3.00 academic index.
2. Defend and pass before the Program Committee, the project developed in the course ECMP 6980 Project Development in Educational Computing.

**Requirements for the Master of Arts in Educational Computing**

Specialization Requirements	30 credits
Total	30 credits

Specialization Requirements - 30 credits			
ECMP 5100	COMPUTER THOUGHT AND STANDARDS	3	
ECMP 5105	PRINCIPLES OF DESIGN OF E-LEARNING	3	
ECMP 5115	PROGRAMMING LOGIC	3	
ECMP 5210	PRINCIPLES OF COMPUTER SCIENCE	3	
ECMP 5240	FOUNDATIONS OF NETWORKS AND SECURITY	3	
ECMP 5245	PROGRAMMING AND TEACHING OF A HIGH-LEVEL LANGUAGE	3	
ECMP 6100	E-LEARNING AND SOCIAL NETWORKS	3	
ECMP 6160	DIGITAL COLLABORATIVE LEARNING	3	
ECMP 6975	RESEARCH SEMINAR IN EDUCATIONAL COMPUTING	3	
ECMP 6980	PROJECT DEVELOPMENT FOR EDUCATIONAL COMPUTING	3	

**Educational Neuroscience (MA)**

The Master of Arts in Educational Neuroscience develops professionals with training in neuroscience and education, capable of linking scientific research on the brain, cognition, and learning with the most common problems in an educational setting and other scenarios that offer behavior related services.

The graduate of the program has instructional design competencies in brain- based learning, knowledge of learning problems and assessment techniques, and intervention of learning in the classroom and in other scenarios that offer related services. In addition, the student is competent in professional counseling of parents, school officials, and educational agencies, among others.

The Metropolitan Campus is authorized to offer this Program.

**Program Mission**

The mission of the Master of Arts in Educational Neuroscience is to develop innovative professionals with

intellectual depth, research skills and knowledge in the neurosciences.

**Program Goals**

This multidisciplinary program has the following goals:

1. Shape a new class of professional specialists with training in neuroscience and education.
2. Integrate scientific research on the brain, cognition and learning to the most common problems in schools and other scenarios that offer related services.
3. Promote the transformation of education towards a discipline guided by empirical evidence from the neurosciences.

**Competencies Profile of Graduates**

The Master of Arts in Educational Neuroscience is designed to develop the competencies that allow the student to:

**Knowledge**

1. Understand the fundamentals of neuroscience and its relationship to cognitive processes in teaching and learning.
2. Recognize the various stages of neural development in humans and the effect of potential disorders that influence learning and other behaviors.

**Skills**

1. Design services and educational activities based on brain theories for students or people receiving related services.
2. Apply the research process based on neuroscience in the classroom and other settings that provide related services.
3. Design evaluation and assessment tools to gather information on the impact of services and educational activities.

**Attitudes**

1. Value human beings and guide their learning processes to achieve optimal development.
2. Promote positive changes in society through solutions or alternatives that improve the quality of human life through education based on educational neuroscience.

**Admission Requirements**

Students who request admission to the Master of Arts in Educational Neuroscience must meet the following requirements in addition to the general requirements established by the Institution for the master's degree programs:

1. Hold a Bachelor in Education, Science or related areas.
2. Have a minimum grade point average of 3.0 in the last 60 credits of academic work.
3. Have approved a statistics course.

**Graduation Requirements**

1. Approve course NEUR 6970 Integration Seminar to comply with the section Requirements for Comprehensive Examination and Other Options for master's programs.
2. Have a minimum academic average of 3.00.

**Requirements for the Master of Arts in Educational Neuroscience**

Core Course Requirements	12 credits
Specialization Requirements	21 credits
<b>Total</b>	<b>33 credits</b>

Core Course Requirements - 12 credits

EDUC 5047	PSYCHO-SOCIAL FOUNDATIONS OF EDUCATION	3
EDUC 6931	RESEARCH OR APPLICATION PROJECT IN THE AREA OF SPECIALIZATION I	3
NEUR 5010	EDUCATIONAL NEUROSCIENCE	3
PSYC 5100	COGNITIVE AND AFFECTIVE BASIS OF BEHAVIOR	3

Specialization Requirements - 21 credits

NEUR 5020	NEURODEVELOPMENT	3
NEUR 5030	NEUROPSYCHOLOGY OF LEARNING	3
NEUR 5040	EDUCATIONAL PHYSIOLOGICAL PSYCHOLOGY	3
NEUR	NEURODEVELOPMENTAL	3

6010	DISORDERS	
NEUR 6020	NEUROLEARNING ASSESSMENT	3
NEUR 6970	INTEGRATION SEMINAR	3
EDUC 6057	TEACHING MODELS AND STRATEGIES	3

**Entrepreneurial and Managerial Development (PhD)**

**Entrepreneurial and Managerial Development (PhD) Requirements**

The Doctoral (Ph.D.) Program in Entrepreneurial and Managerial Development with specializations in Human Resources and Interregional and International Business aims to prepare excellent professional to occupy high level administrative and management positions as well as positions in post secondary educational institutions in Puerto Rico.

This Program centers its interest in scientific research, the management of problems affecting the economy, politics and education. At the same time it provides for the development of analytical and critical thinking.

The Program aims to contribute to the formation of values and attitudes that should be characteristic of the professional person who recognizes the value of globalization and modern technology within the framework of current theories. It also aims to contribute to the social and economic improvement of Puerto Rico through the formation of highly competent, alert, receptive and capable professionals interested in the continuous enhancement and enrichment of knowledge, skills and attitudes.

The San Germán Campus received a specialized accreditation for its programs in Business Administration through *International Assembly for Collegiate Business Education (IACBE)*, located on 11374 Strang Line Road, Lenexa, Kansas, USA. Among the accredited Business Administration Programs is the Doctoral Program (Ph.D.) Managerial Development with specializations in Human Resources and in Interregional and International Business.

The Metropolitan and San Germán campuses are authorized to offer this Program.

**Program Objectives**

1. To offer a high-quality doctoral program in the area



of business administration to adequately meet the current emerging needs and interests of the Puerto Rican society and of geographic areas of greater relevance (the United States, the Caribbean and Central and South America).

2. To achieve the highest amount of knowledge and to develop the required conceptual and methodological skills for planning, directing and conducting creative and original scientific research in the area of business administration.
3. To assist in the integral formation of graduate by offering a curriculum with a modern human and global focus which at the same time propitiates the development of analytical, reflective and critical thinking.
4. To promote and support research oriented toward the achievement of those levels of efficiency and productivity which will contribute to economic growth, a reduced rate of unemployment, and which will bring about the just distribution of wealth and to the general welfare of our society.
5. To contribute to the formation of highly capable persons who individually or in groups, through participation and collaboration may show leadership, devotion and a continuous commitment to the search for innovative and creative solutions to the most relevant problems in the field of business administration at the local and foreign levels.
6. To promote students and professors' active participation in the solution of developmental, economic and social problems in Puerto Rico the Caribbean.
7. To expose students and the community to different trends of knowledge, practice and philosophies that guide the business administration field.
8. To promote both oral and written language proficiency in Spanish and English in this professional field.

### **Specific Objectives by Specialization**

#### **Specialization in Interregional and International Businesses**

The specialization in Interregional and International Businesses is directed to develop the knowledge, skills and attitudes necessary for:

1. Enhancing and enriching the teaching profession in higher education institutions;
2. Planning, directing and leading creative and original scientific research;
3. Making administrative business decisions in complex and conflicting situations in a global environment;
4. Establishing policies and strategies for the development of companies at the domestic as well as the global level.

#### **Specialization in Human Resources**

The specialization in Human Resources is directed to develop in the graduates the knowledge, skills and attitudes necessary for:

1. Enhancing and enriching the teaching profession in higher education institutions;
2. Planning, directing and leading creative and original scientific research;
3. Making administrative human resource decisions in complex and conflicting situations in a global environment;
4. Establishing policies and strategies for the development of companies at the domestic as well as the global level.

#### **Admission Requirements**

Students who apply for admission to this Program must:

1. Hold a Master in Business Administration or equivalent, if evidence of experience in the field is presented.
2. Have passed mathematical courses at the calculus level.
3. Have passed courses at the graduate level in: accounting, finance, quantitative methods, managerial economy, statistics, statistics applied to business administration, computers, and management.
4. Have a minimum general average of 3.25.
5. Have passed the EXADEP with a minimum score of 550 points or the GMAT with a minimum score of 500.
6. Hold an interview with the Doctoral Program's Admissions Committee and be recommended by the

Committee.

7. Demonstrate by examination or some other form that the Department, Graduate Studies Center, Professional School or the Academic Division considers appropriate, the abilities to interpret professional material, in Spanish as well as in English, and to communicate correctly in writing in one of these languages.

### **Conditional Admission**

The Admissions Committee of the Program could recommend a conditional admission for a candidate who does not fulfill some requirements at the time of requesting admission to the Program. This conditional admission would allow the student to initiate studies in the Program.

Once the student passes nine (9) credits in the Program, with a minimum grade of B, in a period of time not greater than a year, the Admissions Committee will reevaluate the case and will make recommendations on the admission request. The performance in the courses taken in the Program, the professional experience, and other factors that the Admissions Committee considers appropriate will be taken into account to predict the student's success in the Program. This type of admission does not guarantee that the student finally receives a regular admission to the Program.

### **Admission of Transfer Students**

The admission of transfer students will be considered if they satisfy the Program Admission Requirements.

In order for credit to be granted for studies already realized, candidates will have to request that their university of origin send their official transcript directly to the Office of the Doctoral Program of the campus to which they are requesting admission and they must meet the following conditions:

1. Students who have begun studies for a doctoral degree in Business Administration at another accredited university can transfer up to 15 credits they have passed with grades of A or B, if the courses are equivalent to courses offered in the Doctoral Program in Entrepreneurial and Managerial Development of Inter American University of Puerto Rico.
2. Transfer of credits of finished doctoral degrees will not be accepted.
3. These decisions will be made by the Doctoral

Program Director or his counterpart and will be subject to the approval of the Dean of Academic Affairs of the campus to which the transfer student will be admitted.

4. No academic work taken more than 10 years previously will be considered for validation purposes. Each case will be evaluated separately.

### **Admission of Internal Transfer Students**

Students of Inter American University of Puerto Rico, who wish to move to another unit of the System to complete the Doctoral Program Requirements, must satisfy the following:

1. Have regular student admission to the Program.
2. Request the transfer of their academic file to the unit to which they wish to transfer.
3. Have an interview with the Admissions Committee of the Program of the unit to which they wish to transfer.
4. Present a letter from the Director of the Doctoral Program from which they wish to transfer indicating if they fulfill the academic progress norms of the Doctoral Program and recommending the transfer.

### **Academic Progress**

In the Doctoral Program students show their academic progress through the following steps:

1. Maintain a minimum general index of 3.00.
2. Pass each one of the specialization courses with a minimum grade of B.
3. Approval of the comprehensive examinations with a minimum grade of 80 percent.
4. Admission as a degree candidate.
5. Selection of the Dissertation Committee.
6. Defense and approval of a research proposal.

Besides fulfilling the established Academic Progress norms for this Program, students will have to meet the Satisfactory Academic Progress Requirements for Doctoral Programs of the Graduate Catalog.

### **Comprehensive Examinations**

The Doctoral Program in Entrepreneurial and Managerial

Development of Inter American University of Puerto Rico requires the approval of the comprehensive examinations in order to request candidacy to the degree.

Prior to requesting admission to candidacy to the degree, students will pass the comprehensive examination and will present a preliminary research proposal. The comprehensive examinations can only be taken after the student has passed every core course maintaining a minimum index of 3.00 and each one of the specialization courses with a minimum grade of B.

The comprehensive examinations will include material related to the Program core courses and to the student's area of specialization.

To be eligible to take the comprehensive examinations, students must satisfy the following requirements:

1. Be a regular student of the Program.
2. Have completed all core courses with a general academic index of 3.00 and all the specialization courses with a minimum grade of B.
3. Have a minimum average of 3.00.

Students will have a maximum of two opportunities to take and pass the comprehensive examination. If after two attempts they do not pass these, the faculty of the Program will evaluate the case and will submit recommendations to the students of the actions that must be taken to satisfy the deficiencies identified in their examinations. If finally the student does not satisfy these deficiencies and pass the comprehensive examination, the student will not be able to continue in the Program.

### Dissertation

The Doctoral Program in Entrepreneurial and Managerial Development of Inter American University of Puerto Rico requires the approval of a doctoral dissertation to confer the degree.

The Dissertation Committee will be integrated by three professors and will be designated by the Program Director in common agreement with the doctoral student, according to the institutional norms. One of the professors will preside over the Dissertation Committee.

In consultation with the Dissertation Committee, the student will select the subject of the dissertation and will prepare the preliminary research proposal. The student will submit this proposal to the Dissertation Committee. Once approved, the Doctoral Program Director will inform the

student of admission as a degree candidate.

The Doctoral Program Director will provide the Dissertation Committee with the student file, containing the results of the comprehensive examinations, preliminary research project proposal, record of the student's academic work up to that moment, and any other document of academic relevance to the work of the candidate. The Dissertation Committee will have from that moment on the function of advising and directing the student until the completion of the dissertation.

The dissertation will have to be defended and approved by an oral examination before the Doctoral Dissertation Committee for this requirement to be completed.

### Graduation Requirements

Students must meet the following graduation requirements:

1. Pass all courses with a general index of 3.00 or more.
2. Pass each of the specialization courses with a minimum grade of B, maintaining a specialization index of 3.00 or more.
3. Pass the comprehensive examinations in agreement with the requirements established in the Program.
4. Pass the doctoral dissertation defense.

Students must fulfill the requirements for the degree within an eight (8) year period. The Graduate Committee may recommend to the pertinent authorities to extend this term by a period no greater than two (2) years in worthy exceptional cases.

### Requirements for the Doctor of Philosophy in Entrepreneurial and Managerial Development

Core Course Requirements	34 credits
Specialization Requirements	15 credits
Prescribed Distributive Requirements	6 credits
<b>Total</b>	<b>55 credits</b>

<b>Core Course Requirements - 34 credits</b>		
BADM 7000	ORGANIZATIONAL THEORY AND DESIGN	3
BADM 7001	PROFESSIONAL SEMINAR	1
BADM 7010	ENTERPRISE DEVELOPMENT	3
BADM 7020	RESEARCH METHODS	3
BADM 7070	ORGANIZATIONAL BEHAVIOR	3
BADM 7201	QUANTITATIVE METHODS I	3

BADM 7202	QUANTITATIVE METHODS II	3
BADM 7220	MICROECONOMIC THEORY	3
BADM 7223	MACROECONOMIC THEORY	3
BADM 8950	RESEARCH SEMINAR	3
BADM 8991	DOCTORAL DISSERTATION I	3
BADM 8992	DOCTORAL DISSERTATION II	3

### Specialization in Human Resources

**Specialization Requirements in Human Resources - 15 credits**

Required Courses - 6 credits

HURS 7000	HUMAN RESOURCES MANAGEMENT	3
HURS 8070	HUMAN RESOURCES PLANNING, RECRUITMENT AND SELECTION	3

Select nine (9) credits from the following courses:

HURS 8010	COMPARATIVE ADMINISTRATION	3
HURS 8020	LABOR LEGISLATION	3
HURS 8040	INITIATION OF COOPERATION BETWEEN MANAGEMENT AND WORKERS	3
HURS 8075	COMPENSATION ADMINISTRATION	3
HURS 8085	HUMAN RESOURCES DEVELOPMENT	3
HURS 8090	MANAGEMENT OF CHANGE	3
HURS 8100	DISCRIMINATION IN EMPLOYMENT	3
HURS 8946	SEMINAR OF SPECIAL TOPICS IN HUMAN RESOURCES	3

### Specialization in Interregional and International Business

**Specialization Requirements in Interregional and International Business - 15 credits**

Required Courses - 6 credits

INBU 7100	INTERNATIONAL AND GLOBAL BUSINESSES POLICY AND STRATEGY	3
INBU	THEORY OF	3

### 8210 INTERNATIONAL BUSINESS

Select nine (9) credits from the following courses:

INBU 7120	GLOBAL MARKETING	3
INBU 7130	MULTINATIONAL AND GLOBAL MANAGEMENT AND STRATEGY	3
INBU 7140	COMMUNICATION AND INTERCULTURAL NEGOTIATION IN INTERNATIONAL BUSINESS	3
INBU 8170	INTERNATIONAL FINANCE	3
INBU 8946	SEMINAR OF SPECIAL TOPICS IN INTERREGIONAL OR INTERNATIONAL BUSINESS	3
ECON 8150	REGIONAL AND GLOBAL ECONOMIC DEVELOPMENT	3

Prescribed Distributive Requirements - 6 credits

Select 6 credits from the following courses:

BADM 7225	MANAGERIAL ECONOMETRICS	3
BADM 797A	SPECIAL TOPICS SEMINAR IN ENTREPRENEURIAL AND MANAGERIAL DEVELOPMENT	3
BADM 797B	SPECIAL TOPICS SEMINAR ON MANAGEMENT INFORMATION SYSTEMS	3
BADM 797C	SPECIAL TOPICS SEMINAR IN ACCOUNTING	3
BADM 797D	SPECIAL TOPICS SEMINAR IN MARKETING	3
BADM 797E	SPECIAL TOPICS SEMINAR ON FINANCE	3
BADM 797_	SPECIAL TOPICS SEMINAR	3
ECON 7200	LABOR ECONOMY	3
ECON 8000	ECONOMY OF THE LABOR MARKET STRUCTURE	3
HURS 8050	LABOR NEGOTIATIONS	3
HURS 8060	HIGH-TECHNOLOGY MANAGEMENT	3

Note: In order to finish the Doctoral Dissertation the student must register in BADM 8992 (1 credit) Doctoral Dissertation Continuation, up to a maximum of three (3) credits.

### Environmental Science (MS)

The Master of Science in Environmental Sciences aims to provide knowledge and improve research skills and critical

thought, forming professional capable of responding to the needs of environment and society, by applying scientific principles and ethical values. In addition, it will serve as an instrument to advance knowledge on the real needs and conditions of the environment.

The Program leads to a Master of Science in Environmental Sciences and offers three specializations: Environmental Biology, Environmental Chemistry, and Water Resources and Unit Operations. It is intended for students that have obtained a Bachelor's in Science, Engineering or in other science areas, who meet the program's admission requirements.

The San Germán Campus is authorized to offer this Program.

### **Competencies Profile of Graduate**

The Master of Science Program in Environmental Sciences is designed to develop the competencies that allow the student to:

#### **Knowledge:**

Demonstrate knowledge and understanding of:

1. the fundamental principles that describe a healthy and balanced environment.
2. the cultural, social, and ethical factors that influence or determine environmental problems in Puerto Rico. statistical methods and analysis of environmental samples for the study of environmental problems.
3. the laws that govern environmental preservation in Puerto Rico and the rest of the World.

#### **Skills**

1. Use the scientific method and technology to make decisions based on scientific and ethical values on matters related to the conservation, development and use of the environment.
2. Identify methods of instrumental and statistical analysis appropriate for the environmental study.
3. Propose procedures and methods that allow the evaluation, prevention and mitigation of the environmental impact of anthropogenic activities.

#### **Attitudes**

1. Promote the development and implementation of

technologies and scientific advances necessary to solve environmental problems.

2. Promote research and scientific ethics as tools to control environmental deterioration and planned economic development.
3. Demonstrate commitment to environmental protection in Puerto Rico and the rest of the World. **Admission Requirements**

Students that apply to the Master of Science in Environmental Sciences must fulfill the current institutional admission requirements of master's degree programs and the following requirements:

1. Hold a Bachelor in Natural Sciences, in Engineering or in other disciplines related to the sciences from an accredited college or university.
2. Have approved Analytical Chemistry with a minimum grade of "C".
3. Students interested in the Environmental Biology specialization must have approved a course in Ecology with a minimum grade of C.
4. Hold a bachelor's degree with a grade point index of 2.50 in the last 60 credits in academic work and 2.50 average in the major.
5. Present two letters of recommendation.
6. Submit an essay with a minimum of 500 words where they establish what motivated them to study Environmental Sciences and the selected specialization, their expectations of the program, interests in research and what their professional plans are, once they finish the degree.

### **Graduation Requirements**

As graduation requirements, the student must:

1. Comply with the graduation requirements for the Master's Degree and Professional Certificates according to the current catalog.
2. Approve the thesis defense before the Thesis Committee.
3. Deliver the requested documents to the pertinent offices.

### **Requirements for the Master of Science in**

**Environmental Sciences**

Core Course Requirements	*a minimum of 21 credits
Specialization Requirement	12 credits
Prescribed Distributive Requirements	6 credits
Total	*a minimum of 39 credits

Core Course Requirements - 21 credits minimum\*

EVSC 5000	STATISTICS	3
EVSC 5030	ENVIRONMENTAL HEALTH	3
EVSC 5165	Environmental Instrumentation	3
EVSC 5285	PUERTO RICAN POLICY REGULATIONS	3
EVSC 6101	Research Methods Applied to Environmental Science I	3
EVSC 6102	Research Methods Applied to Environmental Sciences II	3
EVSC 699A	THESIS	3
EVSC 699_	Continuation of Thesis	3

*\*The minimum number of credits applies to students who complete their thesis research and pass the EVSC 699A course.*

*\*\* Course EVSC 699\_ course is only needed in case the student does not complete his thesis research in the EVSC 699A course.*

Specialization Requirements - 12 credits

Courses listed under each specialization.

**Specialization in Environmental Biology**

EVSC 5110	ECOLOGICAL ENVIRONMENT	3
EVSC 5200	ENVIRONMENTAL BIOLOGY	3
EVSC 5220	ENVIRONMENTAL MICROBIOLOGY	3
EVSC 5510	RISK ASSESSMENT	3

**Specialization in Environmental Chemistry**

EVSC 5010	ENVIRONMENTAL CHEMISTRY	3
EVSC 5100	BIOCHEMISTRY	3
EVSC 5275	ENVIRONMENTAL TOXICOLOGY	3
EVSC 5515	Disposal of Contaminants	3

**Specialization in Water Resources and Unit Operations**

EVSC 5180	LIMNOLOGY	3
EVSC 5255	WATER ANALYSIS AND CONTAMINATION	3
EVSC 5310	WATER TREATMENT: OPERATION OF PHYSICAL AND CHEMICAL UNITS	3
EVSC 5330	WATER TREATMENT: BIOLOGICAL OPERATION UNITS	3

Prescribed Distributive Requirements - 6 credits

Students should take six (6) credits from the following courses in accord with their specialization and the approval of the Advisory Committee.

EVSC 5010	ENVIRONMENTAL CHEMISTRY	3
EVSC 5040	URBAN ECOLOGY	3
EVSC 5050	ENVIRONMENTAL PROBLEMS IN PUERTO RICO	3
EVSC 5100	BIOCHEMISTRY	3
EVSC 5105	GEOGRAPHIC INFORMATION SYSTEMS AND APPLICATIONS IN ENVIRONMENTAL SCIENCES	3
EVSC 5110	ECOLOGICAL ENVIRONMENT	3
EVSC 5180	LIMNOLOGY	3
EVSC 5200	ENVIRONMENTAL BIOLOGY	3
EVSC 5220	ENVIRONMENTAL MICROBIOLOGY	3
EVSC 5255	WATER ANALYSIS AND CONTAMINATION	3
EVSC 5275	ENVIRONMENTAL TOXICOLOGY	3
EVSC 5310	WATER TREATMENT: OPERATION OF PHYSICAL AND CHEMICAL UNITS	3
EVSC 5330	WATER TREATMENT: BIOLOGICAL OPERATION UNITS	3
EVSC 5510	RISK ASSESSMENT	3
EVSC 5515	Disposal of Contaminants	3
EVSC 597_	SPECIAL TOPICS IN ENVIRONMENTAL SCIENCE	3

**Family Counseling (Post Master**

## Degree Professional Certificate)

The Post Master Professional Certificate of Family Counseling has been designed to develop a counseling professional who can provide quality therapeutic services to family systems from a biopsychosocial-spiritual holistic framework. Emphasis to the therapeutic process in areas of extreme need in the families of our country, such as violence, abuse, conflict management, addictions and the crisis management and losses from the thanatological perspective, and prevention. This certificate is designed for graduates of Guidance and Counseling Programs from accredited universities, who wish to provide family counseling services in hospitals, Government agencies, public and private educational agencies, and other institutions that provide services to families.

The Family Counseling Post Master Professional Certificate has as its goals:

1. To develop competent counseling professionals in the intervention process with families.
2. To develop counseling professionals who contribute in an integral manner with the mental, social and holistic health of the Puerto Rican family.

The Arecibo Campus is authorized to offer this professional Certificate.

### Competencies Profile of Graduates

This Program is designed to develop the competencies that will allow students to:

1. Apply the diverse theories of family counseling, and incorporate the developmental theory to the counseling process.
2. Apply the therapeutic process, strategies and skills of family counseling.
3. Demonstrate knowledge of the ethical and legal issues of family counseling.
4. Demonstrate the knowledge of human sexuality as part of the process of human development, which will allow them to develop effective strategies in the management of conflicts, disorders and family situations present in this area.
5. Design and develop intervention practices in family counseling, emphasizing the issues of the Puerto Rican family.

6. Demonstrate knowledge and effectively implement family counseling interventions for managing crises, addictions, pathology, conflict management and loss.
7. Demonstrate competence in the use of technological resources in the performance of their professional work.
8. Demonstrate a major commitment with their profession of a certified family counselor, for the quality of life of the Puerto Rican family, and with their responsibility to stay updated as part of their personal and professional competency.

### Admission Requirements

1. Hold a Master in Counseling or in Guidance from an accredited university with a minimum general average of 3.00.
2. Have approved a course in family counseling at the graduate level.

### Academic Progress Requirement

The student must maintain a cumulative academic index of 3.00.

### Requirements for the Post Master Certificate in Family Counseling - 18 credits

#### Required Courses

PSYC 6005	FAMILY PSYCHOPATHOLOGY	3
FACO 6020	ETHICAL AND LEGAL ISSUES OF FAMILY COUNSELING	3
FACO 6025	HUMAN SEXUALITY	3
FACO 6030	CONFLICT MANAGEMENT, CRISES AND LOSSES IN THE FAMILY	3
FACO 6040	FAMILY COUNSELING IN ADDICTION AND ABUSE CASES	3
FACO 6050	CASE MANAGEMENT IN FAMILY COUNSELING	3

## Finance (DBA)

The DBA Program is designed to develop professional, research and academic personnel in the field of finance with an interest in developing expertise related to financial practices and management. It deals with economic and financial events with ethical sense. It frames conduct in the knowledge of theories and professional practices in the

field of finance by maintaining a proactive, objective and sensible attitude.

The Metropolitan Campus is authorized to offer this Program.

### **Competencies Profile of Graduates**

The program is designed to permit the development of the following competencies:

#### **Knowledge**

To demonstrate knowledge and understanding of:

1. current situations of finance.
2. the classic and modern theories in the area of finance.
3. the different methods from investigation in finance.

#### **Skills**

1. To evaluate current cases of finance.
2. To integrate the practices with the current theories in finance.
3. To apply the appropriate methods of research to the financial models.

#### **Attitudes**

1. To value different points of view related to research in the theoretical and practical field of finance.
2. To act in harmony with the ethical aspects in the accomplishment of research in the field of finance.

### **Admission Requirements**

Students interested in requesting admission to this Program must:

1. Hold a Master in Business Administration or an equivalent degree, if it presents evidence of experience in this field.
2. Have approved courses at the graduate level, with a minimum grade of B, in the following areas: accounting (3 credits), finance (9 credits), statistics (3 credits) and economics (3 credits).
3. Have a minimum general average of 3.00.
4. Demonstrate, by means of a test in the area of finance, their mastery of a selected topic and their competence to express themselves correctly in

writing in Spanish or English.

### **Graduation Requirements**

Students must meet the following graduation requirements:

1. Approve the forty-eight (48) credits of the Program.
2. Complete the credits of DBA Program with a minimum grade point index of 3.0.
3. Have passed the comprehensive tests in agreement with the requirements established in the Program.
4. Successfully defend the doctoral dissertation.

Students must complete the requirements for the degree within a period of eight (8) years. In exceptional cases, the Graduation Committee may recommend to the pertinent authorities, an extension of no more than two (2) years to this period.

### **Requisites to take the Comprehensive Exam**

1. The comprehensive exam must be taken for the first time, on or before the fifth year and must be approved within one year.
2. Maintain a general academic index of 3.0 or higher and have approved a minimum of 33 credits that include the following courses: FINA 7101, FINA 7102, FINA 8100, FINA 7200, BADM 7220, BADM 7020, FINA 8300, and 12 credits in prescribed distributive courses.
3. The student must request the written examination from the program coordinator within the announced dates for the examination request. If a student requests the test and is absent, they must present a written excuse that demonstrates a cause of force majeure (medical certificate, death of a close relative, accident, etc.). If they do not comply with this requisite, the absence will be counted as an attempt.
4. The student will not be able to enroll in the doctoral dissertation until he passes the comprehensive exam with a minimum score of 75%. If on two occasions the student does not satisfactorily pass the comprehensive exam, the DBAF Committee will determine if a third opportunity can be granted. If the student fails to pass the test on the third occasion, he/she will not be able to continue in the program.
5. The student must have met all the additional requisites included in his/her admission letter or in the Comprehensive Testing Manual. In case the



student had provisional admission, he should have removed it before requesting the exam.

- The student must pay the corresponding fee to take the comprehensive exam according to the norms of the Inter American University of Puerto Rico.

**Requirements for the Doctor of Business Administration (DBA) with Specialization in Finance**

Specialization Requirements	30 credits
Prescribed Distributive Requirements	12 credits
Elective Courses	6 credits
<b>Total</b>	<b>48 credits</b>

Specialization Requirements - 30 credits

BADM 7020	RESEARCH METHODS	3
BADM 7220	MICROECONOMIC THEORY	3
FINA 7101	CORPORATE FINANCE I	3
FINA 7102	CORPORATE FINANCE II	3
FINA 7200	STATISTICS FOR FINANCE I	3
FINA 8100	SEMINAR IN INVESTMENTS	3
FINA 8300	SEMINAR IN RESEARCH PROJECT	3
FINA 8991	DOCTORAL DISSERTATION I	3
FINA 8992	DOCTORAL DISSERTATION II	3
FINA 8993	CONTINUATION OF DOCTORAL DISSERTATION	3

Prescribed Distributive Requirements - 12 credits

Students will select twelve (12) credits from the following courses:

BADM 7150	PUBLIC POLICY AND CORPORATIVE DECISIONS	3
BADM 7223	MACROECONOMIC THEORY	3
BADM 797C	SPECIAL TOPICS SEMINAR IN ACCOUNTING	3
FINA 8000	SEMINAR IN CORPORATIVE FINANCE	3
FINA 8500	SEMINAR IN FINANCIAL STRATEGIES	3
FINA 8550	EPISTEMOLOGY APPLIED TO FINANCES	3
FINA 897_	SEMINAR IN SPECIFIC TOPICS IN FINANCE	3
INBU 8170	INTERNATIONAL FINANCE	3

Elective Courses - 6 credits

Students will take six (6) credits, of the courses offered in

the D.B.A or in the Ph.D. In special cases, authorization may be given to students to take up to three (3) credits at the doctoral level in another discipline with the previous approval of the dissertation supervisor.

## Fine Arts (MFA)

### Fine Arts (MFA) Requirements

The Master in Fine Arts program has the objective of helping professional artists to developing their artistic capacities to the maximum in the medium that they have selected as their area of study. The Program promotes the development of students' own style and propitiates creative labor within a framework of conceptual maturity with full awareness of the place, time and space in which it is performed.

Since the Master in Fine Arts program is a terminal degree it aims to develop performance and aptitudes of the highest quality in the graduates.

The curriculum is geared to students who hold a Bachelor in Fine Arts degree or in other disciplines provided the candidates meet the admission requirements established by the Program.

This Program requires a creative project as one of the requirement for graduation.

Students may opt for one of the following specialization: ceramics, drawing, painting, photography, printmaking and sculpture.

Students have seven years to complete their study program.

The San Germán Campus is authorized to offer this Program.

### Competencies Profile of Graduates

The Master of Fine Arts with a specializations in Ceramics, Drawing, Painting, Photography, Printmaking, and Sculpture aims to prepare graduates capable of demonstrating the following professional skills:

#### Knowledge

Demonstrate knowledge and comprehension of:

- the philosophical, political and social theories that influence the rise and development of artistic movements.
- the pertinent technique for their particular area of

study and its plastic qualities for artistic expression.

3. the techniques for creating, preparing, exhibiting and defending an artistic work which constitutes their creative project.

### **Skills**

1. Expand knowledge in the handling of tools, materials and specialized equipment necessary for performing artistic work.
2. Analyze, compare and evaluate philosophical and social theories that influence the development of art.
3. Evaluate and make decisions regarding appropriate techniques for artistic creation.
4. Use new technology, particularly the computer, for creating artistic works.
5. Make critical analyses of the theoretical approaches that permit the understanding and appreciation of the expressive qualities of visual arts.

### **Attitudes**

1. Recognize theories regarding the relationship between human beings and society and how art serves as a mirror of society.
2. Develop their own style that may be perceived in their artistic works within a framework of conceptual maturity.
3. Recognize, in a critical manner, the conceptual components that guide and motivate their work so they may be able to present and defend their aesthetic proposal.
4. Develop an artistic work with full awareness of the place, time and space in which it is created.

### **Admission Requirements**

In addition to meeting the requirements established in the section "Admission Requirements for Master's Programs" of this Catalog, students who apply for admission to the Master in a Fine Arts must meet the following requirements:

#### **Artistic Requirements**

Submit a portfolio of at least twenty images in electronic format of your works of art for evaluation by a committee.

#### **Academic Requirements and Other Documents**

1. Students requesting admission to this program will be exempt from taking standardized admission tests.
2. Possess a Bachelor in Fine Arts degree from an accredited college or university, or
3. Possess a bachelor's degree from an accredited college or university, have six credits in History of Art and nine credits in the specialization area they apply for, with a minimum grade of B.
4. Hold a bachelor's degree with a minimum general grade index of 2.50 in the last 60 credits of academic work and with minimum general grade index of 3.00 in the major.

### **Conditional Admission**

In worthy cases, the Admissions Committee of the Program may recommend a conditional admission to a candidate who does not fulfill some of the academic requirements of admission when submitting the application.

### **Retention Requirement**

In addition to the academic progress requirements for master's degrees, established in the Graduate Catalog, students must fulfill the following retention requirement:

Once the course ARTS 6975 has been approved, students must select the Creative Project Committee.

### **Graduation Requirements**

In addition to the graduation requirements for master's degrees, established in the Graduate Catalog, students must fulfill the following graduation requirements:

1. Have a general academic index of 3.00 or more.
2. Approve all courses from the program with a minimum grade of B.
3. Have approved courses ARTS 6998\_ - Creative Project.
4. Have approved the public presentation of the Creative Project.
5. Submit to the office of the Program of Plastic Arts two copies of the written description of the Creative Project.

**Requirements for the Master of Fine Arts**

Foundation Requirements in Fine Arts	24 credits
Specialization Requirements	24 credits
Prescribed Distributive Requirements	9 credits
Elective Courses	3 credits
<b>Total</b>	<b>60 credits</b>

Foundation Requirements in Fine Arts - 24 credits

A. General - 15 credits

ARTS 5980	HISTORY OF PUERTO RICAN ART	3
ARTS 6964	SEMINAR: PRACTICE, THEORY, AND CRITIQUE OF ART	3
ARTS 6975	FINE ARTS RESEARCH, THEORY AND CONCEPT AND MEDIA	3

Six (6) credits of Creative Project according to the specialization

ARTS 6998_	CREATIVE PROJECT	6
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B. History of Art and Theory - 12 credits

Twelve credits from the following courses:

ARTS 5135	ART AND PUBLIC POLICY	3
ARTS 5140	PHILOSOPHY OF ART	3
ARTS 6010	HISTORY OF ANCIENT ART	3
ARTS 6020	HISTORY OF MEDIEVAL ART	3
ARTS 6030	HISTORY OF RENAISSANCE AND BAROQUE ART	3
ARTS 6040	HISTORY OF MODERN ART	3
ARTS 6050	HISTORY OF ORIENTAL ART	3
ARTS 6060	HISTORY OF PRE-COLUMBIAN ART	3
ARTS 6070	HISTORY OF LATIN AMERICAN ART	3
ARTS 6080	HISTORY OF CONTEMPORARY PUERTO RICAN ART	3
ARTS 6940	SEMINAR IN ART ADMINISTRATION	3
ARTS 6944	SEMINAR IN MUSEOLOGY	3
ARTS 6954	SEMINAR IN GALLERY ADMINISTRATION	3
ARTS 6973	SPECIAL PROBLEMS III	3

Distributive Descriptive Requirements - 9 credits

Nine (9) credits selected from the advanced courses in a medium other than the student's specialization.

Specialization Requirements - 24 credits

Students will select one of the six specializations offered by the Master in Fine Arts. The advanced studies in the specializations should be taken in sequence until six credits per level have been taken.

**Specialization in Ceramics**

**Requirements for Specialization in Ceramics - 24 credits**

Required Courses

ARTS 6(111-115)	Advanced Ceramics I	2-6
ARTS 6(121-125)	Advanced Ceramics II	2-6
ARTS 6(131-135)	Advanced Ceramics III	2-6
ARTS 6(141-145)	Advanced Ceramics IV	2-6

**Specialization in Drawing**

**Requirements for Specialization in Drawing - 24 credits**

Required Courses

ARTS 6(411-415)	Advanced Drawing I	2-6
ARTS 6(421-425)	Advanced Drawing II	2-6
ARTS 6(431-435)	Advanced Drawing III	2-6
ARTS 6(441-445)	Advanced Drawing IV	2-6

**Specialization in Painting**

**Requirements for Specialization in Painting - 24 credits**

Required Courses

ARTS 6(311-315)	Advanced Painting I	2-6
ARTS 6(321-325)	Advanced Painting II	2-6
ARTS 6(331-335)	Advanced Painting III	2-6
ARTS 6(341-345)	Advanced Painting IV	2-6

## Specialization in Photography

### Requirements for Specialization in Photography - 24 credits

#### Required Courses

ARTS 6(611-615)	Advanced Photography I	2-6
ARTS 6(621-625)	Advanced Photography II	2-6
ARTS 6(631-635)	Advanced Photography III	2-6
ARTS 6(641-645)	Advanced Photography IV	2-6

## Specialization in Printmaking

### Requirements for Specialization in Printmaking - 24 credits

#### Required Courses

ARTS 6(211-215)	Advanced Printmaking I	2-6
ARTS 6(221-225)	Advanced Printmaking II	2-6
ARTS 6(231-235)	Advanced Printmaking III	2-6
ARTS 6(241-245)	Advanced Printmaking IV	2-6

## Specialization in Sculpture

### Requirements for Specialization in Sculpture - 24 credits

#### Required Courses

ARTS 6(511-515)	Advanced Sculpture I	2-6
ARTS 6(521-525)	Advanced Sculpture II	2-6
ARTS 6(531-535)	Advanced Sculpture III	2-6
ARTS 6(541-545)	Advanced Sculpture IV	2-6

## Gerontology (MS)

The Master of Science in Gerontology Program is aimed at training the student with the knowledge, skills and values of the profession. The aging process is conceptualized from an integral perspective, considering the cultural diversity in the population of elderly adults. Multidisciplinary collaboration is used as a means to

provide quality services to this population. The Program includes the study of concepts, principles, theories and models of gerontology. It integrates research, practice based on evidence and management principles.

The Arecibo Campus is authorized to offer this Program.

### Competencies Profile of Graduates

This Program is designed to develop the competencies that allow the student to:

#### Knowledge

Demonstrate knowledge and understanding of:

1. the aging process from a holistic perspective.
2. research in the field of gerontology.
3. public policy that benefits the elderly population.
4. the formal settings of attention through the development of innovative programs.

#### Skills

1. Apply methodologies and research findings to promote evidence-based practice.
2. Coordinate with the members of the multidisciplinary team quality services for elderly adults.
3. Develop community research projects for comprehensive holistic care of elderly adults.
4. Manage care programs and projects for the care of the elderly.

#### Attitudes

1. Value a gerontological culture that responds to current needs and interests, in harmony with the changes in society.
2. Integrate a comprehensive care of the elderly using as foundation the biopsychosocial aspect of the individual.
3. Develop awareness of ethical responsibility, protection and respect during the provision of services to the elderly population.
4. Demonstrate professional values such as integrity, responsibility, collaboration, and respect among colleagues, competence and professional updating.

### Admission Requirements

In addition to the admission requisites in this Catalog, the student will have to:

1. Comply with the requirements established in the current Graduate Catalog.
2. Possess a bachelor’s degree from an accredited university.
3. Have a minimum academic index of 2.50 in the last 60 credits of academic work.
4. Send two letters of recommendation from supervisors or teachers provided in the Administration Application - Graduate Programs.

**Graduation Requirements**

1. Comply with the requirements of the Graduate Catalog.
2. Pass all courses with a minimum grade of B.

**Requirements of the Master in Science in Gerontology**

Core Requisites	6 credits
Concentration Requisites	30 credits
Total	36 credits

**Core Requisites - 6 credits**

GERO 5010	EPIDEMIOLOGY	3
GERO 5020	BIOSTATISTICS	3

**Specialization Requirements - 30 credits**

GERO 5110	PRINCIPLES AND FUNDAMENTALS OF GERONTOLOGY	3
GERO 5120	THEORETICAL MODELS IN GERONTOLOGY	3
GERO 6120	PHYSIOLOGICAL ASPECTS	3
GERO 6130	ENVIRONMENT AND ADVANCED AGE	3
GERO 6140	ASSESSMENT IN ADVANCED AGE PEOPLEASSESSMENT IN ADVANCED AGE PEOPLE	3
GERO 6210	METHODOLOGY OF RESEARCH IN GERONTOLOGY	3
GERO 6220	ADMINISTRATION IN GERONTOLOGY	3
GERO 6230	MODELS OF ATTENTION IN GERONTOLOGY	3
GERO 6970	INTEGRATING SEMINAR	3
GERO 6910	PRACTICE IN GERONTOLOGY	3

**Government and Public Policy (MA)**

The Master of Arts in Government and Public Policy seeks to develop responsible and rigorous leaders in the analysis, design, implementation and evaluation of high quality public policies in the different levels and areas of government. In addition, it aims to contribute to the development of a new ethics with techniques and approaches that respond both to public interest and its application to the governmental environment.

The Metropolitan Campus has a consortium with our School of Law that will allow qualified students to earn an MA in Government and Public Policy and a Juris Doctor (JD). Interested students must contact the academic department at the Metropolitan Campus for information and requirements.

The Metropolitan Campus is authorized to offer this program.

**Competencies Profile of Graduates**

The program is designed to develop the competencies that allow the student to:

**Knowledge**

Demonstrate knowledge and understanding of:

1. the theoretical and technical-legal aspects of government management.
2. the administrative management of public organizations.

**Skills**

1. Apply the essential elements of public opinion, the formulation and implementation of public policy and governance.
2. Use varied design, strategic planning, and negotiation skills.
3. Discuss governance in all its postulates and practice.
4. Conduct research in harmony with the demands and specific challenges of government and private management.

**Attitudes**

1. Implement changes in administrative management.
2. Demonstrate ethics in government and business

management.

### Requirements for the Master of Arts in Government and Public Policy

Specialization Requirements	33 credits
Prescribed Distributive Requirements	3 credits
Total	36 credits

#### Specialization Requirements - 33 credits

GOVE 5010	POLITICAL THEORY AND PUBLIC ORGANIZATION	3
GOVE 5020	PUBLIC ADMINISTRATION AND POLITICAL MANAGEMENT	3
GOVE 5030	ANALYSIS OF PUBLIC POLICY	3
GOVE 5040	ADMINISTRATIVE LAW	3
GOVE 5050	INNOVATION IN PUBLIC MANAGEMENT	3
GOVE 5060	ETHICS AND PUBLIC INTEGRITY	3
GOVE 5070	SOCIAL RESEARCH METHODS IN PUBLIC ADMINISTRATION	3
GOVE 6010	GOVERNMENT, GOVERNANCE AND GOVERNABILITY SYSTEM	3
GOVE 6030	DECENTRALIZATION, AUTONOMY AND LOCAL DEVELOPMENT	3
GOVE 6990	RESEARCH PROJECT	3
BADM 6150	PUBLIC FINANCE AND FISCAL POLICY	3
Prescribed Distributive Requirements - 3 credits		
GOVE 597_	SPECIAL TOPICS	3
GOVE 6040	SOCIAL PROBLEMS, TRANSFORMATION AND PUBLIC ADMINISTRATION	3
GOVE 6910	INTERNSHIP	3
BADM 6070	HUMAN RESOURCES MANAGEMENT	3
BADM 6090	SUPERVISION AND LEADERSHIP	3
LARE 5420	LABOR RELATIONS IN THE PUBLIC SECTOR	3

## History (MA, PhD and Combined Program)

### General Description

The main purpose of this three-year Program of graduate study is to achieve the rigorous preparation in the development of historical research skills through curriculum. The fundamental aim of the Program is to develop specialists in Historical Research, who are highly competent, cognizant and committed to intellectual and historical development.

### History (MA)

This Program integrates history as the base for critical, analytical and creative research that will facilitate the understanding of political, economic, social, religious, artistic, literary and philosophical aspects to help recognize and identify reality and to seek alternatives to historical problems. The formation accessible through this specialization will enable the professional to work with investigative aspects in the area of history.

The Metropolitan Campus is authorized to offer this Program.

### Admission Requirements

For admission to the master's program, students:

1. Hold a Bachelor in History, Education in Social Studies, Secondary Education in History, or in Political Science. Students who have a bachelor's degree in other areas must approve the following history courses (6 credits):
  - a. HIST 4020 Historiography
  - b. HIST 4210 Historical Research
2. Have passed a course in a modern language other than English and Spanish with a minimum grade of C.

### Graduation Requirements

1. Complete all course requirements with a minimum grade of 3.00.
2. Complete the thesis satisfactorily.

**Requirements for the Master of Arts in History**

Core Course Requirements	21 credits
Specialization Requirements	9 credits
Elective Courses	6 credits
<b>Total</b>	<b>36 credits</b>

Core Course Requirements - 21 credits

HIST 5000	HISTORY OF THE ABORIGINAL CULTURES OF THE AMERICAS	3
HIST 5005	HISTORY OF PUERTO RICO 1800 - 1898	3
HIST 5010	INTERNATIONAL RELATIONS BETWEEN THE UNITED STATES AND PUERTO RICO, 19TH. - 21ST. CENTURIES	3
HIST 5015	COLONIAL INSTITUTIONS IN THE AMERICAS	3
HIST 5020	SLAVERY IN THE AMERICAS	3
HIST 6005	PUERTO RICAN HISTORIOGRAPHY	3
HIST 6020	HISTORIOGRAPHY OF THE AMERICAS	3

Specialization Requirements - 9 credits

HIST 6000	COLONIZATION, SOCIETY AND CULTURE OF THE SPANISH ANTILLES 16TH – 18TH CENTURIES	3
HIST 6980	THESIS PROPOSAL	3
HIST 6990	THESIS	3

Elective Courses - 6 credits

The student must pass 6 additional credits in courses at the master’s level.

**History of the Americas (PhD)**

This Program integrates research to history as a fundamental basis to promote learning and historical development. It uses technology to identify and strengthen the area. It will develop new strategies that facilitate analytical processes in order to foment and address reality and historical truth in today’s world, particularly in the Americas.

The Metropolitan Campus is authorized to offer this Program.

**Admission Requirements**

For admission to the doctoral program, students with a master’s degree must:

1. Hold a Master in History or its equivalent from an accredited university with a minimum academic index of 3.00.
2. Take the following courses if their master’s degree is in related areas:
  - a. HIST 6005 Puerto Rican Historiography
  - b. HIST 6010 Methodologies for Historical Research
3. Have approved a course of a modern language different from English and Spanish and with a minimum grade of C.
4. Demonstrate analytical and research capability by means of a historiography article of a topic previously announced by the academic director of the History Department. The article will be presented with the application for admission. Please consult the Department of History for topics and dates to turn in the article.
5. Students who have a master’s degree in areas unrelated to History must approve courses HIST 6005 and 6010 and nine additional credits, recommended by the Admissions Committee, at the Master in History of America. Their admission is conditional until they take the courses.
6. Be interviewed by the Admissions Committee and to be recommended favorably by it.

**Graduation Requirements**

1. Complete all course requirements with a minimum grade of 3.00.
2. Pass the doctoral comprehensive examination prior to the defense of the doctoral dissertation.
3. Complete the doctoral dissertation satisfactorily.

**Competencies Profile of Graduates**

The program of the Doctorate of Philosophy and Letters in History is designed to develop the professional competencies that will enable students to:

**Knowledge**

- Demonstrate knowledge and understanding of:
1. the philosophical, conceptual and theoretical frame that serves as the foundation of the historian’s profession.
  2. the concepts and the principles of epistemology related to history.
  3. the methods used in historical research.

**Skills**

1. Analyze controversial topics that affect the area of history.
2. Develop historical research.
3. Make historical research available as part of their contribution to historiography.

**Attitudes**

1. Develop their professional practice framed in ethical-moral principles in the field of history.

**Requirements for the Doctorate in Philosophy and Letters in History of the Americas**

Core Course Requirements	12 credits
Specialization Requirements	9 credits
Prescribed Distributive Requirements	6 credits
Elective Courses	3 credits
<b>Total</b>	<b>30 credits</b>

Core Course Requirements - 12 credits		
HIST 7015	THE UNITED STATES IN LATIN AMERICA: 20TH CENTURY	3
HIST 7020	TOPICS IN HISTORY OF THE AMERICAS I	3
HIST 7030	TOPICS IN HISTORY OF THE AMERICAS II	3
HIST 7040	TOPICS IN THE HISTORY OF PUERTO RICO I	3
Specialization Requirements - 9 credits		
HIST 8970	HISTORICAL RESEARCH METHODOLOGY	3
HIST 8980	THE DOCTORAL DISSERTATION PROPOSAL	3
HIST 8990	DISSERTATION	3

**Prescribed Distributive Courses - 6 credits**

Students must approve six credits from the following courses:

HIST 7000	POPULAR CULTURE AND NATIONALISM IN LATIN AMERICA	3
HIST 7005	ISLAMIC SOCIETIES IN THE AMERICAS DURING THE 20TH CENTURY	3
HIST 7010	RUSSIA AND THE AMERICAS	3
HIST 7021	TOPICS IN HISTORY OF THE AMERICAS III	3
HIST 7022	TOPICS IN HISTORY OF THE AMERICAS IV	3
HIST 7031	TOPICS IN HISTORY OF THE AMERICAS V	3
HIST 7032	TOPICS IN HISTORY OF THE AMERICAS VI	3
HIST 7041	TOPICS IN THE HISTORY OF PUERTO RICO II	3
HIST 7042	TOPICS IN THE HISTORY OF PUERTO RICO III	3
HIST 7050	HISTORICAL RESEARCH IN PUERTO RICO	3
HIST 7060	PALEOGRAPHY IN AMERICA	3
HIST 7070	CRITICAL HISTORIOGRAPHY	3
HIST 7080	PLASTIC ARTS AS A MANIFESTATION IN HISTORY	3
HIST 7090	ORAL HISTORY	3
HIST 7110	HISTORY OF CUBA AND THE CARIBBEAN	3
HIST 7120	PUERTO RICAN HISTORIOGRAPHY	3
HIST 7130	HISTORY FROM INDIA IN THE TIME OF THE CONQUEST	3
HIST 7140	BIOARCHAEOLOGY AS A SOURCE FOR HISTORICAL RESEARCH	3
HIST 7150	HISTORIOGRAPHY OF THE CONQUEST	3

Elective Courses - 3 credits

Students must approve three credits at the doctoral level.

The student will have the option of completing the Doctoral Degree if admitted to the Combined Master’s and Doctoral Program. In the Combined Program students are exempt from taking the course HIST 6990 (Thesis) and six



(6) elective credits at the master’s level.

### History of the Americas - Combined Program (MA-PhD)

The Metropolitan Campus is authorized to offer this Program.

#### Admission Requirements

To be admitted to the combined master-doctorate program, the student must:

1. Have passed a different modern language course, other than Spanish and English, with a minimum grade of C.
2. Present the results obtained with a score of 350 or more on the *Examen de Admisión a Estudios Graduados* (EXADEP) or its equivalent.
3. Complete an interview with the History Program Admission Committee. The candidate will be evaluated with a rubric and must obtain 75% or more.
4. Demonstrate the ability to write an essay or equivalent document based on a theme designated by the Program Admission Committee.

#### Requirements for the of Doctor in Philosophy and Letters in History of the Americas for the Combined Master-Doctoral Program

Core Course Requirements	33 credits
Specialization Requirements	15 credits
Prescribed Distributive Requirements	6 credits
Elective Courses	3 credits
<b>Total</b>	<b>57 credits</b>

Core Course Requirements - 33 credits		
HIST 5000	HISTORY OF THE ABORIGINAL CULTURES OF THE AMERICAS	3
HIST 5005	HISTORY OF PUERTO RICO 1800 - 1898	3
HIST 5010	INTERNATIONAL RELATIONS BETWEEN THE UNITED STATES AND PUERTO RICO, 19TH. - 21ST. CENTURIES	3
HIST 5015	COLONIAL INSTITUTIONS IN THE AMERICAS	3
HIST 5020	SLAVERY IN THE	3

HIST 6005	AMERICAS PUERTO RICAN HISTORIOGRAPHY	3
HIST 6020	HISTORIOGRAPHY OF THE AMERICAS	3
HIST 7015	THE UNITED STATES IN LATIN AMERICA: 20TH CENTURY	3
HIST 7020	TOPICS IN HISTORY OF THE AMERICAS I	3
HIST 7030	TOPICS IN HISTORY OF THE AMERICAS II	3
HIST 7040	TOPICS IN THE HISTORY OF PUERTO RICO I	3
Specialization Requirements - 15 credits		
HIST 6000	COLONIZATION, SOCIETY AND CULTURE OF THE SPANISH ANTILLES 16TH – 18TH CENTURIES	3
HIST 6010	METHODOLOGIES FOR HISTORICAL RESEARCH	3
HIST 8970	HISTORICAL RESEARCH METHODOLOGY	3
HIST 8980	THE DOCTORAL DISSERTATION PROPOSAL	3
HIST 8990	DISSERTATION	3

#### Prescribed Distributive Requirements - 6 credits

Students must approve six credits from the following courses:

HIST 7000	POPULAR CULTURE AND NATIONALISM IN LATIN AMERICA	3
HIST 7005	ISLAMIC SOCIETIES IN THE AMERICAS DURING THE 20TH CENTURY	3
HIST 7010	RUSSIA AND THE AMERICAS	3
HIST 7021	TOPICS IN HISTORY OF THE AMERICAS III	3
HIST 7022	TOPICS IN HISTORY OF THE AMERICAS IV	3
HIST 7031	TOPICS IN HISTORY OF THE AMERICAS V	3
HIST 7032	TOPICS IN HISTORY OF THE AMERICAS VI	3
HIST 7041	TOPICS IN THE HISTORY OF PUERTO RICO II	3
HIST 7042	TOPICS IN THE HISTORY OF PUERTO RICO III	3
HIST 7050	HISTORICAL RESEARCH IN	3

	PUERTO RICO	
HIST 7060	PALEOGRAPHY IN AMERICA	3
HIST 7070	CRITICAL HISTORIOGRAPHY	3
HIST 7080	PLASTIC ARTS AS A MANIFESTATION IN HISTORY	3
HIST 7090	ORAL HISTORY	3
HIST 7110	HISTORY OF CUBA AND THE CARIBBEAN	3
HIST 7120	PUERTO RICAN HISTORIOGRAPHY	3
HIST 7130	HISTORY FROM INDIA IN THE TIME OF THE CONQUEST	3
HIST 7140	BIOARCHAEOLOGY AS A SOURCE FOR HISTORICAL RESEARCH	3
HIST 7150	HISTORIOGRAPHY OF THE CONQUEST	3

Elective Courses - 3 credits

Students must approve three credits at the doctoral level.

## Human Resources Management in International Level (Post-Bachelor Professional Certificate)

The Post Bachelor Professional Certificate in Human Resources in International Level empowers the student with the essential elements in the management of human resources at the international level and in turn prepares the person to continue a Master in International Human Resources. The program emphasizes components, the skills and knowledge essential in the international workplace. The student will delve into the practical elements of the administration in the international field of human resources in a context in tune with the world economic stage.

The Ponce Campus is authorized to offer this program through online education.

### Competencies Profile of Graduates

The Post Bachelor Professional Certificate in Human Resources at the International Level is designed to achieve the development of a professional with the following competencies:

#### Knowledge

1. Learn the basics of international human resource management.
2. Understand the general terms related to the concepts, practices and skills in the management of human resources at the international level.

#### Skills

1. Apply the essential skills in the management of human resources in the international field and in the business administration.
2. Properly use the principles of human resources management at the international level.

#### Attitudes

1. Value the ethical principles that apply to the field of international human resource management.

#### Admission Requirements

To be admitted to the program, the student must:

1. Possess at least a bachelor's degree of an educational institution.
2. Comply with the admission procedures to the University.

#### Requirements of the Professional Certificate in Human Resources Management at the International Level

Requirements of the Professional Certificate - 15 credits		
BADM 5100	ORGANIZATIONAL THEORY AND BEHAVIOR	3
BADM 5130	ORGANIZATIONAL BEHAVIOR	3
BADM 5470	FOUNDATIONS OF KNOWLEDGE MANAGEMENT	3
BADM 5491	INTERNATIONAL MANAGEMENT OF HUMAN RESOURCES	3
BADM 5492	DEVELOPMENT AND TRAINING OF INTERNATIONAL HUMAN RESOURCES	3

## Information Security (MS)

The Master of Science in Information Security offers studies of a high level of complexity and specialization for the evaluation, analysis, administration and implementation of security strategies in computer

information systems. The program is directed to all those professionals who hold a Bachelor in areas of Computer Sciences or Information Systems or their equivalent. It is also an alternative for the professional of any discipline who has approved specific courses in the computation area and wishes to enter the computation field. Graduates of the Program will be able to contribute their knowledge and skills in information security systems in public or private companies and institutions. The Program allows the interested student to aspire to obtain the following professional certifications: Certified Network Defense Professional (CNDP), Certified Cybercrime Forensic Investigator (CCFI), Certified Intrusion Detection Specialist (CIDS) and the option of the Certified Voice over Internet Security (CVoIP). The student will be responsible for obtaining these certifications through the Department of Continuing Education of the Metropolitan Campus.

The Metropolitan Campus is authorized to offer this Program through online education.

**Admission Requirements**

To be admitted to the of Master of Science in Information Security, the candidate must meet the general admission requirements for a master’s degree, established by Inter American University of Puerto Rico in its Graduate Catalog and must meet the following specific requirements of the program:

To be admitted to the Program, the candidate must:

1. Hold a bachelor’s degree from an accredited university or educational institution, in any of the following areas:
  - a. computation,
  - b. information systems,
  - c. mathematics,
  - d. engineering,
  - e. or related areas, subject to the evaluation of the coordinator.
2. Have an academic index of at least 3.0 in the last 60 credits.
3. Have approved a course of:
  - a. Programming Logic or its equivalent
  - b. Structured Programming in any of the following

languages: Java, C#, C++ or its equivalent

- c. Networks and telecommunications or their equivalent
- d. Computer Security or its equivalent

**Graduation Requirements**

In addition to the graduation requirements established in the current Graduate Catalog, the following requirements are required:

1. Approve course 6980 INSE - Development of a Security Project to comply with section “Institutional Graduation Requirements for Master’s Programs” of this Catalog, in relation to the research seminars.
2. Have a minimum academic average of 3.00 points.

**Requirements for the Master of Science in Information Security**

Specialization Requirements	30 credits
Prescribed Distributive Requirements	3 credits
<b>Total</b>	<b>33 credits</b>

Specialization Requirements - 30 credits		
INSE 5101	Fundamentals of Security in Networks I	3
INSE 5102	Fundamentals of Security in Networks II	3
INSE 5130	Cyber Fraud	3
INSE 5140	Security in E-Commerce	3
INSE 5201	Forensic Informatics I	3
INSE 5202	Forensic Informatics II	3
INSE 6100	Incident Management	3
INSE 6120	Risk Analysis	3
INSE 6130	Research Methodology	3
INSE 6980	Development of a Security Project	3

**Prescribed Distributive Requirements - 3 credits**

Three (3) prescribed distributive credits are required from the following courses:

INSE 5400	Security in Networks of Voice on Internet (VOIP)	3
INSE 6400	Special Topics in Security	3
INSE 6200	Auditing of Information Systems	3
INSE 5600	Security in Databases	3

**Information Security in Computer**

## Forensics (Post-Bachelor Professional Certificate)

The professional certificate in Information Security in Computer Forensics will provide students with the necessary competencies to be leaders in the design, implementation, evaluation, and troubleshooting of security systems.

### Admission Requirements

All those interested in belonging to this program must be admitted to the University and comply with the admission rules established in this catalog.

In addition, to be admitted to the program it is required:

1. Possess a bachelor's degree in computers, networks or management information systems from a duly accredited institution.

The Aguadilla Campus is authorized to offer this program.

### Competencies Profile of Graduates

The program is designed to develop the skills that allow the student to:

#### Knowledge

1. Know the best practices, trends and tools to mitigate the risks associated with the different information technologies.
2. Identify the security services necessary for modern information systems.
3. Know the techniques associated with the investigation of computer crimes.

#### Skills

1. Design strategic information security plans in any organization.
2. Evaluate security incidents and recommend computer security solutions that comply with current regulations that apply to the organization.
3. Apply adequate methodologies to guarantee the continuity of the organization's operations.
4. Apply the federal and state rules of evidence and procedural standards that govern the investigation of computer crimes.

#### Attitudes

1. Value professional, ethical and legal behavior.

### Requirements of the Professional Certificate in Information Security in Forensic Informatics

Requirements of the Professional Certificate - 18 credits		
ISCF 5010	NETWORK SECURITY DESIGN, IMPLEMENTATION AND ASSESSMENT	3
ISCF 5020	PRINCIPLES OF SECURITY AND PRIVACY IN INFORMATION	3
ISCF 5030	LEGAL AND ETHICAL ASPECTS OF FORENSIC COMPUTERS	3
ISCF 5040	DISASTER RECOVERY PLANS IN INFORMATION TECHNOLOGIES	3
ISCF 5050	COMPUTER NETWORKS AUDIT	3
ISCF 5060	FORENSIC INVESTIGATION	3

## Instructional Design and Multimedia (MS)

The Master of Science in Instructional Design and Multimedia is aimed at developing leaders to produce valuable resources for teaching and learning. The graduate of this program will exhibit competences for the creation, planning, execution and evaluation of the instruction. In addition, the selection, production and practical use of multimedia in instructional designs. The program combines conceptual, technical and attitudinal skills to prepare professionals who work as a specialist in the field of education with application in instructional and multimedia design.

The Ponce Campus is authorized to offer this program through online education.

### Competencies Profile of Graduates

The Program is designed to develop the competences that allow the student to:

#### Knowledge

Know and understand:

1. the fundamentals and phases of instructional design.
2. instructional strategies and techniques.

3. strategies for the integration of multimedia in instructional design.	DIMU 6600	EDUCATIONAL VIDEOS	3
	DIMU 6700	WEB TECHNOLOGY AND MOBILES	3
4. the new technological aspects and their different uses in the educational process.	DIMU 6800	INSTRUCTIONAL VIDEO GAME INTEGRATION	3

**Skills**

1. Design instructional modules using various technological means.
2. Apply an instructional design model for the development of educational resources.
3. Produce multimodal instructional content adaptable to different learning environments.
4. Evaluate the effectiveness of multimedia in the educational process.

**Attitudes**

1. Appreciate the ethical and legal aspects inherent to the use of technology in the teaching and learning process.
2. Recognize the importance of evaluation as a useful process for decision making and attention to educational management needs.
3. Demonstrate continued commitment to their professional development.

**Requirements for the Master of Science in Instructional Design and Multimedia**

Core Requirements	9 credits
Concentration Requirements	15 credits
Operational Requirements	6 credits
<b>Total</b>	<b>30 credits</b>

Core Requirements - 9 credits		
DIMU 6100	FUNDAMENTALS OF INSTRUCTIONAL DESIGN	3
DIMU 6200	INSTRUCTIONAL DESIGN MODELS	3
DIMU 6300	INSTRUCTIONAL STRATEGIES AND TECHNIQUES	3
Concentration Requirements - 15 credits		
DIMU 6400	INTEGRATION OF MULTIMEDIA IN INSTRUCTION	3
DIMU 6500	DIDACTIC MULTIMEDIA	3

Operational Requirements - 6 credits		
DIMU 6901	INTEGRATIVE PROJECT I	3
DIMU 6902	INTEGRATIVE PROJECT II	3

**International Biotechnology (PhD)**

The Doctorate in Philosophy in International Biotechnology, within its general goals, aims to train professionals focused on mastering the knowledge, skills and attitudes required in the area of biotechnology in an international context. The program concentrates its interest in scientific research and technological innovation in agriculture, industry, the environment, and health. The PhD seeks to contribute to the formation of values and attitudes, within the ethical, legal and social framework that should characterize the professional in the field of Biotechnology. In addition, it recognizes the importance of scientific research in solving real problems that affect the quality of life of societies globally. The profile of academic competences will allow to find solutions to problems from a critical, creative and ethical perspective.

The Barranquitas Campus is authorized to offer this program.

**Program Goals**

This doctorate aims to achieve the following goals:

1. Develop professionals focused on the domain of biotechnology knowledge within an international context.
2. Promote research and the use of technology as a means to generate the production of knowledge in the area of biotechnology.
3. Promote the solution of problems related to biotechnology within a framework of ethical, legal and social responsibility.
4. Develop leaders in biotechnology research committed to their professional development as a means to promote better discipline practice in an international context.

**Program Objectives**

The program seeks to achieve the following general

objectives:

1. Generate in an integrated way, theoretical and methodological knowledge in the area of biotechnology.
2. Use research, sources of information and technological advances to support the development of innovations in the area of biotechnology.
3. Apply the ethical, legal and social dimensions in the processes of problem solving and decision-making related to the practice of biotechnology in local and international settings.
4. Demonstrate commitment to the continuous improvement of the professional skills required in the field of biotechnology.

### Competencies Profile of Graduates

The program is designed to develop the skills that allow the student:

#### Knowledge

Demonstrate knowledge and understanding of:

1. The fundamental concepts of molecular biology, epigenetics, proteomics, bioinformatics, genetic expression, laws, regulations and international standards of biotechnology.
2. The theoretical, practical and methodological principles of food safety and metabolic engineering and of agricultural, industrial and marine biotechnology.
3. The theoretical, practical and methodological applications of biotechnology in the areas of agriculture, health, environment, industry and biosafety.
4. Specialized molecular techniques for transformation and genetic expression, amplification and computerized analysis of genetic material.

#### Skills

1. Manage statistical analysis for the interpretation of findings or results of scientific research.
2. Apply protocols for in vitro culture of cells, tissues and organs of animal or plant origin for biological regeneration through transgenesis, cisgenesis and intragenesis technologies.

3. Apply the principles of sequencing, bioinformatics, genetic, and molecular marker technology, genetic maps and genomic information to generate innovative biotechnological products.
4. Apply the use of microbial enzymes, animal cell lines and structural parts of plant species as bioreactors for commercial use.
5. Apply high technology in scientific research in an international context for the development of technological innovation in the area of agricultural, environmental, animal, plant, and industrial biotechnology.

#### Attitudes

1. Demonstrate a responsible attitude towards the ethical, legal and social effects of agricultural, environmental, animal, plant, and industrial biotechnology.
2. Identify areas of potential need for the training and application of biotechnology in solving personal, social, environmental, and economic problems.
3. Demonstrate commitment to research, teaching and continuing education in the various areas of biotechnology.

#### Admission Requirements

The Doctorate in Philosophy in International Biotechnology (Ph.D.) provides two admission routes: (1) students who have a master's degree in science or related areas and (2) students who have a bachelor's degree in science and are interested in direct admission to the doctoral program through a combined curriculum of master and doctoral level courses.

Requirements for students with a Master of Science degree (Route 1)

1. Submit evidence of having completed a Master of Science degree with a minimum academic index (GPA) of 3.00 on a 4.00 scale. In the case of degrees obtained in institutions outside the United States, these must be verified and accredited by the World Educational Service (WES) or some similar entity for the determination of equivalences with degrees from American universities.
2. Submit three letters of recommendation.
3. Present a letter of motivation or purpose of studies. This letter should explain the reasons why the student

aspires to a doctoral degree in Biotechnology.

4. Applicants of international origin who are admitted to the program must obtain their visa or work permit according to the guidelines established by the US Department of Homeland Security.

Requirements for students with Bachelor of Science degree (Route 2)

1. Submit evidence of having completed a Bachelor of Science degree with a minimum academic index (GPA) of 2.5 on a 4.0 scale. In the case of degrees obtained in institutions outside the United States, these must be verified and accredited by the World Educational Service (WES) or some similar entity for the determination of equivalences with degrees from American universities.
2. Approve a minimum of 3 credits in each of the following areas at the master's level:
  - a. Cellular and Molecular Biotechnology
  - b. Molecular Genetics and Bioinformatics
  - c. Biosecurity
  - d. Plant Biotechnology
  - e. Instrumental Analysis of Biomolecules
  - f. Industrial and Commercial Biotechnology

These courses must have been approved with a minimum grade of B before beginning the core courses required by the doctoral program.

3. Submit three letters of recommendation.
4. Present a letter of motivation or purpose of studies. This letter should explain the reasons why the student aspires to a doctoral degree in Biotechnology.

Applicants of international origin who are selected by the program must obtain their visa or work permit according to the guidelines established by the US Department of Homeland Security.

**Retention Requirements**

1. Pass all courses in the program with a minimum grade of B. Students who do not meet this requirement must repeat the courses.
2. Comply with all the requirements set forth in the Thesis Guidelines and in the Thesis Manual.

**Graduation Requirements**

The granting of the doctoral degree will be subject to compliance with the following requirements:

1. Complete the doctoral degree with a minimum academic average of 3.0.
2. Show evidence that the research article on the doctoral dissertation has been accepted for publication in a scientific journal that requires peer review.
3. Receive approval of your doctoral dissertation.
4. Present your dissertation work at an international scientific congress in or outside of Puerto Rico.

**Transfer Requirements**

No work with academic credit done in a time greater than 5 years will be considered for validation purposes. The course expiration rule will be applied to these courses.

**Requirements for the Doctorate in Philosophy in International Biotechnology**

Core Courses Requirements	24 credits
Specialization Requirements	12 credits
Operational Requirements	15 credits
Prescribed Distributive Requirements	9 credits
<b>Total</b>	<b>60 credits</b>

Core Courses Requirements - 24 credits		
BIOT 7110	MOLECULAR AND EPIGENETIC BIOLOGY	3
BIOT 7120	PROTEOMIC	3
BIOT 7130	EXPERIMENTAL DESIGNS AND BIO-STATISTICS	3
BIOT 7140	BIOINFORMATICS	3
BIOT 7210	SCIENTIFIC COMMUNICATION SKILLS	3
BIOT 7220	INTERNATIONAL LAWS, REGULATIONS AND STANDARDS IN BIOTECHNOLOGY	3
BIOT 7230	AGRICULTURAL BIOTECHNOLOGY	3
BIOT 7240	DEVELOPMENT AND GENETIC EXPRESSIONS IN ANIMALS	3

Specialization Requirements - 12 credits		
BIOT 7310	GLOBAL PROBLEMS IN	3

BIOT 7320	BIOTECHNOLOGY BIOETHICS AND INTERNATIONAL REGULATORY PROBLEMS	3
BIOT 7330	ROTATION IN BIOTECHNOLOGY LABORATORIES	3
BIOT 8917	INTERNATIONAL PRACTICES	3
Operational Requirements - 15 credits		
BIOT 8911	RESEARCH METHODS I	3
BIOT 8912	RESEARCH METHODS II	3
BIOT 8913	RESEARCH METHODS III	3
BIOT 8991	DOCTORAL DISSERTATION IN BIOTECHNOLOGY I	3
BIOT 8992	DOCTORAL DISSERTATION IN BIOTECHNOLOGY II	3
Prescribed Distributive Requirements - 9 credits		
The student must select 3 courses from this component:		
BIOT 7340	METABOLIC ENGINEERING	3
BIOT 7350	INDUSTRIAL BIOTECHNOLOGY	3
BIOT 7360	VEGETABLE TISSUE AND CELL CULTURE	3
BIOT 7370	BIOTECHNOLOGY OF FOOD SECURITY	3
BIOT 7380	BIOTECHNOLOGY OF CROP IMPROVEMENT	3
BIOT 7390	MARINE BIOTECHNOLOGY	3
BIOT 797_	SPECIAL TOPICS IN BIOTECHNOLOGY	3

## International Business (MIB)

### International Business (MIB) Requirements

The Master in International Business develops the competences that contribute to preparation in management and enterprise in the international field. The diverse operational areas that affect global enterprise transactions are studied.

The Metropolitan Campus has a consortium with our School of Law that will allow qualified students to earn a Master of International Business (MIB) and a Juris Doctor (JD). Interested students must contact the academic department at the Metropolitan Campus for information and requirements.

The Metropolitan Campus is authorized to offer this Program.

#### Program Goals

The Master in International Business, aims to train responsible and rigorous leaders in the analysis, design, implementation, and evaluation of policies and strategies to successfully achieve the objectives of a company in an international environment.

The Program develops the skills necessary to succeed in the global market.

#### Program Objectives

1. Contribute to the development of professionals with a culture of business management, consistent with advances in the discipline of international business.
2. Develop the transformation of negotiation and intercultural communication groups, project management and business process analysis.
3. Promote a culture of academic research and writing of excellence among the participants of the program in order to enrich their training and their contributions to the scientific, academic and professional literature.

#### Competencies Profile of Graduates

The Program aims to develop the following competences:

#### Knowledge

1. Apply new knowledge and management skills to compete in global markets, either as an employee or entrepreneur.
2. Examine the situation of the businessmen of Puerto Rico in the light of the current international trade agreements within the multidisciplinary and international context.

#### Skills

1. Operate through the cultural and economic factors that intervene in business relationships at the international level.
2. Develop projects or research related to international aspects.

#### Attitudes

1. Value the differences in international markets as the current and future means of doing business in the face



of a new economy and a new global socio-political environment.

**Admission Requirements**

Students requesting admission to the Master in International Business must:

1. Obtain a minimum index of 600 points calculated by adding the score of the Postgraduate Studies Admission Exam (EXADEP) plus the GPA average multiplied by one hundred.
2. Those candidates who have 3.00 or more of G.P.A. in a bachelor’s degree or 3.00 of GPA in the last 60 credits of studies and those applicants who have five (5) years or more of experience in International Business, are exempt from presenting the test results.
3. Hold a Bachelor in Business Administration (BBA) or hold a bachelor’s degree in another discipline and present proof of having approved courses (or their equivalent) in the following areas, at the undergraduate level with a minimum grade of C or its equivalent:
  - a. Statistics (3 credits)
  - b. Economics (3 credits)
  - c. Accounting I (3 credits)
  - d. Marketing (3 credits)
  - e. Finance (3 credits)

**Requirements for the Master in International Business**

Specialization Requirements	35 credits
Prescribed Distributive Requirements	2-3 credits
Total	37-38 credits

Specialization Requirements - 35 credits	
INBS 5000	INTERCULTURAL NEGOTIATION AND COMMUNICATION IN INTERNATIONAL BUSINESS 3
INBS 5005	RESEARCH METHODOLOGY PRINCIPLES APPLIED TO INTERNATIONAL BUSINESS 2
INBS 6000	INTERNATIONAL BUSINESS MANAGEMENT 3
INBS 6010	INTERNATIONAL BUSINESS LAW 3
INBS 6210	RESEARCH METHODOLOGY 3

	INBS 6970	IN INTERNATIONAL BUSINESS SEMINAR: BUSINESS ENVIRONMENT AND ADMINISTRATIVE PRACTICES OF THE CARIBBEAN AND LATIN AMERICA	3
	INBS 6990	CONSULTING/RESEARCH PROJECT	3
	BADM 5020	BUSINESS ECONOMICS	3
	BADM 6160	MARKETING RESEARCH	3
	BADM 6200	INTERNATIONAL BUSINESS FINANCE	3
	BADM 6295	GLOBAL OPERATIONS	3
	BADM 6390	GLOBAL MARKETING	3
	Prescribed Descriptive Requirements - 3 credits		
	Students must select one course from the following:		
	INBS 6070	GLOBALIZATION: FOUNDATIONS OF CONTEMPORARY INTERNATIONAL BUSINESS RELATIONS	3
	INBS 6080	INTERNATIONAL RELATIONS AND CONTEMPORARY AFFAIRS OF ECONOMY AND INTERNATIONAL BUSINESS	3
	INBS 6090	INTERNATIONAL ORGANIZATIONS AND INTERNATIONAL CIVIL SOCIETY: THEIR INFLUENCE IN INTERNATIONAL RELATIONS AND BUSINESS	3
	INBS 6310	INTERNATIONAL HUMANITARIAN ACTIONS: PHILANTHROPY AND BUSINESS OPPORTUNITIES	3
	INBS 6905	INTERNATIONAL INTERNSHIP	3
	INBS 6910	PROFESSIONAL PRACTICE	3
	BADM 5480	DIGITAL MARKETING	3
	BADM 5776	TRANSFORMATION OF THE LIBERAL STATE IN CURRENT GLOBALIZATION	3
	BADM 6577	INTRODUCTION TO ECONOMETRY	3

BADM 6580	GLOBALIZATION: INTERNATIONAL COMMERCE, CAPITAL FLOW, NEW GOVERNANCE AND FAIRNESS	3
BADM 6590	DIMENSIONS OF GLOBALIZATION AND INCIDENCES IN ECONOMIC, POLITICAL AND SOCIO LABOR RELATIONS	3
BADM 6600	POLICY OF INNOVATION IN GLOBALIZATION	3
BADM 6610	CULTURE, IDENTITY AND POLICY IN THE CONTEXT OF GLOBALIZATION	3
PSYC 5150	STATISTICS APPLIED TO PSYCHOLOGY	2

the areas dealing with globalization.

The Metropolitan Campus is authorized to offer this minor specialization.

**Requirements for the Minor Specialization in International Relations - 12 credits**

Required Courses

INBS 6070	GLOBALIZATION: FOUNDATIONS OF CONTEMPORARY INTERNATIONAL BUSINESS RELATIONS	3
INBS 6080	INTERNATIONAL RELATIONS AND CONTEMPORARY AFFAIRS OF ECONOMY AND INTERNATIONAL BUSINESS	3
INBS 6090	INTERNATIONAL ORGANIZATIONS AND INTERNATIONAL CIVIL SOCIETY: THEIR INFLUENCE IN INTERNATIONAL RELATIONS AND BUSINESS	3
INBS 6310	INTERNATIONAL HUMANITARIAN ACTIONS: PHILANTHROPY AND BUSINESS OPPORTUNITIES	3

**Minor Specialization in International Marketing**

The minor specialization in International Marketing is designed for the graduate student of the Master of Business Administration and the Master of International Business. This minor specialization aspires to develop knowledge and skills in decision making in the entrepreneurial areas of communication, consumer behavior and the determination of pricing strategies from a perspective of marketing in the global environment.

The Metropolitan Campus is authorized to offer this minor specialization.

**Requirements for the Minor Specialization in International Marketing - 9 credits**

Required Courses

BADM 5480	DIGITAL MARKETING	3
BADM 6480	INTERNATIONAL PRICING	3
MKTG 6430	CONSUMING BEHAVIOR AT THE INTERNATIONAL LEVEL	3

**Minor Specialization in International Relations**

The Minor Specialization in International Relations is designed for the graduate student of the Master of Business Administration and the Master of International Business. The goal of this program has is to develop knowledge and skills in the areas of globalization, international organizations and international civil society. This minor specialization provides managerial knowledge and skills in

**Minor Specialization in Economic and Social Dimensions of Globalization**

The minor specialization is designed to reflect on the meaning of the economic policy in the new context that defines the process of the globalization in the economic, social, and business activities. This process, driven by ideological reasons as well as by technological reasons, has substantially modified the effectiveness of the mechanisms of public intervention offered by economic literature.

The Metropolitan Campus is authorized to offer this minor specialization.

**Requirements for the Minor Specialization in Economic and Social Dimensions of Globalization - 12 credits**

Required Courses

Students will take the following 9 credits:

BADM 6555	INTRODUCTION TO RESEARCH IN SOCIAL	3
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	SCIENCES	
BADM 6580	GLOBALIZATION: INTERNATIONAL COMMERCE, CAPITAL FLOW, NEW GOVERNANCE AND FAIRNESS	3
BADM 6590	DIMENSIONS OF GLOBALIZATION AND INCIDENCES IN ECONOMIC, POLITICAL AND SOCIO LABOR RELATIONS	3
Select a 3 credit course from the following:		
BADM 5776	TRANSFORMATION OF THE LIBERAL STATE IN CURRENT GLOBALIZATION	3
BADM 6559	ANALYSIS OF REGRESSION APPLIED TO SOCIAL SCIENCES	3
BADM 6577	INTRODUCTION TO ECONOMETRY	3
BADM 6600	POLICY OF INNOVATION IN GLOBALIZATION	3
BADM 6610	CULTURE, IDENTITY AND POLICY IN THE CONTEXT OF GLOBALIZATION	3

## International Business Administration (MIBA)

### International Business Administration (MIBA) Requirements

The Master of International Business Administration (MIBA) is a program applied to the administration of resources and organizational assets in the local and international environment. The program promotes the analysis of management components and functions in the international context. Its purpose is to develop leaders through research, critical thinking, problem solving and strategic business planning. It contributes to the development of administrative skills that help to identify new business opportunities in the specialties of Accounting, Finance, Human Resources, Marketing, and Global Logistics.

The campuses authorized to offer the specializations of this Program are:

1. Accounting: Barranquitas

Accounting Online: Ponce

2. Finance Online: Ponce
3. Global Logistics Online: Ponce
4. Marketing Online: Ponce
5. Human Resources Online: Ponce

### Program Goals

The International Business Administration Program has the following goals:

1. Expand the development of a competent professional who can provide quality services and be an agent of change in organizations.
2. Train professionals interested in expanding their knowledge in the practices of international trade.
3. Develop a professional in the investigation, analysis and critical assessment of organizational problems.

### Program Objectives

The International Business Administration Program has the following objectives:

1. Investigate and analyze international commercial activity.
2. Discuss the relevant aspects of cultural diversity and its application in the international tasks and ethics of the profession.
3. Assess the roles of the manager in strategic planning, economic trends and decision making in an international framework.

### Competencies Profile of Graduates

Upon completion of their professional training, the graduate will demonstrate specialized skills in dimensions of knowledge, skills and attitudes, as indicated below:

### Knowledge

1. Understand the managerial functions in an international environment.
2. Understand the historical, economic and cultural background in the international business environment.
3. Explain the process of strategic planning and the tools to be used in decision making.

**Skills**

1. Apply the knowledge acquired in the administration and operation of an international organization.
2. Use research to optimize managerial functions and strengthen the decision making process.
3. Develop strategic plans to achieve competitiveness at the international level.

**Attitudes**

1. Value the profession through an interdisciplinary perspective and effective communication in the organizational context.
2. Respect for cultural diversity, ethical principles and social-corporate responsibility.
3. Recognize the importance of continued education in the practice of their profession.

**Admission Requirements**

In addition to the admission requirements established in the Graduate Catalog, students who aspire to this master's degree must meet the following program requirements:

1. Students who request a major in Marketing, Global Logistics, and Human Resources must have approved with a minimum of "C" three (3) credits in economy, three (3) credits in statistics and three (3) credits in accounting.
2. Students applying for Accounting and Finance majors must have approved with a minimum of "C" three (3) credits in economics, three (3) credits in statistics, three (3) credits in finance and six (6) credits in finance.
3. Demonstrate command of the language in English and Spanish. This includes the ability to interpret professional material and to express oneself appropriately in written form in one of the two languages

**Requirements for the Master in International Business Administration**

**(For the Specializations in Accounting, Finance, Global Logistics and Marketing)**

Core Course Requirements	18 credits
Specialization Requirements	15 credits
<b>Total</b>	<b>33 credits</b>

Core Course Requirements - 18 credits

IBAD 5100	RESEARCH IN THE INTERNATIONAL ENVIRONMENT	3
IBAD 5210	INTERNATIONAL INFORMATION SYSTEMS	3
IBAD 5220	INTERNATIONAL BUSINESS MARKETING	3
IBAD 5340	MANAGERIAL ECONOMICS IN INTERNATIONAL BUSINESSES ENVIRONMENT	3
BADM 5040	ACCOUNTING FOR MANAGERS	3
BADM 6200	INTERNATIONAL BUSINESS FINANCE	3

Specialization Requirements

**Specialization Requirements for the Specialization in Accounting - 15 credits**

Required Courses

ACCT 6410	INTERNATIONAL ACCOUNTING	3
ACCT 6420	INTERNATIONAL FINANCIAL STATEMENTS AND THEIR ANALYSIS	3
ACCT 6430	ADVANCED INTERNAL AUDITING	3
ACCT 6440	FORENSIC ACCOUNTING	3
SEMI 697_	MIBA INTEGRATING SEMINAR	3

**Specialization Requirements for the Specialization in Finance - 15 credits**

Required Courses

BADM 5190	CORPORATE FINANCE	3
FINA 6310	INTERNATIONAL FINANCIAL ADMINISTRATION	3
FINA 6420	INTERNATIONAL FINANCIAL MARKETS	3
FINA 6430	INTERNATIONAL ANALYSIS OF INVESTMENTS PORTFOLIO	3

SEMI 697\_ MIBA INTEGRATING SEMINAR 3

**Specialization Requirements for the Specialization in Global Logistics - 15 credits**

**Required Courses**

GLLO 6100 INTRODUCTION TO GLOBAL LOGISTICS 3  
 GLLO 6200 TECHNOLOGY FOR GLOBAL LOGISTICS 3  
 GLLO 6300 SECURITY IN THE GLOBAL VALUE CHAIN 3  
 GLLO 6400 ADVANCED GLOBAL LOGISTICS 3  
 SEMI 697\_ MIBA INTEGRATING SEMINAR 3

**Specialization Requirements for the Specialization in Marketing - 15 credits**

**Required Courses**

MKTG 6410 INTEGRATED COMMUNICATION IN INTERNATIONAL MARKETING 3  
 MKTG 6420 STRATEGIC PLANNING OF INTERNATIONAL MARKETING 3  
 MKTG 6430 CONSUMING BEHAVIOR AT THE INTERNATIONAL LEVEL 3  
 MKTG 6440 ELECTRONIC MARKETING 3  
 SEMI 697\_ MIBA INTEGRATING SEMINAR 3

**Specialization Requirements for the Specialization in Human Resources**

**Core Course Requirements - 30 credits**

IBAD 5100 RESEARCH IN THE INTERNATIONAL ENVIRONMENT 3  
 IBAD 5110 INTERNATIONAL STRATEGIC ADMINISTRATION 3  
 IBAD 5210 INTERNATIONAL INFORMATION SYSTEMS 3  
 IBAD 5320 GLOBAL BUSINESS ENVIRONMENT 3  
 IBAD 5410 INTERNATIONAL 3

IBAD 6971 DISTRIBUTION SPECIAL PROJECT IN INTERNATIONAL BUSINESS ADMINISTRATION 3  
 BADM 5040 ACCOUNTING FOR MANAGERS 3  
 BADM 5190 CORPORATE FINANCE 3  
 BADM 6390 GLOBAL MARKETING 3  
 BADM 6780 THE MANAGER IN AN INTERNATIONAL ECONOMY 3

**Specialization Requirements for Human Resources - 12 credits**

BADM 6010 HUMAN RESOURCES MANAGEMENT IN THE INTERNATIONAL ENVIRONMENT 3  
 BADM 6415 INTERNATIONAL ADMINISTRATION OF SALARIES, BENEFITS AND SERVICES 3  
 BADM 6510 INTERNATIONAL LABOR ECONOMICS 3  
 LARE 6410 COMPARATIVE LABOR RELATIONS 3

**International Business Intelligence (MS)**

The Master in Science in International Business Intelligence (online) has the mission of preparing students with the necessary competencies and knowledge to develop analysis skills, integrate the use of technology and provide the basis for effectively extracting and evaluating data and information. necessary in business decision making. This program is aimed at professionals, administrators, managers, engineers, executives, directors, business owners and future entrepreneurs, interested in accumulating, processing and analyzing business information in a structured and effective way to present strategic recommendations; that can contribute to the competitive advantage of a company and thus respond proactively to changes in local and global markets. Competencies are provided so that graduates can serve as analysts of international business processes and functions that do not require a professional license.

The Ponce Campus is authorized to offer this program through online education.

**Program Goals**

1. Respond to the needs of companies, organizations and Government agencies through the training of specialists in the field of the analysis and evaluation of business processes.
2. Promote the development and application of knowledge in the optimization of business functions.
3. Contribute to the development of professionals providing them with the knowledge, skills and attitudes that enable them to solve problems, evaluate and analyze the performance of local and international organizations.

**Program Objectives**

1. Provide the fundamental aspects related to the processes of operations, transportation, distribution and logistics in the local and international level.
2. Analyze business processes, transportation, distribution and logistics through the simulation of business operations.
3. Promote the importance of the development of bases of business intelligence in international organizations.

**Competencies Profile of Graduates**

The Program is designed to develop the competencies that enable the student to:

**Knowledge**

1. Know the theoretical and practical foundations of business intelligence.
2. Examine the aspects necessary to develop plans for the management of business information.
3. Consider the new challenges, paradigms and technological tools in business management models.

**Skills**

1. Develop a model of the business operations of products and services.
2. Create indicators and metrics for the evaluation of the fundamentals of business intelligence and competitiveness.
3. Apply the theories, principles and models of operation and analysis of efficiency and business optimization.

**Attitudes**

1. Value management of business intelligence as an essential function to confront the various challenges and opportunities in the management of products and services in global environments.
2. Demonstrate responsibility with their professional development and with the statement of ethical values.
3. Disseminate knowledge in the field of business intelligence for the strengthening of the economy.

**Requirements for the Master in Science in International Business Intelligence (Online)**

Core Requirements	6 credits
Specialization Requirements	24 credits
<b>Total</b>	<b>30 credits</b>

**Core Requirements - 6 credits**

IBAD 5210	INTERNATIONAL INFORMATION SYSTEMS	3
IBAD 5220	INTERNATIONAL BUSINESS MARKETING	3

**Specialization Requirements - 24 credits**

GLLO 6100	INTRODUCTION TO GLOBAL LOGISTICS	3
GLLO 6200	TECHNOLOGY FOR GLOBAL LOGISTICS	3
GLLO 6400	ADVANCED GLOBAL LOGISTICS	3
BUSI 6100	INTERNATIONAL BUSINESS INTELLIGENCE	3
BUSI 6200	TOOLS IN BUSINESS INTELLIGENCE I	3
BUSI 6300	TOOLS IN BUSINESS INTELLIGENCE II	3
BUSI 6970	INTEGRATIVE SEMINAR	3
BUSI 6990	APPLICATION PROJECT	3

**Labor Relations (MA)**

The Master of Arts in Labor Relations has a multidisciplinary approach that includes social, legal, economic and ethical aspects in a comprehensive study base. The Program aims to train professionals with knowledge of legal, organizational and leadership aspects by proposing strategic changes to learn to effectively lead and manage labor relations in a global context. The courses have the main objective of aligning business and operational strategies to aspire to achieve and sustain competitive advantages in the management of human capital. In addition, the Program aspires to train a

professional in the area of labor relations with basic knowledge and analytical skills to function as a leader.

The Program aims to graduate professionals who can respond to the demand for human resources management with strategic vision and analysis of policies and diverse labor relations. It also provides in-depth and up-to-date knowledge of the legislation to address labor protections.

The Metropolitan Campus has a consortium with our School of Law that will allow qualified students to earn an MA in Labor Relations and a Juris Doctor (JD). Interested students must contact the academic department at the Metropolitan Campus for information and requirements.

The Metropolitan Campus is authorized to offer this Program.

**Competencies Profile of Graduates**

The program is designed to develop the competencies that allow the student to:

**Knowledge**

1. Demonstrate knowledge and understanding of the theoretical, legal, organizational and socioeconomic concepts that support the evolution of labor relations in business settings.

**Skills**

1. Apply theoretical, legal, economic and political concepts for decision making in work contexts.
2. Apply research processes in the workplace for decision making.
3. Evaluate work models and approaches that influence the research process for making informed work decisions.
4. Apply alternative methods in the resolution of labor disputes.

**Attitudes**

1. Demonstrate the disposition for continuous learning with a transdisciplinary vision that encourages conceptualized, globalized and reflective thinking for the administration of labor relations.
2. Value creativity in change and innovation to generate social, economic and business culture changes that promote transformations in the healthy administration of labor relations.

3. Act ethically and creatively in labor practices for conflict resolution and leadership exercise that respond to labor and cultural diversity in order to promote socioeconomic justice.

**Admissions Requirements**

In addition to meeting the requirements established in the section “Admission Requirements for Master’s Programs” of this Catalog, candidates for admission to this Program must have passed the following undergraduate courses (or their equivalent):

MAEC 2212	Principles of Macroeconomics	3
PSYC 1051	General Psychology I	3
SOCI 2030	Introduction to Sociology	3

**Requirements for the Master of Arts in Labor Relations**

Specialization Requirements	24 credits
Related Requirements	3 credits
Prescribed Distributive Requirements	9 credits
<b>Total</b>	<b>36 credits</b>

<b>Specialization Requirements - 24 credits</b>		
LARE 5001	RESEARCH METHODS IN LABOR RELATIONS	3
LARE 5010	LABOR RELATIONS AND COLLECTIVE BARGAINING LEGISLATION	3
LARE 5020	ORGANIZATIONAL THEORETICAL FOUNDATIONS	3
LARE 5200	LABOR STATISTICS	3
LARE 5400	LABOR LAW AND LABOR RELATIONS	3
LARE 5410	HISTORY AND PHILOSOPHY OF LABOR MOVEMENTS	3
LARE 6440	RESOLUTION OF CONFLICTS IN THE WORKPLACE	3
LARE 6975	INTEGRATING SEMINAR IN LABOR RELATIONS	3
<b>Related Requirements - 3 credits</b>		
BADM 5100	ORGANIZATIONAL THEORY AND BEHAVIOR	3
<b>Prescribed Distributive Requirements - 9 credits</b>		
Select nine (9) credits from the following:		
LARE 5300	LABOR ECONOMY	3

LARE 5420	LABOR RELATIONS IN THE PUBLIC SECTOR	3
LARE 6410	COMPARATIVE LABOR RELATIONS	3
LARE 6430	NEW ORGANIZATIONAL WORK PATTERNS	3
LARE 6450	JOB DISCRIMINATION	3
BADM 6080	ADMINISTRATION OF COMPENSATION AND BENEFITS	3

## Mechanical Engineering (MS and ME)

The Department of Mechanical Engineering offers two modalities of master's degrees: Master of Science (M.S.) in Mechanical Engineering and Master of Engineering (M.E.) in Mechanical Engineering. In each modality two specializations are offered: Aerospace and Energy. These programs are designed to prepare students with the skills and attitudes necessary to perform as efficient professionals in the aerospace and energy specializations. In the Energy specialization students are prepared in the study of fossil and renewable energies. In the Aerospace specialization students are offered the knowledge necessary to perform successfully in the aerospace industry. Students can choose one of the two specializations offered: Aerospace and Energy.

The Bayamón Campus is authorized to offer these programs and specializations.

### Admission Requirements

In addition to the general requirements in the Graduate Catalog, the following is required:

1. Hold a Bachelor in Mechanical Engineering or related area.
2. Present three (3) letters of recommendation from people who know the student in his academic or professional performance or both.
3. Have approved the following courses or equivalents:
  - a. MECN 4202 Thermodynamics II
  - b. MECN 3135 Solid Mechanics
  - c. MATH 3400 Differential Equations

## Master of Science in Mechanical Engineering

### Requirements for the Master of Science (MS) in Mechanical Engineering

Core Course Requirements	12 credits
Prescribed Distributive Requirements	6 credits
Specialization Requirements	9 credits
Thesis Requirements	6 credits
<b>Total</b>	<b>33 credits</b>

#### Core Course Requirements - 12 credits

MECN 6010	ADVANCED MATHEMATICS FOR ENGINEERS	3
MECN 6020	ADVANCED THERMODYNAMICS	3
MECN 6030	ADVANCED SOLID MECHANICS	3
MECN 6040	COMPUTATIONAL MODELING FOR ENGINEERING	3

#### Prescribed Distributive Requirements - 6 credits

Select 6 credits from the following courses:

MECN 5970	ADVANCED TOPICS IN MECHANICAL ENGINEERING	3
MECN 6140	FUEL CELLS	3
MECN 6150	ADVANCED POWER GENERATION	3
MECN 6240	AEROSPACE MATERIALS	3
MECN 6250	COMPUTATIONAL FLUID DYNAMICS	3
MECN 6260	ADVANCED MECHANICAL VIBRATION	3
MECN 6300	ADVANCED CONTROL SYSTEMS	3
MECN 6510	LIGHTING SYSTEMS DESIGN	3

#### Specialization Requirements

The student will select one of the following specializations:

### Specialization in Energy (Mechanical Engineering) (MS)

#### Specialization in Energy - 9 credits

MECN 6110	RENEWABLE ENERGY	3
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MECN 6120	ENERGY MANAGEMENT	3
MECN 6130	SUSTAINABLE BUILDINGS	3

### Specialization in Aerospace (Mechanical Engineering) (MS)

Specialization in Aerospace - 9 credits

MECN 6210	INTEGRATION OF ENGINEERING SYSTEMS	3
MECN 6220	ADVANCED AEROSPACE STRUCTURES	3
MECN 6230	AEROSPACE DYNAMICS	3

Thesis Requirements - 6 credits

MECN 6991	THESIS I	1
MECN 6992	THESIS II	2
MECN 6993	THESIS III	3

### Master of Engineering in Mechanical Engineering

#### Requirements for the Master of Engineering (ME) in Mechanical Engineering

Core Course Requirements	12 credits
Prescribed Distributive Requirements	12 credits
Specialization Requirements	9 credits
Project Requirements	3 credits
<b>Total</b>	<b>36 credits</b>

Core Course Requirements - 12 credits

MECN 6010	ADVANCED MATHEMATICS FOR ENGINEERS	3
MECN 6020	ADVANCED THERMODYNAMICS	3
MECN 6030	ADVANCED SOLID MECHANICS	3
MECN 6040	COMPUTATIONAL MODELING FOR ENGINEERING	3

Prescribed Distributive Requirements - 12 credits

Select 12 credits from the following courses:

MECN 5970	ADVANCED TOPICS IN MECHANICAL ENGINEERING	3
MECN 6140	FUEL CELLS	3
MECN 6150	ADVANCED POWER GENERATION	3
MECN 6240	AEROSPACE MATERIALS	3

MECN 6250	COMPUTATIONAL FLUID DYNAMICS	3
MECN 6260	ADVANCED MECHANICAL VIBRATION	3
MECN 6300	ADVANCED CONTROL SYSTEMS	3
MECN 6510	LIGHTING SYSTEMS DESIGN	3

#### Specialization Requirements

The student will select one of the following specializations:

### Specialization in Energy (Mechanical Engineering) (ME)

Specialization in Energy - 9 credits

MECN 6110	RENEWABLE ENERGY	3
MECN 6120	ENERGY MANAGEMENT	3
MECN 6130	SUSTAINABLE BUILDINGS	3

### Specialization in Aerospace (Mechanical Engineering) (ME)

Specialization in Aerospace - 9 credits

MECN 6210	INTEGRATION OF ENGINEERING SYSTEMS	3
MECN 6220	ADVANCED AEROSPACE STRUCTURES	3
MECN 6230	AEROSPACE DYNAMICS	3

Project Requirements of 3 credits

MECN 6981	PROJECT I	1
MECN 6982	PROJECT II	2

### Molecular Microbiology (MS)

#### Molecular Microbiology (MS) Requirements

The Master of Science in Molecular Microbiology offers two concentrations: Bioinformatics and Molecular Diagnostic. This program provides specific training to future microbiologists in the interpretation and analysis of new generation sequences and their integration into biological knowledge. In addition, it uses sophisticated bioinformatics systems through data analysis and the use of open source platforms. It includes the study of molecular techniques in the design of diagnostic methods used for the detection of pathological conditions and the study of techniques applied to instruments that are used for

research purposes.

The Metropolitan Campus is authorized to offer this program.

### Competencies Profile of Graduates

The Program is designed to develop the professional competencies that allow the student to:

#### Specialization in Bioinformatics

##### Knowledge

1. Demonstrate knowledge of microbiology in the genomic era, in aspects related to the balance of ecosystems.
2. Distinguish scientific information from various sources.
3. Distinguish the most useful platforms (pipeline) for data management in molecular microbiology.

##### Skills

1. Apply molecular microbiology methodology in scientific research aimed at solving problems.
2. Evaluate the most useful programs for data management in molecular microbiology.
3. Argue ideas and results of research, before the scientific community, orally and in writing, both in Spanish and English.

##### Attitudes

1. Value the importance of ethical standards related to scientific conduct in research.
2. Recognize the importance of proposing solutions based on molecular microbiology to address situations of depredation and spoliation of ecological environments.

#### Specialization in Molecular Diagnostics

##### Knowledge

1. Demonstrate knowledge of microbiology in the genomic era, in aspects related to human health.
2. Distinguish the most useful platforms (pipeline) for data management in molecular microbiology.

##### Skills

1. Apply molecular microbiology methodologies in scientific research aimed at solving problems.
2. Evaluate the most useful programs for data management in molecular microbiology.
3. Argue ideas and results of research, before the scientific community, orally and in writing, both in Spanish and English.

##### Attitudes

1. Value the importance of ethical standards related to scientific conduct in research.
2. Recognize the importance of proposing solutions based on molecular techniques for clinical diagnosis.

#### Admission Requirements

Students, who request admission to the Master of Science in Molecular Microbiology Program, must meet the admission requisites of the current master's programs at the Institution, in addition to the following requisite:

Have passed the following courses or their equivalents, with a minimum grade of "C":

1. Genetics
2. General Microbiology
3. Cellular and Molecular Biology or Biochemistry
4. Immunology
5. Organic Chemistry I and II
6. Analytic Chemistry

\*Some of these courses require prior approval of other related courses.

#### Requirements for the Master in Sciences in Molecular Microbiology

Core Requisites	25-26 credits
Concentration Requisites	9 credits
Total	34-35 credits

Core Requisites - 25 o 26 credits		
MOMI 5101	BIOCHEMISTRY OF BIOMOLECULES I	3
MOMI 5102	BIOCHEMISTRY OF BIOMOLECULES II	3
MOMI 5110	MICROBIAL GENETICS	2
MOMI 5130	BIOSECURITY	1

MOMI 5210	MICROBIAL PHYSIOLOGY AND METABOLISM	3
MOMI 5300	MICROBIAL ECOLOGY	2
MOMI 5310	MICROBIAL-HOST INTERACTIONS	3
MOMI 6300	OMICS APPROACHES IN MICROBIOLOGY	2
MOMI 6310	SEMINAR IN MOLECULAR MICROBIOLOGY	1
MOMI 6400	DATA ANALYSIS AND BIOINFORMATICS	2
MOMI 6989	RESEARCH PROJECT	3
	Or	
MOMI 6991	THESIS	2
	And	
MOMI 6992	THESIS CONTINUATION	2

\*Students who opt for doctoral studies must take courses MOMI 6991 and 6992.

**Specialization Requirements - 9 credits**

Students will select one of the two specializations: Bioinformatics or Molecular Diagnostic.

**Specialization in Bioinformatics**

**Specialization Requirements for the Specialization in Bioinformatics - 9 credits**

Required Courses

MOMI 5320	PROGRAMMING AND DATA MINING	3
MOMI 6320	MICROBIAL GENOMICS	3
MOMI 6410	MOLECULAR PHYLOGENETIC	3

**Specialization in Molecular Diagnostic**

**Specialization Requirements for the Specialization in Molecular Diagnostic - 9 credits**

Required Courses

MOMI 6331	RECOMBINANT DNA TECHNIQUES	
MOMI 6332	MOLECULAR DIAGNOSTIC TECHNIQUES IN MICROBIOLOGY	3
MOMI 6500	MOLECULAR DIAGNOSIS	3

**Music (MM)**

The program of Master of Music (MM) focuses on the development of basic skills in the general field of music,

both in its academic and practical manifestation. The Program offers the tools to carry out studies in musical arts focused on advanced knowledge of research, music theory and the anthropological and historical processes of Puerto Rican, Caribbean and global music.

The Metropolitan Campus is authorized to offer this Program.

**Competencies Profile of Graduates**

The Master of Music Program is designed to develop the competencies that allow the student to:

**Knowledge**

1. Demonstrate knowledge about the foundations of history, theory and music theory both in the context of music education and in the creation of original works, arrangement of vernacular creations and international repertoire and their execution.
2. Know the philosophies of the musical teaching and the aesthetic musical proposals for the conceptualization and execution of both based on pedagogical practices and the creation of aesthetically based musical works.
3. Know the basic quantitative research methods and designs as they are used particularly in the musical sciences.

**Abilities**

1. Explain the fundamentals of history, theory and music theory both in the context of music teaching and in the creation of original works, arrangement of vernacular creations and international repertoire and their execution.
2. Choose between the philosophies of music teaching and the aesthetic musical proposals for the conceptualization and execution of both based on pedagogical practices and the creation of aesthetically based musical works.
3. Identify basic quantitative research methods and designs as they are used particularly in the musical sciences.
4. Practice this profession at a high artistic and academic level capable of investigating, producing and transmitting knowledge.
5. Evaluate the current demands of this profession and respond with proposals from research, composition,

teaching and musical interpretation.

6. Create dynamic and adaptive ways of projecting the cultural values of your country, both in the national and global context.

**Attitudes**

1. Demonstrate commitment to incorporate information from the musical sciences available in the formulation of practices, assessment, diagnosis, teacher-musician in teaching-learning interventions, updated repertoire demands and in cultural management consulting.
2. Evidence disposition to consider the cultural and professional ethics aspects pertinent to the activities of pedagogical evaluation, musical performance, cultural management consultancy, and musicological research.
3. Demonstrate an internalized sense of national, professional and personal identity, including an appreciation for the ability of the practice of music to create and stimulate constructive interpersonal relationships.

**Admission Requirements**

1. Hold a Bachelor of Music or Bachelor of Arts in Music or Bachelor of Music Education.
2. Demonstrate mastery of theory and musical harmony through audition.
3. Students interested in the area of Composition must submit a portfolio of their creative works to be evaluated and recommended by the faculty.

**Requirements of the Master of Music**

Core Course Requirements	33 credits
Specific Requirements	3 credits
Prescribed Distributive Requirements	6 credits
<b>Total</b>	<b>42 credits</b>

Core Course Requirements - 33 credits

MUED 5100	RESEARCH TECHNIQUES IN MUSIC EDUCATION	3
MUED 5101	PHILOSOPHY OF MUSICAL EDUCATION	3
MUED 5105	MEASUREMENT, ASSESSMENT AND EVALUATION OF MUSIC LEARNING	3

MUED 5108	FUNDAMENTALS OF MUSICAL PEDAGOGY	3
MUED 5200	MUSICAL ANALYSIS TECHNIQUES	3
MUED 5201	HISTORY OF PUERTO RICAN MUSIC	3
MUED 5202	MUSIC OF THE WORLD	3
MUSI 5020	COMPARATIVE HISTORY OF MUSIC	3
MUSI 5030	THEORETICAL AND SOLFA COMPENDIUM	3
MUSI 5040	ADVANCED THEORY AND HARMONY	3
MUSI 5120	ORCHESTATION	3

Specific Requirements - 3 credits

MUED 6690	SEMINAR ON MUSIC EDUCATION PRACTICE PROBLEMS	3
MUED 6692	THESIS IN MUSIC EDUCATION	3

*Note: Course required to meet the institutional graduation requirement for master's programs.*

Prescribed Distributive Requirements - 6 credits

MUED 5103	SEMINAR OF MUSIC EDUCATION AT THE ELEMENTARY LEVEL	3
MUED 5104	Critical analysis of teaching the elements of music (rhythm, melody, harmony, among others) and their application at the elementary level making practical use of established methodologies in the context of Puerto Rico's elementary schools.	3
MUED 5106	TECHNOLOGY AND INSTRUCTIONAL DESIGN	3
MUSI 6301	COMPOSITION I	3
MUSI 6302	COMPOSITION II	3
MUSI 6303	COMPOSITION III	3
MUSI 6304	COMPOSITION IV	3

**Music Education (MA) - Metropolitan Campus**

The main purpose of this two (2) year Program is to improve the preparation, teaching techniques and methodology of music teachers of the public and private school systems of Puerto Rico. This rigorous and highly specialized technical preparation is complemented with

history of the music education courses compared with the history of music education in Puerto Rico. The fundamental aim of the Program is to develop a highly competent music teacher who is aware of and committed to the intellectual and musical development of students, thus raising the level of music education in the island.

The Metropolitan Campus is authorized to offer this Program.

**Admission Requirements**

1. Have a Baccalaureate in Music, Baccalaureate in Arts in Music or a Baccalaureate in Music Education.
2. Have a Bachelor’s Degree in Music, Bachelor of Arts in Music or a Bachelor in Music Education.
3. Have an interview with a jury of three (3) faculty members of the Master of Arts in Music Education Program.
4. Satisfactorily pass entrance examinations to the Master of Arts in Music Education Program in the areas of Music Theory and the principal instrument.
5. Write an essay in which students explain their music education philosophy and their goals upon requesting admission to the Program.

Students of the Program who show deficiencies in their musical skills will be required to take additional courses from the Bachelors Program in Popular Music. These courses must be taken before completing nine (9) credits leading to the Masters of Arts Degree in Music Education.

**Requirements of the Master of Arts Degree in Music Education**

Core Course Requirements	21 credits
Specific Requirements	6 credits
Directed Elective Courses	6 credits
Total	33 credits

Core Course Requirements - 21 credits		
MUED 5100	RESEARCH TECHNIQUES IN MUSIC EDUCATION	3
MUED 5101	PHILOSOPHY OF MUSICAL EDUCATION	3
MUED 5102	COMPARATIVE HISTORY OF MUSIC EDUCATION	3
MUED 5103	SEMINAR OF MUSIC EDUCATION AT THE ELEMENTARY LEVEL	3

MUED 5104	Critical analysis of teaching the elements of music (rhythm, melody, harmony, among others) and their application at the elementary level making practical use of established methodologies in the context of Puerto Rico’s elementary schools.	3
MUED 5105	MEASUREMENT, ASSESSMENT AND EVALUATION OF MUSIC LEARNING	3
MUED 5106	TECHNOLOGY AND INSTRUCTIONAL DESIGN	3

Specific Requirements - 6 credits		
MUED 6691	THESIS SEMINAR	3
MUED 6692	THESIS IN MUSIC EDUCATION	3

*Note: Student will repeat course MUED 6692 Thesis in Music Education until they complete their thesis requirement for the master’s degree.*

Directed Elective Courses - 6 credits		
MUED 5200	MUSICAL ANALYSIS TECHNIQUES	3
MUED 5201	HISTORY OF PUERTO RICAN MUSIC	3
MUED 5202	MUSIC OF THE WORLD	3

**Music Education (MA) - San Germán Campus**

The Master of Arts Program in Music Education aims to prepare professionals who expand their role and function in the different school levels as well as in the diverse educational systems. The study program will develop knowledge in philosophical, social and educational theories. It concentrates in the application of the teaching and learning process of music.

The core component focuses on general conceptual courses to expose students to the diversity of aspects related to music, whereas the specialization component deals more with the specific formation within the field of the music education. In the elective component students will be able to explore other areas of music of their preference or may opt for a special research project or a special creative project. The number of required credits to complete this master’s degree compares favorably with the master of music degrees offered in universities in the United States and with the standards established by the National

Association of Schools of Music (NASM).

Graduates of the Master of Arts Program in Music Education will be a professional prepared in all facets of music; its teaching, its historical and philosophical background, its development, its esthetic sense and its interpretation.

The specialization in Music Education aims to satisfy the professional growth needs of the teachers of Music Education in Puerto Rico, the Caribbean and Spanish speaking countries. It aspires to develop professionals that can assume a leadership role as teachers in the public and private educational systems of the country, as well as in the music profession that enriches our cultural inheritance.

The San Germán Campus is authorized to offer this Program.

### **Competencies Profile of Graduates**

This program is designed to develop the competencies that will enable students to:

#### **Knowledge**

1. Know materials, methodologies, curricular developments and technologies to design significant educational experiences.
2. Know the musical elements and the theoretical, auditory and historical foundations of music.
3. Know the evaluation and assessment mechanisms that are particular to the teaching of music.
4. Know the history the music education and its influence in the physical, social and psychological development of the human being.
5. Know the methods and processes of quantitative and qualitative research.

#### **Skills**

1. Interpret music and handle their instrument effectively.
2. Demonstrate capacity to carry out analysis and direct ensembles with an interpretation that is musical and esthetic.
3. Analyze critically and create curricula of music education using historical, philosophical, esthetic, methodological, psychological, and educational foundations.

4. Use recent technology to create didactic materials and strengthen their pedagogical work.

#### **Attitudes**

1. Contribute to the improvement of Music Education in Puerto Rico by assuming an educational leadership role that will contribute to society with social, cultural and ethical values.
2. Recognize the importance of being at the vanguard of knowledge in the subject matter.
3. Aspire to enrich, with music, the lives of students, who then will enrich the society in which they live.

#### **Admission Requirements**

Students requesting admission to the Master of Arts in Music Education must meet the admission requirements for master's programs established in the current Graduate Catalog. In addition, they must meet the following particular requirements:

1. Have an interview with an Admissions Committee.
2. Have one of the following:
  - a. A Bachelor in Music Education.
  - b. A bachelor's degree with a major in Music and 12 credits in foundations of education or music education\*.
  - c. A bachelor's degree and Music Teacher Certification from the Department of Education of Puerto Rico.
  - d. A bachelor's degree and 24 credits in music and 12 credits in foundations of education or music education\*.

\*The 12 credits must include areas such as: foundations, philosophy, history, learning theories, evaluation, curriculum, or methodology.

Note: All students admitted to the Program must take a placement test before beginning their first semester to determine their sequence of courses.

#### **Admission of Transfer Students**

Students requesting admission as transfer students must meet the requirements of the current Graduate Catalog and the specific requirements of the program.

#### **Graduation Requirements**

All candidates for graduation with a Master of Arts in Music Education must meet the specific requirements of the Graduate Catalog and the specialization requirements, including passing the Comprehensive Examination.

**Satisfactory Academic Progress Requirements**

The academic index and minimum grade requirements established in the Graduate Catalog are in effect for this program.

**Requirements for the Master of Arts in Music Education**

Core Course Requirements	15 credits
Specialization Requirements	13 credits
Prescribed Distributive Requirements	6 credits
<b>Total</b>	<b>34 credits</b>

Core Course Requirements - 15 credits		
MUED 5160	HISTORY AND PHILOSOPHY OF THE TEACHING OF MUSIC	3
MUSI 5185	INTERPRETATION AND MUSICAL ANALYSIS	3
MUSI 5255	WORKSHOP IN APPLIED MUSIC I, II, III	1
MUSI 5256	WORKSHOP IN APPLIED MUSIC I, II, III	1
MUSI 5257	WORKSHOP IN APPLIED MUSIC I, II, III	1
MUSI 5265	CONDUCTING AND LITERATURE	3
MUTE 5261	TECHNOLOGY APPLIED TO MUSIC EDUCATION	3

Specialization Requirements - 13 credits		
MUED 5105	MEASUREMENT, ASSESSMENT AND EVALUATION OF MUSIC LEARNING	3
MUED 5130	PSYCHOLOGY OF LEARNING MUSIC	3
MUED 5171	DEVELOPMENT AND APPLICATION OF KNOWLEDGE IN MUSIC EDUCATION	4
MUED 5191	CURRICULUM DESIGN IN MUSIC	3

Prescribed Distributive Requirements - 6 credits

Students should take 6 elective credits at the graduate level with the approval of their academic advisor.

**Special Project Option**

Students may opt for a special four-credit project and two credits in electives at the graduate level, with the approval of their academic advisor.

**Musical Education (DMA)**

The Doctorate in Musical Arts in Music Education (DMA) is the final stage in an academic education that aims to develop skills of a high artistic level considered necessary in the performance and practice of the discipline. Its components also include teaching, leadership and research as essential elements for a deep knowledge of the art of music.

The main objective of the DMA in Music Education is to prepare professionals for teaching positions at all educational levels and on the music scene. It also proposes to contribute to the stimulation, development and appreciation for quantitative and qualitative research as a way of analyzing and solving the problems that affect the profession. The Program integrates technology into the teaching and learning processes and the search for information.

Likewise, the Program aspires to contribute to educational improvement through the training of educators, researchers and leaders who strengthen the understanding of the importance of music in society and the quality of music education programs.

The San Germán Campus is authorized to offer this program.

**Competencies Profile of Graduates**

The Doctorate of Musical Arts in Music Education aims to prepare graduates capable of demonstrating the following professional competencies:

**Knowledge**

Demonstrate knowledge and understanding of:

1. the theories and principles underlying the teaching of the field of Music Education.
2. the theories, principles and models that underpin the management of educational institutions.
3. methods for research in Music Education.
4. the different geographical and cultural contexts in which Musical Education takes place.

5. the processes to evaluate and select technologies for Music Education programs.
6. current trends in Music Education model programs at the local and international level.
7. historically significant events in the development of Music Education and their impact on society.
8. Assessment and evaluation techniques for the proper functioning of Music Education programs.
9. the techniques of analysis of the various styles and musical periods.

### **Skills**

1. Show vocal or instrumental performance of a high level.
2. Formulate possible solutions to administrative and managerial problems.
3. Develop effective strategies for the recruitment and retention of students in music education programs.
4. Use cutting-edge technology to positively impact music education programs.
5. Identify resources to raise funds for the development of music education programs.
6. Use electronic resources to support research, teaching, and management in music education.
7. Apply instructional design techniques for online courses.
8. Design effective techniques for the evaluation and evaluation of music education programs.
9. Apply advanced techniques for musical analysis.
10. Analyze pedagogical approaches of the main instrument.
11. Use advanced skills in vocal, instrumental and orchestral conducting.
12. Develop their creative capacity showing a high degree of musicality when composing, arranging, conducting ensembles, and when executing their instrument.

### **Attitudes**

1. Assess historical events and legislation with an

impact on Music Education.

2. Recognize the importance of research in the development of knowledge and effective pedagogical practices.
3. Value communication between peers that allows the development of new teaching approaches in their area of expertise.
4. Demonstrate a professional and ethical attitude that allows for successful professional growth and performance.
5. Value music education as a tool of social influence for the dissemination of culture.
6. Recognize the importance of the value of music in all spheres of society.

### **Admission Requirements**

To be admitted to this program, the student must:

1. Have a Master's degree in Music Education or a Master's degree in Music from an accredited university with a minimum GPA of 3.00.
2. Present evidence of passing: a minimum of 12 credits in music education at the master's level.
3. Present to the Departmental Admission Committee:
  - a. three (3) letters of recommendation written by teachers or immediate supervisors, in which the professional development of the applicant is evidenced.
  - b. an essay of a minimum of 800 words describing his musical career and future professional plans.
4. Hold an interview with the Admission Committee and receive a favorable recommendation.

### **Graduation Requirements**

The student must meet the following graduation requirements:

1. Complete all the requirements of the Program with a minimum GPA of 3.00.
2. Pass the comprehensive doctoral exam for which the student will have a maximum of three opportunities.
3. Approve the doctoral dissertation.



**Requirements of the Doctorate of Musical Arts in Music Education (DMA)**

Core Requirements	18 credits
Research:	6 credits
Fundamentals:	12 credits
Specialization Requirements	12 credits
Operational Requirements	9 credits
Prescribed Distributive Requirements	9 credits
Total	48 credits

Core Requirements - 18 credits

Research component - 6 credits

MUED 7321	RESEARCH METHODS IN MUSIC I	3
MUED 7322	RESEARCH METHODS IN MUSIC II	3

Fundamentals Component - 12 credits

MUSI 7010	COMPOSERS AND THEIR SELECTED WORKS	3
MUSI 7030	ADVANCED MUSICAL ANALYSIS	3
MUED 7210	THEORETICAL AND CONCEPTUAL FOUNDATIONS OF MUSIC	3
MUED 7650	EMERGING TECHNOLOGIES IN MUSIC EDUCATION	3

Specialization Requirements - 12 credits

MUED 7101	FUNDAMENTALS AND PERSPECTIVES OF MUSICAL EDUCATION I	3
MUED 7102	FUNDAMENTALS AND PERSPECTIVES OF MUSICAL EDUCATION II	3
MUED 7430	PSYCHOLOGICAL AND SOCIAL ASPECTS OF MUSIC	3
MUED 8020	DESIGN OF ONLINE COURSES IN MUSIC	3

Operational Requirements - 9 credits

MUED 8960	RESEARCH SEMINAR	3
MUED 8991	DISSERTATION I	3
MUED 8992	DISSERTATION II	3

Prescribed Distributive Requirements - 9 credits

Select 9 credits from the following, or any related area in

MUSI, MUED or EDUC, with the approval of the program director or academic advisor.

MUSI 7012	MUSICAL PERFORMANCE	3
MUSI 7025	CHAMBER ASSEMBLY I, II	3
MUSI 7026	CHAMBER ASSEMBLY I, II	3
MUSI 7500	ADVANCED DIRECTION	3
MUSI 8700	COMPOSITION AND MUSICAL ARRANGEMENT	3
MUED 7015	INSTRUMENT TEACHING MODELS	3
MUED 797_	SPECIAL TOPICS	3
MUED 7440	GLOBAL MODELS IN MUSICAL EDUCATION	3
MUED 7540	ADMINISTRATION AND SUPERVISION IN MUSIC	3
MUSI 8861	INDIVIDUAL PROJECT I, II	3
MUSI 8862	INDIVIDUAL PROJECT I, II	3

**Nursing (MSN)**

**Nursing (MSN) Requirements**

The Master of Science in Nursing aspires to develop a specialist in the nursing profession who fulfills the functions and responsibilities according to the law that regulates the practice and who incorporates new trends, critical thinking and cultural diversity.

The Master of Science in Nursing offers four specialty options: Critical Care, Maternal Child, Medical-Surgical, and Mental Health and Psychiatry.

The Campuses authorized to offer this Program are:

1. Critical Care Nursing: Arecibo, Barranquitas  
Critical  
 Care Online: Barranquitas
2. Maternal Child Nursing: Arecibo
3. Medical Surgical Nursing: Aguadilla, Baranquitas, Guayama  
 Medical Surgical Nursing Online: Baranquitas
4. Mental Health and Psychiatry: Arecibo

**Program Goals:**

1. Integrate the knowledge, skills and attitudes necessary to perform according to their area of specialty in different scenarios.

2. Demonstrate competencies to conduct research and apply evidence-based practice for decision-making in solving problems.
3. Apply leadership and management skills to provide high-quality nursing care as a member of the interprofessional team.
4. Demonstrate ethical and legal attitudes, communication skills, critical thinking, use of information technology and information technology to promote and improve health at a lower cost.
5. Integrate the knowledge, skills, and attitudes of the role as nursing educator or administrator.

### **Program Objectives**

1. Prepare a nursing specialist with the knowledge to intervene in complex situations according to their specialty and their role in health care.
2. Develop a specialist in nursing with a command of research methodology and evidence-based practice for problem solving.
3. Train nursing professionals who comply with the legal ethical requirements that regulate practice.
4. Train a nursing specialist with scientific knowledge and critical thinking skills.
5. Prepare a nursing specialist with management and leadership skills.
6. Analyze the effect of public policies on the structure and financing of health.

### **Competencies Profile of Graduate**

The Master of Science in Nursing is designed to develop the skills that allow the student to:

#### **Knowledge**

1. Demonstrate the integration of theoretical knowledge when intervening in complex situations according to the specialty within health care.
2. Identify nursing interventions by promoting problem solving in practice.
3. Demonstrate knowledge of the different research methodologies and their application during decision making.

#### **Skills**

1. Apply the nursing process when intervening with different populations according to the specialty.
2. Demonstrate communication skills when interacting with diverse populations and within the health team.
3. Use advanced estimation skills when offering health care at the different levels of prevention, according to their area of specialty.
4. Apply critical thinking skills when solving health problems.
5. Select nursing interventions in accordance with evidence-based practice to meet the needs of the population to be served.
6. Demonstrate proficiency in the use of informatics and technology to provide and coordinate health care.
7. Demonstrate leadership skills to work, advise and collaborate with the interprofessional team.
8. Apply skills according to the selected role in different scenarios.

#### **Attitudes**

1. Value cultural diversity by offering nursing services in different settings.
2. Recognize the importance of legal ethical principles in the exercise of the profession.

#### **Admission Requirements**

In addition to meeting the admission requirements established for master's programs in this Catalog, candidates for admission must:

1. Hold Bachelor in Nursing from an accredited institution.
2. Have a grade point index of 2.50 or above in the last sixty (60) credit hours of academic work.
3. Have a provisional or permanent and current generalist nursing license for practicing nursing in Puerto Rico.
4. Be an active member of the College of Professional Nursing of Puerto Rico.

5. Have at least one year of experience as a nursing professional offering direct customer care in hospitals for the Critical Care specialization.
6. Send two (2) letters of recommendation from individuals who have supervised the candidate in the work setting or from the nursing faculty.
7. Present the following documents:
  - a. A health certificate.
  - b. Vaccination certificate of Hepatitis B and other vaccines required by practice settings.
  - c. A Certificate of No Penal Record issued by the Puerto Rico Police Department.
  - d. Law # 300 of September 2, 1999 - Verification of Criminal History of Providers of Care Services for Children and the Elderly.
  - e. Original and copy of current provisional or professional license, registration certificate and membership of the College of Professional Nursing in Puerto Rico.
  - f. Cardiopulmonary Resuscitation (CPR) training.
  - g. Updated Resume.

Note: It will be the student's responsibility to meet the requirements of the external center in order to carry out their internship. Some agencies and courses stipulate additional requirements. Students are responsible to meet any other requirement that the practice agency may require. Among these are: generalist regular license, up-to-date CPR certificate, negative doping test, and nose and throat culture, among others.

Students with a provisional license will have conditional admission. It is a requirement that the student has a permanent license to carry out the internship courses of the specialties.

### Graduation Requirements

In addition to completing the graduation requirements for a master's degree established in this Catalog, students must:

1. Pass all courses with a minimum grade of B.
2. Meet the required minimum hours for each course that entails practice.
3. Pass course NURS 6970 – Integration Seminar.

Students or graduates of the Program may request a second certification once they have completed the requirements of the specialization or the functional role.

### Requirements-for-the-Master-of-Science-in-Nursing

Core Course Requirements	19 credits
Specialization Requirements	10 credits
Prescribed Distributive Requirements	10 credits
<b>Total</b>	<b>39 credits</b>

#### Core Course Requirements - 19 credits

NURS 5000	Theoretical Foundations	3
NURS 5010	Epidemiology	2
NURS 5020	Biostatistics	3
NURS 5040	Advanced Health Assessment	2
NURS 6090	Research in Nursing	3
NURS 6910	Health Assessment Practice	2
NURS 6970	Integration Seminar	3

#### Specialization Requirements - 10 credits

Courses listed under each Specialization.

### Specialization Requirements for the Specialization in Critical Care Nursing - 10 credits

#### Required Courses

NURS 6111	Critical Care Nursing I	3
NURS 6112	Critical Care Nursing II	3
NURS 6916	Practice in Critical Care Nursing I	2
NURS 6917	Practice in Critical Care Nursing II	2

### Specialization Requirements for the Specialization in maternal and Child Nursing - 10 credits

#### Required Courses

NURS 6311	Maternal and Child Nursing I	3
NURS 6312	Maternal and Child Nursing II	3
NURS 6920	Practice in Maternal and Child Nursing I: Maternal-Neonatal	2
NURS 6921	Practice in Maternal and Child Nursing II: Childhood-Adolescence	2

## Specialization Requirements for the Specialization in Medical-Surgical - 10 credits

### Required Courses

NURS 6221	Medical-Surgical Nursing I	3
NURS 6222	Medical-Surgical Nursing II	3
NURS 6918	Practice in Medical-Surgical Nursing I	2
NURS 6919	Practice in Medical-Surgical Nursing II	2

## Specialization Requirements for the Specialization in Mental Health and Psychiatry - 10 credits

### Required Courses

NURS 6121	Mental Health and Psychiatry	3
NURS 6122	Mental Health and Psychiatry II	3
NURS 6931	Clinical Practice of Mental Health and Psychiatry I	2
NURS 6932	Clinical Practice of Mental Health and Psychiatry II	2

### Prescribed Distributive Requirements - 10 credits

The student will select the area of preference according to the functional role that he hopes to perform: nursing education or administration.

#### Functional Role in Education

NURS 6050	Curriculum in Nursing	3
NURS 6060	Evaluation in Education in Nursing	3
NURS 6914	Educational Practice in Nursing	4

#### Functional Role in Administration

NURS 6070	Administration in Nursing	3
NURS 6080	Evaluation in Administration in Nursing	3
NURS 6915	Administrative Practice in Nursing	4

## Open Information Computer Systems (MS)

This Program permits students to obtain a Professional Certificate in Technology and Administration of Databases

and with further studies a Master in Science in Open Information Computer Systems.

The fundamental purpose of the Program is to form professionals in the field of computers who develop information systems in open settings and architecture in both public and private organizations.

In order to comply with the requirements to a present creative work that demonstrates the capacity to integrate the acquired knowledge, candidates to the Master in Computer Sciences in Open Information Systems, must defend the developed project before a Program Committee in COIS 6980.

The Metropolitan Campus is authorized to offer this Program.

### Competencies Profile of Graduates

The Program of Master of Science in Computing in Open Systems of Information is designed to develop the professional competences that allow the student to:

#### Knowledge

1. Identify an open information system based on a relational database management system that includes everything from the analysis of requirements and design to the implementation, administration, and maintenance of the system.
2. Evaluate the methodologies and design tools that support the development, administration, and maintenance of database systems.

#### Skills

1. Design a database system with distributed systems, object-oriented programming, and friendly user interfaces.
2. Develop an open information system based on a relational database management system from the analysis of requirements and design to the implementation, administration and maintenance of the system.
3. Implement procedures and technologies to ensure the quality, security and performance of open database systems.

#### Attitudes

1. Exhibit ethical principles in the use of open information systems and promote these in work.

**Admission Requirements**

In addition to meeting the general requirements established by the University for admission to master degree studies, students requesting admission to the program must have approved the following courses or their equivalents at the undergraduate level:

COMP 2120	Programming Logic	3 credits
COMP 2315	Structured Programming	3 credits

Other requirements, rights and responsibilities are general and defined in the Catalog.

**Requirements for the Master of Science in Open Information Computer Systems**

Core Course Requirements	27 credits
Prescribed Distributive Courses	6 credits
Total	33 credits

Core Course Requirements - 27 credits

COIS 5100	RELATIONAL DATA BANKS	3
COIS 5120	CLIENT-SERVER NETWORKS AND ARCHITECTURE	3
COIS 5130	DESIGN METHODOLOGY AND ADVANCED TOOLS	3
COIS 5200	APPLICATION OF PROGRAMMING LANGUAGES IN DATABASES	3
COIS 5210	DATABASE MANAGEMENT	3
COIS 5300	ANALYSIS OF OPEN SYSTEMS AND COMPUTER AIDED SOFTWARE ENGINEERING (CASE)	3
COIS 5400	RAPID APPLICATION DEVELOPMENT	3
COIS 6200	SYSTEM TUNING, TROUBLESHOOTING, CODIFICATION, SECURITY AND QUALITY	3
COIS 6980	PROJECT DEVELOPMENT IN OPEN INFORMATION SYSTEMS	3

Prescribed Distributive Requirements - 9 credits

Select 6 credits from the following courses:

COIS 5220	REENGINEERING PROCESSES	3
COIS 5500	DISASTER RECOVERY MANAGEMENT	3
COIS 6000	COMPUTING TECHNOLOGIES IN THE	3

COIS 6100	CLOUD MINING AND DATA STORAGE	3
COIS 6381	BUSINESS INTELLIGENCE	3

The student has the option of selecting 6 credits in courses from the Master in Sciences in Information Security.

**Organizational Change Leadership (MS)**

The Master of Science in Organizational Change Leadership (OCLE) encourages the development of agents of transformation in organizations or in your own company. The program explores the human aspect of the organization, focusing on the application of effective leadership strategies that promote innovation. Three core areas are emphasized: self-leadership and transformation; team leadership; and leadership of the organization. The degree contributes to the achievement of competences in emotional intelligence, ethics, motivation, innovation, communication, conflict management and respect for diversity.

The Aguadilla and Ponce campuses are authorized to offer this program through online education.

**Goals of the Program**

The Master of Science in Organizational Change Leadership aims to:

1. Develop leaders who adapt their leadership to improve the performance of the corporation's personnel.
2. Train facilitators of the company's change process to establish competitive strategies.
3. Empower leaders who promote collaboration in the workplace to drive innovation in the face of institutional challenges.

**Objectives of the Program**

The Master of Science in Organizational Change Leadership has the following objectives:

1. Prepare thoughtful leaders to reconcile their leadership styles with the culture of the institution.
2. Apply change leadership strategies that help to identify competitive advantages in the company.
3. Promote a collaborative and inclusive work

environment to promote transformations in the organization.

**Competencies Profile of Graduates**

The Program is designed to develop the competencies that allow the student to:

**Knowledge**

1. Identify the appropriate leadership style for managing human talent.
2. Recognize opportunities for continuous improvement for the development of your leadership skills.
3. Relate the process of change in planning the growth and sustainability strategies of the corporation.

**Abilities**

1. Practice effective communication to optimize interpersonal and collaborative relationships.
2. Create a work environment that fosters a flexible and innovative organizational culture.
3. Lead the design of strategic plans that integrate change in the operation of the company.

**Attitudes**

1. Respect the diversity of ideas and ethical values in the leadership process.
2. Demonstrate responsibility with your professional development.

**Requirements of the Master of Science in Organizational Change Leadership**

Core Requirements	6 credits
Specialty Requirements	24 credits
<b>Total</b>	<b>30 credits</b>

Core Requirements - 6 credits

OCLE 5000	FOUNDATIONS OF LEADERSHIP	3
OCLE 5010	EMOTIONAL INTELLIGENCE AND LEADERSHIP	3

Specialty Requirements - 24 credits

OCLE 5020	ETHICAL LEADERSHIP	3
OCLE 5030	COMMUNICATION AND LEADERSHIP	3

OCLE 5040	ORGANIZATIONAL CONFLICT AND LEADERSHIP	3
OCLE 6010	TEAM LEADERSHIP	3
OCLE 6020	LEADERSHIP AND DECISION MAKING	3
OCLE 6030	LEADERSHIP IN STRATEGIC PLANNING	3
OCLE 6040	CHANGE MANAGEMENT ADMINISTRATION	3
OCLE 6050	CHANGE LEADERSHIP PROJECT	3

**Organizational Communication (Post-Bachelor Professional Certificate)**

The Post-Bachelor Professional Certificate in Organizational Communication offers theoretical and practical training in communication processes within an international organizational context. The program has a transdisciplinary approach aimed at the development of communication management projects.

The Ponce Campus is authorized to offer this program through online education.

**Competencies Profile of Graduates**

The Program is designed to develop the skills that allow the student:

**Knowledge**

Demonstrate knowledge and understanding of:

1. research methods for the development of strategic communication projects.
2. the rules that govern ethical practice in strategic organizational and corporate communication in an international context.

**Skills**

1. Use research methods for planning and evaluation of strategic communication projects.
2. Apply methods and processes of strategic communication in different contexts.

**Attitudes**

1. Recognize the importance of cultural diversity in communication processes in an international context.

### Admission Requirements

1. Comply with the admission rules established in the Graduate Catalog of the Inter-American University of Puerto Rico.
2. Students who do not have a bachelor's or master's degree in communications must successfully pass the COMU 5100 course.

### Post Bachelor Professional Certificate Requirements in Organizational Communication

Core Courses Requirements - 12 credits			
COMU 5110	COMMUNICATION AND ORGANIZATIONAL BEHAVIOR		3
COMU 5210	INTERCULTURAL COMMUNICATION		3
COMU 5320	CORPORATE COMMUNICATION		3
COMU 5400	NARRATIVE TRANSMEDIA AND GAMIFICATION		3
COMU 5100	THEORIES AND COMMUNICATION PROCESSES		3

*Note: The COMU 5100 course will be required only for students whose bachelor's or master's degree is not in Communication.*

## Psychological Counseling with Specialization in Family (MS)

The Master of Science in Psychological Counseling with a Specialization in Family aims to prepare graduates to perform interventions with psycho-social problems that affect individuals and contemporary families. The program foments the development of the knowledge, skills, attitudes, and ethical values that make possible the formation of a psychologist with a critical and flexible mind; with the capacity to identify and search for solutions to situations that arise in the individual and family environment.

The program aims to provide graduates the knowledge and the experiences necessary to be able to meet the requirements established for the exercise of the profession by Law 96: "Law To Regulate the Exercise of the Psychology Profession in Puerto Rico", as amended, and by the Examining Board of Psychologists of Puerto Rico.

Upon completing the degree, graduates should be able to demonstrate the knowledge, skills, attitudes and ethical

values inherent to the field of Psychological Counseling with a Specialization in Family.

The Aguadilla Campus is authorized to offer this Program.

### Competencies Profile of Graduates

The Master of Science in Psychological Counseling with a Specialization in Family is designed to develop the competences that will enable students to:

#### Knowledge

1. Know the theoretical and conceptual frames related to Psychological Counseling.
2. Know the behavioral situations that occur in the individual, family and social context in order to propose solutions.
3. Identify the most urgent needs of the individual, the family and the community they serve by means of the use of the appropriate research tools.
4. Understand the biological, neurological, and pharmacological knowledge that helps sustain the science of Psychology.
5. Identify the psycho-social indicators that cause the changes, situations and problems in the individuals and in families.

#### Skills

1. Use the psychological intervention tools based on the evidence.
2. Show the mastery of the oral and written communication that facilitates interpersonal relations.
3. Evaluate those situations that imply risk for the individual, couples and families.
4. Establish treatment plans for situations and problems with children, adolescents and adults.
5. Constitute multidisciplinary teams to search for solutions to the psychological problems and situations that affect individuals and families.
6. Apply technology to the professional intervention with children, adolescents and adults.

#### Attitudes

1. Develop a conduct in harmony with the ethical and legal standards of the psychology profession.

2. Show empathy and commitment to value, identify and work with the needs of the population that they deal with.
3. Value family and social diversity.

#### **Admission Criteria for Students with a Bachelor's Degree:**

1. Hold bachelor's degree from an accredited University.
2. Have a grade point index of 2.50 or above in the last 60 credits of academic work at the undergraduate or graduate level or in a combination of both. Although generally these credits will be at the undergraduate level, in the case of students who have postgraduate credits from an accredited university, they can combine these postgraduate credits with the last credits approved at the undergraduate level to complete the 60 required credits.
3. Have approved with a score acceptable to the University, within five years prior to the date of the admission application, one of the following tests:
  - a. Examen de Admisión a Estudios de Postgrado (EXADEP)
  - b. Graduate Examination Record (GRE)
  - c. Miller Analogy Test (MAT)
4. Candidate will have to demonstrate the ability to interpret professional material, in Spanish as well as in English, and to express themselves properly in written form in one of languages by writing an essay on a topic designated by the Admissions Committee of the Psychological Counseling Program with specialization in Family.
5. Present two letters of recommendation from professionals related to the discipline.
6. Present a Certificate of no Criminal Record, updated within six months and any other document that is considered necessary at the time of the evaluation of the candidate.
7. Show evidence of having approved with a minimum grade of B the following courses:
  - a. A course in Basic Statistics
  - b. A course in Principles of Psychological Measurement

- c. A course in Psychopathology
- d. Two additional courses in psychology at the undergraduate level.

#### **Norms and Procedures**

##### **Academic Progress**

Students must comply with the norms included in the section Requirements for Satisfactory Academic Progress in Masters' Programs and with the norms indicated below:

1. Pass all courses leading to the degree with a minimum grade of B. Student who do not pass a course with a minimum grade of B will not be able to register in any course that has this course as a prerequisite.
2. Pass the Integration Seminar with a minimum grade of B as a graduation requirement.

##### **Conduct**

Students of the Program must comply at all times with the norms, policies and procedures established in the Program, in the current Graduate Catalog, as well as in the General Student Regulations of Inter American University of Puerto Rico. Any violation of the established norms will be sufficient reason to impose disciplinary sanctions. Any student suspended from the Program due to violation of the norms and procedures established in the aforementioned documents may not be re-admitted to the same program.

##### **Internal University Transfers**

Candidates wishing to transfer to the Master of Science Program in Psychological Counseling with Specialization in Family will be considered if they meet the conditions set forth in the section Admission Requirements for Master's Programs and meet the following:

1. Are admitted as a regular student of the Program.
2. Request the transfer of their academic file to the unit to which they wish to move.
3. Present a letter of the official in charge of the Program at the campus of origin certifying that they meet the conduct and satisfactory academic progress norms.

##### **Transfers**

Students must meet the transfer norms included in the section Admission of Transfer Students to Master's



Programs, the conditions established in the section Admission Requirements for Master’s Programs and with the norms indicated below:

1. Present a letter from the official in charge of the Program of origin certifying that they meet the conduct and satisfactory academic progress norms of the Program.

**Requirements for the Master of Science in Psychological Counseling with Specialization in Family**

Core Course Requirements	32 credits
Specialization Requirements	27 credits
Total	59 credits

Core Course Requirements - 32 credits

Psychological Fundamentals -18 credits

PSYC 5030	ETHICS AND LEGAL ASPECTS OF PSYCHOLOGY	3
PSYC 5040	BIOLOGICAL BASIS OF BEHAVIOR	3
PSYC 5050	DEVELOPMENT THROUGHOUT THE LIFE CYCLE	3
PSYC 5060	PSYCHOLOGY OF PERSONALITY	3
PSYC 5100	COGNITIVE AND AFFECTIVE BASIS OF BEHAVIOR	3
PSYC 5200	SOCIAL AND MULTICULTURAL BASIS OF BEHAVIOR	3

Methodology and Statistics - 14 credits

PSYC 5150	STATISTICS APPLIED TO PSYCHOLOGY	2
PSYC 5220	RESEARCH METHODS	2
PSYC 5231	PSYCHOLOGICAL MEASUREMENT I	3
PSYC 5232	PSYCHOLOGICAL MEASUREMENT II	3
PSYC 6421	PRACTICE IN ADVANCED STATISTICS	1
PSYC 6422	PRACTICE IN PSYCHOLOGY RESEARCH	1
PSYC 6925	PRACTICE IN PSYCHOLOGICAL RESEARCH	2

Specialization Requirements - 27 credits

PSYC 5033	INTERVIEW PROCESSES AND TECHNIQUES	2
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PSYC 6000	THEORETICAL FOUNDATIONS OF FAMILY THERAPY	3
PSYC 6005	FAMILY PSYCHOPATHOLOGY	3
PSYC 6010	COUNSELING TECHNIQUES AND INDIVIDUAL, AND GROUP AND FAMILY PSYCHOTHERAPY	3
PSYC 6015	THE NONTRADITIONAL FAMILY	3
PSYC 6020	INTERVENTION WITH FAMILIES IN CRISIS	3
PSYC 6410	PRACTICE IN INTERVIEW PROCESSES AND TECHNIQUES	1
PSYC 691A	SUPERVISED PRACTICE IN PSYCHOLOGICAL COUNSELING I	2
PSYC 691B	SUPERVISED PRACTICE IN PSYCHOLOGICAL COUNSELING II	2
PSYC 691C	SUPERVISED PRACTICE IN PSYCHOLOGICAL COUNSELING III	2
PSYC 697F	ADVANCED INTEGRATION SEMINAR	3

**Psychology (MA)**

**Psychology (MA) Requirements**

The Master of Arts in Psychology has as its goal to offer theoretical and practical education leading to the formation of professionals in this field following the standards of certifying organizations in Puerto Rico and the United States. The courses and the practices expose students to topics and fundamental experiences for understanding and handling the diverse manifestations of human behavior produced in Puerto Rican society. The Program also has as its goal to offer the required preparation for students and professionals who aspire to continue studies at the doctoral level.

The following specializations are offered:

1. Psychological Counseling
2. School Psychology
3. Organizational and Work Psychology

The Metropolitan and San Germán campuses are authorized to offer this Program.

## Competencies Profile of Graduates

The Program is designed to allow the development of the following core competencies:

### Knowledge

1. Describe the biological, cognitive, affective, social and multicultural foundations of human behavior.
2. Ponder individual differences in typical and atypical human behavior and development.

### Skills

1. Evaluate scientific literature related to psychology as a guide for professional practice.
2. Perform different interview approaches to diverse populations as a means for understanding human behavior.

### Attitudes

1. Value ethical behavior in providing professional services.

## Admission Requirements

People who seek admission to the Master of Arts in the Psychology Program must meet the admission requirements established in the section Admission Requirements for Master's Programs at the time of their admission. In addition, they must satisfy the following conditions:

1. Holds a Bachelor in Psychology from an accredited university with a minimum academic index of 3.00 in the last sixty (60) credits of academic work and in their major. Those who have a bachelor's degree in another field from an accredited university with an academic index of 3.00 in the last sixty (60) credits, must satisfy the courses indicated in section 2 and a general psychology course with a minimum grade of B.
2. Provide official evidence of having passed with a minimum grade of B, the courses at the undergraduate level (or its equivalent) that are indicated below:

Statistical Methods	3
Biological Bases of Behavior or Physiological Psychology or Introduction to Neuropsychology	3
Experimental Psychology or Research Methods	3 or 4
3. Have passed, during the last five years prior to the date of the application for admission, the <i>Examen de Admisión a Estudios Graduados</i> (EXADEP) with a minimum score of 400 or its equivalent in the Graduate Record Examination (GRE).	
4. Present a Negative Criminal Record Certificate issued by the Police Department of Puerto Rico (original).	
5. Have an interview with the Program's Admissions Committee and be recommended favorably by it.	

## Norms and Procedures

### Academic Progress

The student will comply with the norms established in the Satisfactory Academic Progress Requirements section and with the norms indicated below:

It is a requirement to pass all courses leading to the degree with a minimum grade of B and with a minimum score of 80 for the practicum experience courses. The student who does not pass a course with a minimum grade of B will not be able to enroll in any course that has this course as a prerequisite. The student will have the opportunity to repeat only twice a course or practicum which he has failed.

It is a requirement to pass the Comprehensive Exam or the Integrative Seminar with a minimum grade of 80 percent equivalent to P (approved).

### Conduct

Students of the Program must at all times comply with the norms, policies and procedures established in the Program, as established in the Psychology Program Graduate Student Manual as well as in the General Student Regulations of Inter American University of Puerto Rico.

Any violation to the established norms will be sufficient reason to apply disciplinary sanctions. Any student who is suspended from the Program due to violation of the norms

cannot be re-admitted to the Program in any campus.

**Internal Transfers**

Students of Inter American University of Puerto Rico, who wish to transfer to another unit of the System to complete the Requirements of the Master of Arts in Psychology, must comply with the following requirements:

1. Have admission as a regular student of the Program.
2. Request the transfer of their academic file to the unit to which they wish to transfer.
3. Have an interview with the Admissions Committee of the Program of the unit to which they wish to transfer.
4. Present a letter of the official in charge of the Program certifying that they fulfill the norms of conduct and satisfactory academic progress of the Program.

**Transfers**

Students will comply with the norms of transfer contained in the section Admission of Transfer Students to Master’s Programs and the norms indicated below:

1. Present a letter of the official in charge of the Program from the unit of origin certifying that they fulfill the norms of conduct and satisfactory academic progress of the Program.

**Graduation Requirements**

To obtain a Master of Arts in Psychology, the student must meet the academic requirements of the master's degree described in this Catalog. In addition, the student must meet the following specific program requirements:

1. Approve all courses of the program with a minimum general average of 3.00.
2. Pass the Integrative Seminar with a minimum grade of 80 percent equivalent to P (approved).

**Requirements for the Master of Arts in Psychology**

Core Course Requirement	27-28 credits
Specialization Requirements	33-34 credits
Total	60-62 credits

Core Course Requirements for the Specializations of Psychological Counseling and School Psychology - 28 credits

PSYC 5015	HISTORY AND SYSTEMS OF PSYCHOLOGY	2
PSYC 5030	ETHICS AND LEGAL ASPECTS OF PSYCHOLOGY	3
PSYC 5033	INTERVIEW PROCESSES AND TECHNIQUES	2
PSYC 5040	BIOLOGICAL BASIS OF BEHAVIOR	3
PSYC 5050	DEVELOPMENT THROUGHOUT THE LIFE CYCLE	3
PSYC 5060	PSYCHOLOGY OF PERSONALITY	3
PSYC 5100	COGNITIVE AND AFFECTIVE BASIS OF BEHAVIOR	3
PSYC 5220	RESEARCH METHODS	2
PSYC 5150	STATISTICS APPLIED TO PSYCHOLOGY	2
PSYC 5170	MEASUREMENT AND TEST CONSTRUCTION	2
PSYC 5200	SOCIAL AND MULTICULTURAL BASIS OF BEHAVIOR	3

Core Course Requirements for the Specialization of Organizational and Work Psychology - 27 credits

PSYC 5030	ETHICS AND LEGAL ASPECTS OF PSYCHOLOGY	3
PSYC 5040	BIOLOGICAL BASIS OF BEHAVIOR	3
PSYC 5050	DEVELOPMENT THROUGHOUT THE LIFE CYCLE	3
PSYC 5060	PSYCHOLOGY OF PERSONALITY	3
PSYC 5100	COGNITIVE AND AFFECTIVE BASIS OF BEHAVIOR	3
PSYC 5150	STATISTICS APPLIED TO PSYCHOLOGY	2
PSYC 5170	MEASUREMENT AND TEST CONSTRUCTION	2
PSYC 5200	SOCIAL AND	3

	MULTICULTURAL BASIS OF BEHAVIOR	
PSYC 5220	RESEARCH METHODS	2
PSYC 597_	SPECIAL TOPICS	3

Specialization Requirements - 33 - 34 credits

List of courses under each specialization.

## Specialization in Psychological Counseling

### Competencies Profile of Graduates

#### Knowledge

1. Distinguish the theoretical foundations of cognitive, personality, vocational interests, and career planning evaluation processes.
2. Determine the conceptual and theoretical bases of the different intervention models pertaining Psychological Counseling.

#### Skills

1. Perform psychological diagnoses in adult populations.
2. Design intervention plans for different psychological conditions.
3. Provide psychological services for diverse populations.

#### Attitudes

1. Act with respect towards diversity in evaluation and treatment situations specific to such specialization.

### Requirements for the Specialization in Psychological Counseling - 34 credits

#### Required Courses

PSYC 5286	PSYCHOLOGICAL COUNSELING AND CAREER ASSESSMENT	2
PSYC 5287	PRACTICUM IN PSYCHOLOGICAL COUNSELING AND CAREER ASSESSMENT	1
PSYC 6090	PSYCHOPATHOLOGY THROUGHOUT THE LIFE CYCLE	3
PSYC 6255	COGNITIVE ASSESSMENT	2
PSYC 6265	PERSONALITY ASSESSMENT	2

PSYC 6275	MODELS OF INDIVIDUAL PSYCHOTHERAPY BASED ON EVIDENCE	2
PSYC 6276	PRACTICUM IN MODELS AND INDIVIDUAL PSYCHOTHERAPY BASED ON EVIDENCE	1
PSYC 6280	SYSTEMIC MODELS BASED ON EVIDENCE	2
PSYC 6281	PRACTICUM IN SYSTEMIC MODELS BASED ON EVIDENCE	1
PSYC 6290	GROUP PSYCHOTHERAPY	2
PSYC 6291	PRACTICUM IN GROUP PSYCHOTHERAPY	1
PSYC 6914	PRACTICUM IN COGNITIVE ASSESSMENT	1
PSYC 6915	PRACTICUM IN PERSONALITY ASSESSMENT	1
PSYC 6933	PRACTICE I: PERSONAL AND PROFESSIONAL DEVELOPMENT	1
PSYC 6934	PRACTICE II IN PSYCHOLOGICAL COUNSELING	3
PSYC 6935	PRACTICE III IN PSYCHOLOGICAL COUNSELING	3
PSYC 6936	PRACTICE IV IN PSYCHOLOGICAL COUNSELING	3
SEMI 6970	INTEGRATION SEMINAR	3

## Specialization in School Psychology

### Competencies Profile of Graduates

#### Knowledge

1. Distinguish the theoretical foundations of the psychoeducational, cognitive and personality evaluation processes.
2. Determine the conceptual and theoretical bases of different intervention and consulting models specific to the specialization.

#### Skills

1. Perform psychological and psychoeducational diagnoses in children and adolescent populations.
2. Design intervention plans for different psychological and psychoeducational conditions.

3. Conduct consulting and psycho-educational interventions to different components of the school system.

**Attitudes**

1. Value family and cultural backgrounds, as well as individual learning characteristics in psychological interventions.

**Requirements for the Specialization in School Psychology - 34 credits**

Required Courses

PSYC 5296	SCHOOL CONSULTATION, COLLABORATION, AND ORGANIZATION	2
PSYC 5297	PRACTICUM IN SCHOOL CONSULTING, COLLABORATION, AND ORGANIZATION	1
PSYC 6090	PSYCHOPATHOLOGY THROUGHOUT THE LIFE CYCLE	3
PSYC 6255	COGNITIVE ASSESSMENT	2
PSYC 6265	PERSONALITY ASSESSMENT	2
PSYC 6216	PSYCHOEDUCATIONAL EVALUATION AND INTERVENTION	2
PSYC 6428	PRACTICUM IN PSYCHOEDUCATIONAL EVALUATION AND INTERVENTION	1
PSYC 6285	INTERVENTION AND PSYCHOTHERAPY WITH CHILDREN AND ADOLESCENTS	2
PSYC 6286	PRACTICUM IN INTERVENTION AND PSYCHOTHERAPY WITH CHILDREN AND ADOLESCENTS	1
PSYC 6290	GROUP PSYCHOTHERAPY	2
PSYC 6291	PRACTICUM IN GROUP PSYCHOTHERAPY	1
PSYC 6914	PRACTICUM IN COGNITIVE ASSESSMENT	1
PSYC 6915	PRACTICUM IN PERSONALITY ASSESSMENT	1
PSYC 6933	PRACTICE I: PERSONAL AND PROFESSIONAL DEVELOPMENT	1
PSYC 6944	PRACTICE II IN SCHOOL PSYCHOLOGY	3

PSYC 6945	PRACTICE III IN SCHOOL PSYCHOLOGY	3
PSYC 6946	PRACTICE IV IN SCHOOL PSYCHOLOGY	3
SEMI 6970	INTEGRATION SEMINAR	3

**Specialization in Organizational and Work Psychology**

**Competencies Profile of Graduates**

**Knowledge**

1. Determine the different procedures for evaluating individuals and groups in the organization through various measurement instruments.
2. Distinguish different types of interventions related to individuals and groups in the organization.
3. Recognize the factors that affect the health and safety of individuals and groups that affect an optimal work scenario.

**Skills**

1. Evaluate different work contexts through the use of various measurement instruments to determine the organizational climate, the development of human resources and the identification of needs in the organization.
2. Formulate organizational development interventions aimed at improving problem solving, teamwork, and improving performance at different levels of the organization.
3. Design strategies aimed at minimizing adverse conditions that affect the health and safety of human resources.

**Attitudes**

1. Value well-being, human rights and optimal working conditions for individuals and groups in the organizations in which they work.

**Requirements for the Specialization in Organizational and Work Psychology - 33 credits**

Required Courses

PSYC 6302	ORGANIZATIONAL PSYCHOLOGY IN PERSONAL AND HUMAN CAPITAL PROCESSES	3
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PSYC 6310	TRAINING DESIGN	3
PSYC 6307	ORGANIZATIONAL QUALITY, IMPROVEMENT AND EXCELLENCE	3
PSYC 6309	6309 APPRECIATIVE INQUIRY INTO THE ORGANIZATIONAL PROCESSES AND TRANSFORMATION	3
PSYC 6314	PSYCHOLOGICAL EVALUATION IN THE ORGANIZATIONAL ENVIRONMENT	3
PSYC 6315	PSYCHOLOGICAL PROFESSIONAL CONSULTING	2
PSYC 6370	PSYCHOPATHOLOGY IN THE WORK SCENARIO	2
PSYC 6371	PSYCHOLOGY OF HEALTH AND OCCUPATIONAL AND WELLBEING	3
PSYC 6953	PRACTICE I IN ORGANIZATIONAL AND WORK PSYCHOLOGY	3
PSYC 6954	PRACTICE II IN ORGANIZACIONAL AND WORK PSYCHOLOGY	3
PSYC 6955	PRACTICE III IN ORGANIZACIONAL AND WORK PSYCHOLOGY	3
PSYC 6985	RESEARCH IN ORGANIZACIONAL AND WORK PSYCHOLOGY	2

## Psychology (PsyD)

### Doctor of Psychology (PsyD) in Clinical and Counseling Psychology

The Doctorate in Psychology that is known by the abbreviation PsyD, is a combined-integrated program in Clinical Psychology/Counseling Psychology. The Program integrates clinical experience with academic preparation in a scholar-practitioner model of training. Students are trained in the theoretical foundations of psychology, evaluation techniques, intervention procedures, program evaluation and research, and administration and supervision. Special emphasis is given to the professional preparation for the delivery of psychological services. The definition of each of the two areas of specialization is conceptually integrated into the design of the program. These are:

#### Clinical Psychology

As a general practice specialization, clinical psychology concentrates on the understanding, evaluation, prediction, prevention and the relief from problems related to intellectual, emotional, biological, psychological and social functions. It emphasizes the identification of behavioral maladjustment, disability and mental disorders, as well as the improvement of psychological functions and prevention of dysfunctions. What distinguishes clinical psychology is the range of the problems it deals with and the characteristics of the population it serves.

#### Counseling Psychology

This focuses on the evaluation, diagnosis and psychotherapeutic interventions associated with the personal and interpersonal functioning through the application of scientific theories to the life cycle, to the social, emotional, vocational, educational, health and normative developmental aspects and to the organizational issues that have an impact on human mental health. Within the context of life-long development, be it normative or psychopathological, the counseling psychology professionals attend to the healthful aspects and the strengths of people (individual, couples, family, group, systems or organizations) in typical environmental situations, including cultural context, gender and lifestyle choices. In other words, Counseling Psychology addresses the emotional needs of people of all ages. It also integrates, as part of comprehensive conceptualization of the human being, the role of development, measurement, diagnosis and treatment of issues associated with vocational as well as career interests and aptitudes.

The Metropolitan Campus and the San Germán Campus are authorized to offer this Program.

#### Competencies Profile of Graduates

##### Research:

1. Formulate research or other academic activities that contribute to the scientific and professional knowledge of psychology.
2. Conduct scientific research or other academic activities.
3. Critically evaluate scientific research in psychology.
4. Disseminate research or other academic activity through publications and professional presentations at local and international levels.

**Ethical and Legal Standards:**

1. Identify the ethical principles of the American Psychological Association and the Code of Conduct of the Board of Psychologists of Puerto Rico, the regulations and policies that guide the practice of the psychology of health services.
2. Apply ethical principles in decision making to solve the dilemmas that emerge in professional practice.
3. Evidence of ethical behavior in their professional work.

**Individual and Cultural Diversity:**

1. Distinguish recent theoretical and empirical knowledge to address diversity in professional research, training, supervision/consulting, and service activities.
2. Evaluate how the individual's history, culture, attitudes, and prejudices affect the way he interprets and interacts with different people.
3. Effectively manage individual and cultural differences in their work with various individuals and groups.
4. Appreciate individual and cultural differences in the performance of all professional functions.

**Values, Attitudes and Professional Behaviors:**

1. Reflect the attitudes and values of psychology in their behavior, including integrity, professional behavior, identity, accountability, life-long learning and concern for the well-being of others.
2. Perform activities aimed at maintaining and improving their performance, well-being and professional effectiveness.
3. Consider with openness and sensitivity the retro information received in supervision.
4. Demonstrate professionalism in complex situations, with a high degree of independence, as you progress in your professional training.

**Communication and Interpersonal Skills:**

1. Maintain respectful links with colleagues, communities, organizations, supervisors, supervised, and participants of psychological services.
2. Generate effective oral and written communications.

3. Evidence of effective interpersonal skills that favor the proper management of communication challenges.

**Evaluation:**

1. Apply assessment methods using the best available empirical literature that reflect the science of measurement and psychometry.
2. Use information from multiple sources and appropriate methods to address the objectives and questions generated in the evaluation and diversity characteristics of the service recipient.
3. Interpret the results of the evaluation following recent research, standards and professional guidelines to document conceptualization, classification and case recommendations.
4. Generate effective and sensitive oral and written communications of the findings of the assessment of diverse populations.

**Intervention:**

1. Maintain effective relationships with participants in psychological services.
2. Design specific intervention plans based on evidence according to service goals.
3. Perform interventions documented by: recent scientific literature, evaluation findings, diversity characteristics, and contextual variables.
4. Modify evidence-based approaches effectively when there is ambiguity in their application.
5. Evaluate the effectiveness of the psychological intervention.

**Supervision:**

1. Evidence knowledge of supervisory models and practices.
2. Apply supervisory models and practices.

**Interprofessional/Interdisciplinary Consulting and Skills:**

1. Evidence knowledge of professional consulting models and practices.
2. Apply professional consulting models and practices in services to individuals and their families,

interprofessional and interdisciplinary groups and other professionals or organizations related to health.

3. Assess the roles and perspectives of other professions in work teams in clinical settings.

**Admission Requirements**

1. Hold a Master in Psychological Counseling or Clinical Psychology from an accredited university in which the following courses or their equivalents were approved with a minimum grade of B: Interview Techniques and Processes, Counseling and Career Evaluation, Cognitive Evaluation, Personality Evaluation, Psychopathology, Evidence Based Individual Psychotherapy Models, Evidence Based Systemic Models, Group Psychotherapy. In addition, you must have a minimum of 500 hours of supervised practice in Psychological Counseling or Clinical Psychology.
2. If the candidate hold a master’s degree from an accredited university in another area of Psychology that is not Counseling Psychology or Clinical Psychology, he must take the courses from the master’s degree of the area of specialization indicated previously and complete the 500 hours of supervised practice in the specialization area.
3. Have a minimum academic index of 3.25 at the master’s level.
4. Demonstrate proficiency in Spanish and English.
5. Have passed within the last five years prior to the date of the application for admission the Entrance Examination to Graduate Studies (EXADEP) with a minimum score of 400 or its equivalent in the Graduate Record Examination (GRE).
6. Submit three letters of recommendation, two of which must be from professors, and one from a supervisor in a work experience, using the template provided in the University admission package.
7. Present in original a negative criminal record provided by the Puerto Rico Police Department within the last 30 days of the application date.
8. Have an interview with the Admissions Committee of the Program and be recommended by it.

**Academic Progress Requirements**

To remain in the Program students must meet the following:

1. Maintain a minimum general average of 3.25.
2. Students will have the opportunity to repeat only once all failed courses or practices.
3. The courses of the program are approved with a minimum grade of B.
4. The doctoral candidacy examination, in either one of its two parts: core or clinical, may be taken a maximum of three times.

**Graduation Requirements**

1. Approve all program courses with a minimum general average of 3.25.
2. Pass both parts of the doctoral candidacy examination. The doctoral candidacy examination will be administered twice per year. Students may request to take the first part when they have approved all the core courses. They may request to take the second part of the examination when they have approved all the requirements of the specialization. The approval of both parts is a requirement for students to enter the doctoral internship. Students may only take the qualification examination on three occasions.
3. Approve the doctoral internship in clinical psychology/counseling psychology or clinical psychology/school psychology.
4. Defend and approve the doctoral dissertation.

**Requirements for the Doctor of Psychology in Clinical/Counseling Psychology**

Core Course Requirements	16 credits
Major Requirements	27 credits
Prescribed Distributive Requirements	6 credits
Operational Requirements	12 credits
<b>Total</b>	<b>61 credits</b>

<b>Core Course Requirements - 16 credits</b>		
PSYC 7010	HUMAN DIVERSITY	2
PSYC 7020	NEUROPSYCHOLOGY	3
PSYC 7030	QUANTITATIVE RESEARCH	2
PSYC 7040	QUALITATIVE RESEARCH	2
PSYC 7045	ANALYSIS OF QUALITATIVE DATA	2
PSYC 7050	DESIGN AND EVALUATION OF PSYCHOLOGICAL PROGRAMS AND SERVICES	2



PSYC 7060	NEUROSCIENCE OF COGNOSCITIVE, AFFECTIVE AND DEVELOPMENT PROCESSES	2		
PSYC 8912	PRACTICUM IN THE DESIGN AND EVALUATION OF PSYCHOLOGICAL PROGRAMS AND SERVICES	1	PSYC 8750	ABUSE INTERVENTION WITH WOMEN VICTIMS OF VIOLENCE 2
			PSYC 8760	SPIRITUALITY IN COUNSELING PSYCHOLOGY 2
			PSYC 8770	ALTERNATIVE AND COMPLEMENTARY THERAPIES 2
Major Requirements - 27 credits				
PSYC 7015	PROFESSIONAL STANDARDS IN CLINICAL/COUNSELING PSYCHOLOGY	1	PSYC 7970	SPECIAL TOPICS 1 to 3
			Area of Clinical Psychology	
PSYC 8610	FAMILY THERAPY	2	PSYC 8515	PROFESSIONAL CONSULTING 2
PSYC 8630	OBJECTIVE EVALUATION OF PERSONALITY	2	PSYC 8710	INTERVENTION IN CRISES 3
PSYC 8640	COUPLES THERAPY	2	PSYC 8715	PROJECTIVE EVALUATION OF PERSONALITY: RORSCHACH 3
PSYC 8650	CLINICAL PSYCHOPHARMACOLOGY	2	PSYC 8740	TRAUMA: PSYCHOLOGICAL PERSPECTIVE 2
PSYC 8660	CLINICAL SUPERVISION AND CONSULTANCY	2	PSYC 8795	PSYCHOLOGY OF HEALTH 2
PSYC 8919	PRACTICUM IN FAMILY THERAPY	1	PSYC 8340	NEUROPSYCHOLOGICAL EVALUATION 3
PSYC 8921	PRACTICUM IN OBJECTIVE EVALUATION OF PERSONALITY	1	PSYC 7970	SPECIAL TOPICS 1 to 3
			Operational Requirements - 12 credits	
PSYC 8922	PRACTICUM IN COUPLES THERAPY	1	PSYC 8990A	INTERNSHIP 3
PSYC 8923	PRACTICUM IN CLINICAL SUPERVISION AND CONSULTANCY	1	PSYC 8990B	INTERNSHIP 3
			PSYC 8991	DISSERTATION A 3
			PSYC 8992	DISSERTATION B - CONTINUATION OF DISSERTATION 3
PSYC 8975	INTEGRATED PRACTICE IN CLINICAL/COUNSELING PSYCHOLOGY I	3		
PSYC 8976	INTEGRATED PRACTICE IN CLINICAL/COUNSELING PSYCHOLOGY II	3	<b>Doctor of Psychology (PsyD) in Clinical and School Psychology</b>	
PSYC 8977	INTEGRATED PRACTICE IN CLINICAL/COUNSELING PSYCHOLOGY III	3	The Doctorate in Psychology that is known by the abbreviations PsyD is a combined-integrated program in Clinical Psychology/School Psychology. It represents a unique teaching model since it fuses the traditional areas of clinical psychology and school psychology in a generalist approach. The intention is to provide graduates a professional formation that allows them to combine and to integrate the knowledge and the skills of two specialization areas, clinical psychology and school psychology. In contrast to an exclusive training in one or the other area of specialization, the graduates of this combined-integrated program will be able to perform the roles and functions of both specializations in a unifying manner, with multiple populations, ages, conditions and in varied scenarios, from	
PSYC 8978	INTEGRATED PRACTICE IN CLINICAL/COUNSELING PSYCHOLOGY IV	3		
Prescribed Distributive Requirements in Clinical Psychology/Counseling Psychology - 6 credits				
Area of Counseling Psychology				
PSYC 8720	SUBSTANCE ABUSE	3		
PSYC 8730	EVALUATION OF ALLEGATIONS OF SEXUAL	3		

the school to the clinical scenarios.

The Program also integrates clinical experience with academic preparation in a scholar-practitioner model of training. Students are trained in the theoretical foundations of psychology, evaluation techniques, the intervention procedures, program evaluation and research, and in administration and supervision. Special emphasis in the professional preparation for the delivery of psychological services to people throughout the life cycle. Conceptually it integrates and combines in the design of the program the definitions of each of the two areas of specializations.

These are:

### **Clinical Psychology**

As a general practice specialization, clinical psychology concentrates in the understanding, evaluation, prediction, prevention and relief from the problems related to intellectual, emotional, biological, psychological and social functions. It emphasizes the identification of behavioral maladjustment, disability and mental disorders, as well as the improvement of psychological function and prevention of dysfunction. What distinguishes clinical psychology is the range of the problems that it deals with and the characteristics of the population it serves.

### **School Psychology**

It is related to the science and practice of psychology with children, young people, families and apprentices of all ages and with school processes. It recognizes the schools as a crucial context for development. One of the essential roles of school psychology professional is to synthesize the data obtained from the development and contextual mechanisms. It also must transfer them to the adult people who are responsible for promoting the healthful growth and the development of children and young people. Its work scenarios include an ample rank of contexts or environments such as schools, work centers, the health centers centered in schools and medical facilities, of social or reformatory services.

The Metropolitan Campus and the San Germán Campus are authorized to offer this Program.

### **Competencies Profile of Graduates**

#### **Research:**

1. Formulate research or other academic activities that contribute to the scientific and professional knowledge of psychology.
2. Conduct scientific research or other academic

activities.

3. Critically evaluate scientific research in psychology.
4. Disseminate research or other academic activity through publications and professional presentations at local and international levels.

#### **Ethical and Legal Standards:**

1. Identify the ethical principles of the American Psychological Association and the Code of Conduct of the Board of Psychologists of Puerto Rico, the regulations and policies that guide the practice of the psychology of health services.
2. Apply ethical principles in decision making to solve the dilemmas that emerge in professional practice.
3. Evidence of ethical behavior in their professional work.

#### **Individual and Cultural Diversity:**

1. Distinguish recent theoretical and empirical knowledge to address diversity in professional research, training, supervision/consulting, and service activities.
2. Evaluate how the individual's history, culture, attitudes, and prejudices affect the way he interprets and interacts with different people.
3. Effectively manage individual and cultural differences in their work with various individuals and groups.
4. Appreciate individual and cultural differences in the performance of all professional functions.

#### **Values, Attitudes and Professional Behaviors:**

1. Reflect the attitudes and values of psychology in their behavior, including integrity, professional behavior, identity, accountability, life-long learning and concern for the well-being of others.
2. Perform activities aimed at maintaining and improving their performance, well-being and professional effectiveness.
3. Consider with openness and sensitivity the retro information received in supervision.
4. Demonstrate professionalism in complex situations, with a high degree of independence, as you progress in your professional training.

**Communication and Interpersonal Skills:**

1. Maintain respectful links with colleagues, communities, organizations, supervisors, supervised, and participants of psychological services.
2. Generate effective oral and written communications.
3. Evidence of effective interpersonal skills that favor the proper management of communication challenges.

**Evaluation:**

1. Apply assessment methods using the best available empirical literature that reflect the science of measurement and psychometry.
2. Use information from multiple sources and appropriate methods to address the objectives and questions generated in the evaluation and diversity characteristics of the service recipient.
3. Interpret the results of the evaluation following recent research, standards and professional guidelines to document conceptualization, classification and case recommendations.
4. Generate effective and sensitive oral and written communications of the findings of the assessment of diverse populations.

**Intervention:**

1. Maintain effective relationships with participants in psychological services.
2. Design specific intervention plans based on evidence according to service goals.
3. Perform interventions documented by: recent scientific literature, evaluation findings, diversity characteristics, and contextual variables.
4. Modify evidence-based approaches effectively when there is ambiguity in their application.
5. Evaluate the effectiveness of the psychological intervention.

**Supervision:**

1. Evidence knowledge of supervisory models and practices.
2. Apply supervisory models and practices.

**Interprofessional/Interdisciplinary Consulting and Skills:**

1. Evidence knowledge of professional consulting models and practices.
2. Apply professional consulting models and practices in services to individuals and their families, interprofessional and interdisciplinary groups and other professionals or organizations related to health.
3. Assess the roles and perspectives of other professions in work teams in clinical settings.

**Admission Requirements**

1. Hold a Master in Psychology from an accredited university and have approved the following courses or their equivalents: Interview Techniques and Processes, Counseling, Collaboration and School Organization, Cognitive Evaluation, Personality Evaluation, Evaluation and Psychoeducational Intervention, Psychopathology through the life cycle, Group Therapy, and Intervention Models and Techniques with Children and Adolescents. In addition, students must have completed a minimum of 500 hours of supervised practice in School Psychology.
2. Have a minimum academic index of 3.25 at the master's level.
3. If the candidate has a master's degree from an accredited university in another area of Psychology that is not School Psychology, he must take the courses from the master's degree of the specialization School Psychology indicated previously and complete the 500 hours of supervised practice in the specialization area.
4. Demonstrate proficiency in Spanish and English.
5. Have passed within the last five years prior to the date of the application for admission the Entrance Examination to Graduate Studies (EXADEP) with a minimum score of 400 or its equivalent in the Graduate Record Examination (GRE).
6. Submit three letters of recommendation, two of which must be from professors, and one from a supervisor in a work experience, using the template provided in the University admission package.
7. Present in original a negative criminal record provided by the Puerto Rico Police Department

within the last 30 days of the application date.

8. Have an interview with the Admissions Committee of the Program and be recommended by it.

**Academic Progress Requirements**

To remain in the Program students must meet the following:

1. Maintain a minimum general average of 3.25.
2. Students will have the opportunity to repeat only once all failed courses or practices.
3. The courses of the program are approved with a minimum grade of B.
4. The doctoral candidacy examination, in either one of its two parts: core or clinical, may be taken a maximum of three times.

**Graduation Requirements**

1. Approve all the program courses with a minimum general average of 3.25.
2. Pass both parts of the doctoral candidacy examination. The doctoral candidacy examination will be administered twice per year. Students may request to take the first part when they have approved all the core courses. They may request to take the second part of the examination when they have approved all the requirements of the specialization. The approval of both parts is a requirement for students to enter the doctoral internship. Students may only take the qualification examination on three occasions.
3. Approve the doctoral internship in clinical psychology/counseling psychology or clinical psychology/school psychology.
4. Defend and approve the doctoral dissertation.

**Requirements for the Doctor of Psychology in Clinical and School Psychology**

Core Course Requirements	16 credits
Major Requirements	29 credits
Prescribed Distributive Requirements	6 credits
Operational Requirements	12 credits
<b>Total</b>	<b>63 credits</b>

Core Course Requirements - 16 credits

PSYC 7010	HUMAN DIVERSITY	2
PSYC 7020	NEUROPSYCHOLOGY	3
PSYC 7030	QUANTITATIVE RESEARCH	2
PSYC 7040	QUALITATIVE RESEARCH	2
PSYC 7045	ANALYSIS OF QUALITATIVE DATA	2
PSYC 7050	DESIGN AND EVALUATION OF PSYCHOLOGICAL PROGRAMS AND SERVICES	2
PSYC 7060	NEUROSCIENCE OF COGNOSCITIVE, AFFECTIVE AND DEVELOPMENT PROCESSES	2
PSYC 8912	PRACTICUM IN THE DESIGN AND EVALUATION OF PSYCHOLOGICAL PROGRAMS AND SERVICES	1

Major Requirements - 29 credits

PSYC 7005	PROFESSIONAL STANDARDS IN CLINICAL/SCHOOL PSYCHOLOGY	1
PSYC 8330	PSYCHOLOGICAL EVALUATION AND INTERVENTION WITH INFANTS AND PRESCHOOL CHILDREN	2
PSYC 8610	FAMILY THERAPY	2
PSYC 8620	PSYCHOLOGICAL INTERVENTIONS IN SCHOOLS	2
PSYC 8630	OBJECTIVE EVALUATION OF PERSONALITY	2
PSYC 8650	CLINICAL PSYCHOPHARMACOLOGY	2
PSYC 8660	CLINICAL SUPERVISION AND CONSULTANCY	2
PSYC 8914	PRACTICUM IN PSYCHOLOGICAL EVALUATION AND INTERVENTION WITH INFANTS AND PRESCHOOL	1

	CHILDREN	
PSYC 8919	PRACTICUM IN FAMILY THERAPY	1
PSYC 8921	PRACTICUM IN OBJECTIVE EVALUATION OF PERSONALITY	1
PSYC 8923	PRACTICUM IN CLINICAL SUPERVISION AND CONSULTANCY	1
PSYC 8985	INTEGRATED PRACTICE IN CLINICAL/SCHOOL PSYCHOLOGY I	2
PSYC 8986	INTEGRATED PRACTICE IN CLINICAL/SCHOOL PSYCHOLOGY II	3
PSYC 8987	INTEGRATED PRACTICE IN CLINICAL/SCHOOL PSYCHOLOGY III	3
PSYC 8988	INTEGRATED PRACTICE IN CLINICAL/SCHOOL PSYCHOLOGY IV	3

Prescribed Distributive Requirements in Clinical Psychology/School Psychology - 6 credits.

(The student will take 3 credits in the area of School Psychology and 3 credits in the Clinical area).

Area of School Psychology		
PSYC 7970	SPECIAL TOPICS	1 to 3
PSYC 8320	SCHOOL ORGANIZATION AND OPERATION	3
PSYC 8780	INFANTILE PSYCHOANALYSIS	3
EDUC 8190	DESIGN AND CONSTRUCTION OF EDUCATIONAL PROGRAMAS	3
EDUC 8135	DEVELOPMENT OF TEACHINHG MODELS	3

Area of Clinical Psychology		
PSYC 7970	SPECIAL TOPICS	1 to 3
PSYC 8340	NEUROPSYCHOLOGICAL EVALUATION	3
PSYC 8515	PROFESSIONAL CONSULTING	2
PSYC 8710	INTERVENTION IN CRISES	3
PSYC 8715	PROJECTIVE EVALUATION OF PERSONALITY: RORSCHACH	3
PSYC 8740	TRAUMA: PSYCHOLOGICAL PERSPECTIVE	2

PSYC 8795	PSYCHOLOGY OF HEALTH	2
Operational Requirements - 12 credits		
PSYC 8990A	INTERNSHIP	3
PSYC 8990B	INTERNSHIP	3
PSYC 8991	DISSERTATION A	3
PSYC 8992	DISSERTATION B - CONTINUATION OF DISSERTATION	3

## Public Health (MS)

The Master of Science in Public Health Program is aimed at developing a professional trained to provide high quality prevention and health promotion services. The program aims to provide students with an excellent preparation in the new trends on prevention, promotion, planning, administration, service provision, and health programs. It expects to develop a professional that contributes comprehensively and competently to the teaching and administrative work in different scenarios, in accordance with the institutional and international goals of health and well-being. The program is designed to meet the needs of a changing society and to encourage research and creative activity to enrich the educational efforts of the Institution.

The Guayama Campus is authorized to offer this Program.

### Competencies Profile of Graduates

The program is designed to develop the skills that allow the student to:

#### Knowledge

1. Analyze methods of collection, tabulation, and interpretation of health data.
2. Evaluate statistical analyses and epidemiological designs according to the public health scenario.
3. Know the population distribution of diseases, their risk factors and natural history.
4. Analyze the theoretical and conceptual frameworks of the main theories of administration.
5. Demonstrate knowledge of the processes of planning, management, and evaluation of health programs and the development of public policies.
6. Demonstrate knowledge of the concepts and theoretical frameworks of social sciences and human behavior in the study of public health problems.

7. Analyze the main components of a public health research and ethical principles.
8. Judge critically the controversial issues related to public health and its implications in the profession.
9. Demonstrate knowledge of the principles of environmental and occupational health.

### Skills

1. Apply descriptive and inferential statistical analysis methods to public health research.
2. Examine the procedures for calculating measures of disease frequency and other epidemiological data.
3. Apply the methods of qualitative and quantitative research in the design of epidemiological studies.
4. Examine the environmental, biological, chemical, physical and psychosocial factors that affect health.
5. Apply the appropriate tools to identify the risks of environmental and occupational health.
6. Examine the social determinants of health in the population.
7. Demonstrate leadership and an attitude of collaborative work with other members of the health team to comprehensively address the needs of promotion and health prevention.
8. Apply different communication and marketing strategies framed in the ethical and legal principles for the dissemination of health information.
9. Demonstrate mastery in the use of technological tools to conduct public health research.
10. Apply ethical and legal principles in the performance of duties as a public health professional.

### Attitudes

1. Assume responsibility for own actions and professional development.
2. Value the importance of keeping professional knowledge up to date.
3. Recognize the importance of communication and information technology in the dissemination of health information.
4. Self-evaluate and conduct the professional practice

within the principles of respect to human dignity and the ethical principles of the profession.

### Admission Requirements

In addition to the admission requirements established in the Graduate Catalog, candidates to this program must:

1. Submit two (2) letters of recommendation.
2. Attend an interview with the Program's Admission Committee.
3. Write an essay expressing the reasons why he/she wants admission to the program.
4. Present the following updated documents:
  - a. Professional Resume
  - b. Health certificate

### Graduation Requirements

In addition to the graduation requirements established in the Graduate Catalog, electronic version, students in this program must pass all courses with a minimum grade of B.

### Requirements for the Master of Science in Public Health

Core Requirements	24 credits
Concentration Requirements	15 credits
Prescribed Distributives	6 credits
<b>Total</b>	<b>45 credits</b>

#### Core Requirements - 24 credits

PUHE 5100	PUBLIC HEALTH CONCEPTS	3
PUHE 5110	BIostatISTICS FOR PUBLIC HEALTH	3
PUHE 5120	FUNDAMENTALS OF EPIDEMIOLOGY	3
PUHE 5200	ENVIRONMENTAL HEALTH	3
PUHE 5220	PSYCHOSOCIOLOGY OF HEALTH	3
PUHE 5310	BIOETHICS	3
PUHE 5320	HEALTH ADMINISTRATION	3
PUHE 6100	PLANNING AND EVALUATION	3

#### Concentration Requirements - 15 credits

PUHE 5210	STATISTICAL PROGRAMS	3
PUHE 5300	SCIENTIFIC WRITING	3
PUHE 6110	RESEARCH METHODS	3
PUHE 6120	HEALTH COMMUNICATION	3

PUHE 6300	RESEARCH PROJECT	3
Prescribed Distributives - 6 credits		
PUHE 6230	PUBLIC HEALTH AND THE DIGITAL AGE	3
PUHE 6240	SOCIAL NETWORKS AND PUBLIC HEALTH	3
PUHE 6250	CULTURE, HEALTH AND DIVERSITY	3
PUHE 6260	HEALTH MARKETING	3

## Religious Education (MA)

The Master of Arts in Religious Education has as its goal to form educational personnel in the field of Religion. The program gives emphasis to the analysis of Christian Principles and their role in the formation of the ethical values of human being. This program aspires to prepare educational and research personnel in the field of Religious Education by using theological tools.

The Metropolitan Campus is authorized to offer this Program.

### Admission Requirements

Besides satisfying the admission requirements for the study of master's degrees, the candidate who wishes to enter the Program in Religious Education must meet the following requirements:

1. Possess a Bachelor in Religious Studies or related areas or have approved, at the undergraduate level a minimum of twelve (12) credits distributed between the areas of Education and Religious Studies.
2. Pass an interview with the Admissions Committee of the School of Theology of the Metropolitan Campus.

### Requirements for the Master of Arts in Religious Education

Specialization Requirements - 42 credits		
RELI 5010	HISTORY AND PHILOSOPHY OF RELIGIOUS EDUCATION	3
RELI 5215	HISTORY OF THE CHURCH	3
RELI 5320	INTRODUCTION TO THEOLOGY	3
RELI 5430	BIBLICAL ANALYSIS	3
RELI 5540	ECUMENICAL THOUGHT	3
RELI 5650	RELIGIOUS PLURALISM	3
RELI 5760	THE HISTORICAL JESUS: SOCIAL MESSAGE	3
RELI 5870	CHRISTIAN ECLESIOLOGY	3

RELI 5990	ETHICS AND PASTORAL ACTION	3
RELI 6020	TEACHING STRATEGIES IN RELIGIOUS EDUCATION	3
RELI 6030	DESIGN AND EVALUATION OF CURRICULUM IN RELIGIOUS EDUCATION	3
RELI 6040	EDUCATIONAL LEADERSHIP IN RELIGIOUS EDUCATION	3
RELI 6975	INTEGRATION SEMINAR	3
RELI 6910	PRACTICUM	3

## Research Methods (Post-Bachelor Professional Certificate)

The Professional Certificate Program in Research Methods aims to develop competent professionals in the research area. It is aimed to students graduated from programs from different disciplines who wish to develop their research skills at an intermediate level. It promotes interest in research as a tool to develop new knowledge and decisions-making. The graduates of this program will develop these skills to conduct quality research in various scenarios.

The San Germán Campus is authorized to offer this Certificate.

### Competencies Profile of Graduates

The Program is designed to develop the skills that allow the student:

#### Knowledge

Demonstrate knowledge and understanding of:

1. The methodology and terminology of various types of research.
2. Different statistical methods for problem solving and for the decision making process.
3. Different computerized programs for statistical analysis.

#### Skills

1. Write research proposals and other documents using professional language.
2. Develop research using various research methodologies.

3. Interpret data using statistical methods and computerized programs.

### Attitudes

1. Value the ethical principles that apply to research.
2. Respect the regulations that regulate research.
3. Express interest in developing research in search of problem solving in various scenarios.

### Admission Requirements

To be admitted to the program, the student must:

1. Comply with the admission requirements for master's programs and Professional Certificates, as established in the current Graduate Catalog.
2. Submit an essay indicating the research area of interest.
3. Have passed a Basic Statistics course, or its equivalent, with a minimum grade of C.

### Requirements of the Professional Certificate in Research Methods

Professional Certificate Requirements - 16 credits			
REME 5010	FUNDAMENTALS OF RESEARCH		3
REME 5020	RESEARCH METHODS I		3
REME 5025	RESEARCH METHODS II		3
REME 5040	STATISTICS		3
REME 5050	RESEARCH PROJECT I		2
REME 5055	RESEARCH PROJECT II		2

## Research Methods (Advanced Interdisciplinary Post Master Professional Certificate)

The Advanced Interdisciplinary Post Master Professional Certificate in Research Methods is aimed at professionals with a master's degree or equivalent professional degrees who wish to develop their research knowledge at an advanced level. The Certificate provides the necessary tools to develop new knowledge, to solve problems and to make complex decisions. It includes different aspects of qualitative and quantitative research, such as writing, research design, data collection and analysis using computerized programs. It promotes the application of various research methodologies in different disciplines, according to the merits, application and interest of the

student. The Program requires the development and presentation of qualitative, quantitative or mixed research.

The San Germán Campus is authorized to offer this certificate.

### Competencies Profile of Graduates

This Advanced Interdisciplinary Post Master Professional Certificate in Research Methods is designed to develop the skills that allow the student:

#### Knowledge

Demonstrate knowledge and understanding of:

1. the theories and paradigms of qualitative and quantitative research.
2. the processes of writing research texts.
3. advanced statistics used in research.
4. different designs of qualitative, quantitative and mixed research.
5. the strategies for the collection and analysis of data in a qualitative, quantitative or mixed research.
6. the rules, procedures, aspects of research ethics and legal considerations that apply to research processes.

#### Skills

1. Write texts related to research, such as essays, research reports, article reviews, monographs and proposals for qualitative, quantitative or mixed research.
2. Collect and analyze data in qualitative, quantitative or mixed research.
3. Use programs for data analysis.
4. Develop original research.

#### Attitudes

1. Assess the ethical principles that apply to research.
2. Respect the laws that regulate research.
3. Show interest in developing original qualitative, quantitative or mixed research in search of new knowledge and possible solutions to problems in various scenarios.
4. Share the knowledge acquired through their research.



- Objectively criticize research conducted by other researchers.

	ANALYSIS	
REME 7055	QUANTITATIVE DATA ANALYSIS	3
REME 797_	SPECIAL TOPIC: NEW TRENDS IN RESEARCH	1

**Admission Requirements**

To be admitted to the program, the student must:

- Hold a master's degree or equivalent professional degree with a minimum academic index of 3.00 from an accredited university.
- Possess a reasonable proficiency of Spanish and English.
- Present evidence of having passed a statistics course with a minimum grade of B or instead participate in the Statistics Workshops offered by the Graduate Center for Research and Student Success (CIEEG).
- Submit the admission documents to the Program:
  - Admission request
  - Transcript of original credits of bachelor's and master's degree or equivalent professional degree.
  - An essay on research interest
  - Have three letters of recommendation sent by university professors or supervisors who can assess the student's potential to succeed in the program.

Operational Requirements - 4 credits		
REME 8991	APPLIED RESEARCH I	2
REME 8992	APPLIED RESEARCH II	2

**Second Language Research (PhD)**

The PhD in Second Language Research is designed to prepare leaders in the study of the second language. Graduates of the program will have developed a robust approach towards the investigation of the influential factors of the acquisition and use of a second language. The program provides students with the knowledge and skills necessary to conduct quantitative and qualitative research of high quality, as well as action research in educational and non-educational environments. The dissemination of results is a key component of the research process and the program requires the production of research articles of the quality required by a professional journal in many of the courses. The program offers two exit options: A student may choose to receive a Professional Certificate in Second Language Research after completing 15 credits of the specialization requirements, or a Master of Philosophy in Second Language Research after completing all specialization courses of study. (Details are found in the respective descriptions of each program in the Graduate Catalog).

The Ponce Campus is authorized to offer this program through online education.

**Competencies Profile of Graduates**

The Program is designed to develop competencies that allow the student to:

**Knowledge**

Understand the prominent factors related to the acquisition and use of the second language.

- Acquire knowledge of quantitative research designs and methodologies and their applications for second language research.
- Acquire knowledge of qualitative research designs and methodologies and their applications for second language research.
- Acquire knowledge of action research and its

**Graduation Requirements**

In order to meet the graduation requirements of the Interdisciplinary Professional Certificate Program in Research Methods, the student must:

- Be a regular student.
- Have completed the required courses of the study program as established in the Graduate Catalog.
- Have passed the courses with a minimum grade of B.

**Requirements for the Advanced Interdisciplinary Post Master Professional Certificate in Research Methods**

Core Courses Requirements - 17 credits		
REME 7000	QUALITATIVE RESEARCH	3
REME 7005	QUANTITATIVE RESEARCH	3
REME 7010	WRITING FOR RESEARCHERS	3
REME 7020	STATISTICS	3
REME 7050	QUALITATIVE DATA	2

applications for second language research.

4. Acquire knowledge of ethical considerations for the investigation of a second language.

### **Skills**

1. Develop an appropriate research design for the second language research problem.
2. Analyze the social, cultural, psychological and linguistic aspects of the acquisition and use of the second language.
3. Synthesize existing literature of second language research.
4. Produce written and oral accounts of the research process and results of second language research.

### **Attitudes**

1. Value diversity among environments and users of the second language and languages as such.
2. Appreciate alternative points of view related to second language research.
3. Consider ethical aspects in the design and practice of research.

### **Requirements for Satisfactory Academic Progress**

1. Comply with the requirements of satisfactory academic progress for doctoral programs as specified in the current Graduate Catalog.
2. Once the student has completed SLAR 8990, he/she has a total of four (4) terms to complete the dissertation that includes SLAR 8991 and the three (3) dissertation extension courses SLAR 8992, 8993 and 8994. If the student does not complete the dissertation at the end of the third extension course (SLAR 8994), he/she will be awarded the degree of Master of Philosophy in Second Language Research and cannot continue in the doctoral program. In extraordinary circumstances, the graduate program director, the dean of academic affairs, and the faculty of the program may give the student an additional term to complete his or her dissertation. In this case, the student must repeat SLAR 8991 Second Language Research Dissertation.

### **Graduation Requirements**

In addition to complying with graduation requirements of

the Graduate Catalog, students in this program must meet the following requirements.

1. Complete all the specialization requirements with a minimum average of 3.00.
2. After completing 15 credits of the specialization requirements (SLAR 7010, 7020, 7030, 7035 and an additional course of specialization requirements), the student can apply for a Post Master Professional Certificate in Second Language Research.
3. After completing the specialization requirements and SLAR 797\_ Special Topic in Second Language Research, the student can apply for a Master of Philosophy in Second Language Research. The SLAR 8990 course can be substituted by a special subject course.
4. Complete the dissertation requirement within four (4) terms after having successfully defended the research proposal submitted in SLAR 8990. If the dissertation is not completed after completing the third dissertation extension course (SLAR 8994), a Master in Second Language Research Philosophy will be awarded and the student will not graduate from the doctoral program.
5. This program has no residency requirements nor a comprehensive exam.

### **Admission Requirements**

1. Comply with the admission requirements in the current Graduate Catalog.
2. Hold a master's degree (or equivalent) from an accredited university with a minimum of 3.00 academic average.
3. Candidates who hold a master's or doctorate degree in areas not related to research or language teaching must pass the ENGL 5030 Principles of Linguistics course. Their admission will be provisional until the course is approved. They will not be able to enroll in any of the specialization courses until they have approved this course.
4. If the undergraduate or previous graduate degree did not require a statistical course or if the course was not passed with a grade of 3.00 or higher, the candidate must approve EDUC 5133 Statistics or any other introductory statistics course at the graduate level. Admission will be provisional until the student passes the course with 3.00 or higher. The candidate cannot

enroll in any of the specialization courses until the course is passed.

5. Be bilingual in English (all courses will be offered in English) and an additional language (evidence is required).
6. Present evidence of previous experience in research projects (example: master's thesis, research done as a requirement of a course, published or unpublished research).

**Requirements for the Doctoral Degree in Philosophy in Second Language Research**

Specialization Requirements	27 credits
Core Requirements	6 credits
Total	33 credits

Specialization Requirements - 27 credits

SLAR 7010	INTRODUCTION TO THE INVESTIGATION OF THE SECOND LANGUAGE	3
SLAR 7020	QUANTITATIVE RESEARCH DESIGN	3
SLAR 7030	QUALITATIVE RESEARCH DESIGN	3
SLAR 7035	RESEARCH-ACTION DESIGN	3
SLAR 7040	SOCIAL, CULTURAL AND POLITICAL ASPECTS OF THE SECOND LANGUAGE	3
SLAR 7050	READING RESEARCH IN A SECOND LANGUAGE	3
SLAR 7060	INVESTIGATION OF WRITING IN A SECOND LANGUAGE	3
SLAR 7070	RESEARCH OF ORAL COMMUNICATION IN A SECOND LANGUAGE	3
SLAR 7080	LEARNING LANGUAGES USING COMPUTED TECHNOLOGY	3

Core Requirements - from 6 (minimum) to 9 credits

SLAR 8990	DISSERTATION PROPOSAL FOR A SECOND LANGUAGE INVESTIGATION	3
SLAR 8991	DISSERTATION IN SECOND LANGUAGE RESEARCH	3
SLAR 8992	DISSERTATION EXTENSION 1	1
SLAR 8993	DISSERTATION EXTENSION 2	1
SLAR 8994	DISSERTATION	1

EXTENSION 3

**Service Operations Management (Post-Bachelor Professional Certificate)**

The Postgraduate Professional Certificate Program in Service Operations Management contains a curriculum that trains the student with the essential elements in operations management for companies that provide customer service and in turn prepares them to continue graduate studies.

The Program emphasizes the essential components of management in operations and in customer service. The student will know the fundamental elements related to customer service and performance measurement; as well as the theories, models and general foundations of operations management.

The Ponce Campus is authorized to offer this program through online education.

**Competencies Profile of Graduates**

The Postgraduate Professional Certificate Program in Service Operations Management is designed to achieve the development of a professional with the following competencies:

**Knowledge**

1. Know the basics of operations management and customer service.
2. Know basic terms related to the design models of the service experience, operations management in companies of the 21st century.

**Skills**

1. Use essential skills in operations management and business administration.
2. Properly use the principles of operations management in service companies.

**Attitudes**

1. Value the ethical principles that apply to the field of operations management.

**Admission Requirements**

To be admitted to the program, the student must:

1. Have at least a bachelor's degree from an accredited educational institution.
2. Comply with the admission process of the university.

### **Requirements of the Postgraduate Professional Certificate Program in Service Operations Management**

Requirements of the Professional Certificate - 15 credits

SOPM 5000	INTRODUCTION TO SERVICE OPERATIONS MANAGEMENT	3
SOPM 5100	SERVICE AND EXPERIENCE DESIGN BETWEEN CUSTOMER AND SUPPLIER	3
SOPM 5200	SERVICE MEETING DESIGN AND PERFORMANCE MEASUREMENT	3
BADM 5090	BUSINESS MARKETING	3
BADM 5120	OPERATIONS MANAGEMENT	3

## **Sign Language Interpretation (Post Bachelor Professional Certificate)**

The Professional Certificate in Sign Language Interpretation is designed for professionals who have a bachelor's degree, master's degree, doctorate or equivalent professional degrees, who wish to know and develop skills in the interpretation of sign language for the deaf. The Program facilitates the acquisition of knowledge, the development of skills and attitudes necessary for the interpretation of sign language in different work scenarios. The student is trained in language comprehension and expression skills, both gestural and in sign-to-speech interpretation. The Program includes training in common vocabulary, technical vocabulary in educational, health and legal areas.

The San Germán Campus is authorized to offer this Certificate.

### **Competencies Profile of Graduates**

The Program is designed to develop the competences that allow the student to:

#### **Knowledge**

Demonstrate knowledge and understanding of:

1. the deaf culture and its peculiarities.

2. the rules, procedures and ethical aspects in the interpretation of Sign Language.
3. the legal considerations that apply in the interpretation of Sign Language.
4. the fundamental concepts of interpretation in Sign Language.
5. the decision-making process to use the appropriate strategy for interpretation.
6. models of interpretation in educational, legal and health situations.

#### **Skills**

1. Execute interpretation in a competent and safe manner, in accordance with the practice standards of the profession.
2. Participate in educational, legal and health centers to apply effective sign interpretation to achieve the service of deaf people.
3. Apply interpretation skills to promote changes for the benefit of deaf people.
4. Competently execute the gestural - motor and oral interpretation, according to the educational, legal and health scenarios.

#### **Attitudes**

1. Appreciate the professional role with responsibility and commitment.
2. Value the deaf culture and the educational, legal and health services that are offered.
3. Value the ethical and legal principles involved in the interpretation.
4. Demonstrate responsibility and commitment to personal and professional development.

#### **Academic Progress Requirements**

1. Comply with all the academic progress rules established in the Graduate Catalog.
2. Pass all courses with a minimum grade of B.

#### **Graduation Requirements**

In addition to complying with all graduation requirements established in the Graduate Catalog, the professional

certificate in Sign Language Interpretation requires compliance with the following:

1. Be a student with regular admission.
2. Obtain an academic index of 3.00 or more in the courses required for your degree.

**Retention Requirements**

The retention requirements for the Program are:

1. Comply with all the academic progress standards established in this catalog.
2. Pass all courses with a minimum grade of B.

**Requirements for the Professional Certificate in Interpretation in Sign Language**

Professional Certificate Requirements - 18 credits

SNLI 5000	INTRODUCTION TO THE SORDA COMMUNITY STUDY	3
SNLI 5010	SIGN LANGUAGE STRUCTURE	3
SNLI 5020	CONVERSATION SKILLS IN SIGN LANGUAGE	3
SNLI 5030	INTERPRETATION IN EDUCATIONAL SCENARIOS	3
SNLI 5040	INTERPRETATION IN HEALTH SCENARIOS	3
SNLI 5050	INTERPRETATION IN LEGAL SCENARIOS	3

**Social Work (MSW)**

**Social Work (MSW) Requirements**

The mission of the Master of Social Work is to prepare students to be effective advanced practitioners in the fields of Administration in Social Work and Clinical Social Work. In addition, the program prepares professionals committed to the social and economic justice of human beings. To this end, the curriculum of the program is framed in the systemic-ecological approach and emphasizes the perspectives of empowerment and strengths, integrated with the biopsychosocial vision.

The Master in Social Work has two specializations: Administration in Social Work and Clinical Social Work.

The Program is accredited by the Council on Social Work Education (CSWE) (<http://www.cswe.org>).

The Metropolitan Campus is authorized to offer this Program.

**Program Goals**

The goals of the Master in Social Work are congruent with its mission and are oriented toward the preparation of advanced level practitioners who can:

1. Use the perspectives of strengths and empowerment in the practice of Social Work for the promotion, strengthening, maintenance and restoration of the mental health and well-being of individuals, families and the community in general.
2. Examine and use scientific findings and methodologies in their professional practice, evaluate the effectiveness and efficiency of their practice, and participate in the process of evaluating the achievement of the organizational goals.
3. Develop and implement strategies and techniques that promote social and economic justice for the benefit of systems within the context of human rights, values and ethics of the Social Work profession.
4. Incorporate in their practice strategies that promote the recognition of cultural diversity and human rights, and understand how they affect social systems.

**Competencies Profile of Graduates**

The Program is designed to develop the core competencies, in agreement with the 2015 Educational Policy and Accreditation Standards (EPAS) of the Council on Social Work Education (CSWE) that will allow students at the graduate level, in harmony with their specialization, to:

1. Demonstrate ethical and professional behavior.
2. Engage diversity and difference in practice.
3. Advance human rights and social, economic, and environmental justice.
4. Engage in practice-informed research and research-informed practice.
5. Engage in policy practice.
6. Engage with individuals, families, groups, organizations, and communities.
7. Assess individuals, families, groups, organizations, and communities.
8. Intervene with individuals, families, groups,

organizations, and communities.

9. Evaluate practice with individuals, families, groups, organizations, and communities.

### **The Master in Social Work has two study Programs:**

**Regular Program** - This curricular program is aimed at students with a bachelor's degree in various specializations, including those that come from programs not accredited by the CSWE. The first 24 credits consist of courses of the fundamentals of the practice of General Social Work. The other 33 credits are specialization courses selected by the student. Fifty-seven (57) credits are required to complete the degree.

**Advanced Program** - This curricular program is aimed at students who hold a bachelor's degree accredited by the CSWE and have completed their degree with 3.00 or more in majors courses. The student is admitted to the specialization of choice and 33 credits are required to complete the program.

### **The Master in Social Work consists of two specializations: Administration in Social Work and Clinical Social Work.**

The specialization in Administration in Social Work prepares advanced level practitioners with the knowledge, skills and values that enable them to perform professionally in human service organizations that offer family services. It includes the areas of management, administration, supervision, development, and analysis of social policy, and the planning, development, implementation, and evaluation of programs.

The specialization in Clinical Social Work prepares advanced level social workers with the knowledge, skills, and the values to intervene clinically with people, families and groups. Models of intervention are critically examined within their sociocultural context. It also includes professional practice from a perspective of strengths and empowerment integrated with the biopsychosocial approach.

### **Admission Requirements**

In addition to meeting the admission requirements for master's programs established in the section "Requirements for Admission to Master's Programs" of this catalog, students must present the results of a standardized admissions test for graduate studies. The test score will be used in the admission formula to the Program. Submission of a negative certificate of Criminal Record and a negative certificate of the Sex Offender Registry (Law No. 300, of

1999) are also required. Students must also meet the following requirements according to the specialization of interest.

### **Regular Program Admission Requirements**

Approval of the following courses at the undergraduate level or equivalents with a minimum grade of C:

Statistical Methods course	3 credits
General Sociology course	3 credits

### **Advanced Program Admission Requirements**

Have an academic grade point average of 3.00 or more in the Social Work specialization courses at the Undergraduate level.

Students with a Bachelor in Social Work from a program accredited by the CSWE and whose average in major courses are between 2.50 and 2.99, may be admitted to the Advanced Program under conditional admission to take the major course or courses at the undergraduate level necessary to reach 3.00. This average must be reached in or before the second academic term.

### **Admission of Transfer Students**

Students who request admission by transfer from other master's programs must meet the requirements of the current Graduate Catalog and the specific requirements of the Program. Validation of transfer credits requires that:

1. 51% or more of the credits be taken in the desired program of transfer.
2. Credits validated must be from master's programs accredited by the CSWE.
3. Courses validated must have been approved with A or B.

### **Admission of Transfer Students**

Students of a master's program in Social Work of the Inter-American University who request transfer to the Metropolitan Campus Program must meet the requirements of the current Graduate Catalog and the specific requirements of the Program. Transfer of credits requires that:

1. 51% or more of the credits be taken in the desired program of transfer.
2. Courses validated must have been approved with A or B.

**Graduation Requirements**

To complete the Master in Social Work (MSW) in any of the specializations, the student must pass the comprehensive exam or the integrative seminar.

1. The comprehensive exam will be offered twice a year. A minimum score of 75% is required in each of the two parts to pass the comprehensive exam.
2. The integrative seminar will be offered during any academic term of the Program and will be approved with a minimum score of 75%.

**Course Validation Policy**

The master's program does not validate work experience, life experiences or current jobs as substitutes for practicums or courses that are required in the study sequences.

**Requirements for the Master of Social Work**

Regular Program

Core Course Requirements (Fundamentals)	24 credits
Specialization Requirements	33 credits
<b>Total</b>	<b>57 credits</b>

Advanced Program

Specialization Requirements	33 credits
<b>Total</b>	<b>33 credits</b>

Core Requirements - 24 credits

SOWO 5011	HUMAN BEHAVIOR IN THE SOCIAL ENVIRONMENT I	3
SOWO 5012	HUMAN BEHAVIOR IN THE SOCIAL ENVIRONMENT II	3
SOWO 5013	FUNDAMENTALS OF PROFESSIONAL PRACTICE I	3
SOWO 5014	FUNDAMENTALS OF PROFESSIONAL PRACTICE II	3
SOWO 5015	SOCIAL POLICY AND SOCIAL WELFARE SYSTEMS	3
SOWO 5016	RESEARCH IN SOCIAL WORK	3
SOWO 5923	PRACTICUM I	3
SOWO 5924	PRACTICUM II	3

*The student may choose one of the two specializations offered by the Master in Social Work: Administration in Social Work or Clinical Social Work.*

Specialization Requirements - 33 credits

Courses listed under each specialization.

**Specialization in Administration in Social Work**

**Requirements for the Specialization in Administration in Social Work - 33 credits**

Required Courses

SOWO 6029	DIVERSITY AND OPPRESSION	3
SOWO 6036	PROGRAM PLANNING AND EVALUATION	3
SOWO 6037	ADMINISTRATION IN SOCIAL WORK	3
SOWO 6038	ADMINISTRATION OF HUMAN RESOURCES	3
SOWO 6039	GRANT PROPOSALS FOR FUNDING	3
SOWO 6042	SOCIAL WORK WITH ORGANIZATIONAL AND COMMUNITY GROUPS	3
SOWO 6043	ADMINISTRATION OF NON-GOVERNMENTAL ORGANIZATIONS	3
SOWO 6052	SUPERVISION IN THE ORGANIZATIONAL CONTEXT	3
SOWO 6924	PRACTICUM III: ADMINISTRATION IN SOCIAL WORK	3
SOWO 6925	PRACTICUM IV: ADMINISTRATION IN SOCIAL WORK	3
SOWO 6926	PRACTICUM V: ADMINISTRATION IN SOCIAL WORK	3

**Specialization in Clinical Social Work**

**Requirements for the Specialization in Clinical Social Work - 33 credits**

Required Courses

SOWO 6029	DIVERSITY AND OPPRESSION	3
SOWO 6064	MENTAL HEALTH AND SOCIAL WORK	3
SOWO 6072	CLINICAL SUPERVISION	3
SOWO 6131	FAMILY INTERVENTION MODELS I	3

SOWO 6132	FAMILY INTERVENTION MODELS II	3	communication.
SOWO 6143	EVALUATION OF EFFECTIVENESS OF PROFESSIONAL PRACTICE	3	3. the principles and methods of identification of communication and swallowing disorders.
SOWO 6161	MODELS OF SOCIAL GROUP WORK I	3	4. the principles and methods of prevention of communication and swallowing disorders.
SOWO 6162	MODELS OF SOCIAL GROUP WORK II	3	5. standards of ethical conduct.
SOWO 6921	PRACTICUM III: CLINICAL SOCIAL WORK	3	6. the processes used in the investigation, integrating the principles of clinical practice based on evidence.
SOWO 6922	PRACTICUM IV: CLINICAL SOCIAL WORK	3	7. contemporary professional and multicultural affairs.
SOWO 6923	PRACTICUM V: CLINICAL SOCIAL WORK	3	8. the processes of clinical education and supervision.

## Speech-Language Pathology (MS)

The Metropolitan Campus is authorized to offer this Program.

### Mission

The mission of the Speech and Language Pathology program is to prepare speech and language pathologists competent and committed to scientific work, professional ethics, service and social commitment to provide excellent prevention, diagnosis and treatment services to children and adults with speech, language and swallow disorders in order to improve their quality of life.

### Vision

The Speech and Language Pathology program aspires to be recognized as a program of excellence for its contribution in the preparation of speech and language pathologists through the provision of an academic and clinical program based on the latest trends in the profession.

### Competencies Profile of Graduates

#### Knowledge

Demonstrate knowledge of:

1. the basic processes of human communication and swallowing that include the biological, neurological, acoustic, psychological and developmental bases, as well as linguistic and cultural ones.
2. the nature of the communication and swallowing processes in the areas of articulation, fluency, voice and resonance, receptive and expressive language, hearing, swallowing, cognitive and social aspects of communication and the augmentative and alternative

#### Skills

1. Evaluate speech, language and swallowing disorders and differences throughout the life cycle associated with articulation, fluency, voice and resonance, receptive and expressive language, hearing, swallowing, cognitive and social aspects of communication, as well as augmentative and alternative communication needs.
2. Intervene with people who have communication and swallowing disorders and differences throughout the life cycle associated with articulation, fluency, voice and resonance, receptive and expressive language, hearing, swallowing, cognitive and social aspects of communication, as well as augmentative and alternative communication.
3. Communicate clinical information in written, spoken and nonverbal form to the people who are provided services, as well as their family, caregivers and any other person involved, in order to ensure the best quality of care.
4. Apply knowledge of the interdependence of speech, language and hearing in clinical processes.
5. Carry out interventions with the expected professionalism for a specialist in the field of speech and language pathology.
6. Apply interpersonal qualities in counseling to people with communication and swallowing disorders, and their families, as well as in collaboration with other professionals.
7. Integrate clinical and supervisory knowledge in clinical practice.



8. Self-assess the effectiveness of clinical intervention.

2. Take the Examination PRAXIS I.

**Attitudes**

1. Demonstrate ethical behavior when exercising the functions inherent to the professional practice.
2. Assess the need for continuous learning through life and professional development.
3. Show sensitivity and appreciation for cultural, social and development differences of the various populations that are offered services.

**Requirements for the Master of Science in Speech-Language Pathology**

Core Course Requirements	19 credits
Specialization Course Requirements	40 credits
<b>Total</b>	<b>59 credits</b>

**Admission Requirements**

To be admitted to the Master of Science in Speech-Language Pathology, the candidate must meet the general admission requirements for a master’s degree, established by Inter American University of Puerto Rico in the Graduate Catalog and must meet the following specific program requirements:

1. Hold a bachelor’s degree from an accredited University with an academic index of 3.0 or above.
2. Submit evidence of having approved the following courses or equivalents with a minimum grade of B:
  - a. Biological Sciences
  - b. Physical Sciences
  - c. Social Sciences
  - d. Statistics
3. Submit two letters of recommendation, one of them from a faculty member.
4. Have obtained a minimum score of 400 points in EXADEP test or its equivalent.
5. Write an essay related to their interest in the field of Speech-Language Pathology.
6. Submit a Professional Curriculum Vitae.
7. Have an admission interview with a faculty committee and be recommended for admission.

Core Course Requirements - 19 credits

SPLP 5100	ANATOMY, PHYSIOLOGY AND NEUROLOGY OF THE MECHANISMS OF SPEECH, LANGUAGE AND HEARING	3
SPLP 5105	FOUNDATIONS OF AUDIOLOGY	3
SPLP 5110	NORMAL DEVELOPMENT OF SPEECH AND LANGUAGE	3
SPLP 5120	SEMINAR: CONTEMPORARY TOPICS AND MULTICULTURAL AND METHODOLOGIC CONSIDERATIONS	1
SPLP 5215	PROFESSIONAL ETHICS IN SPEECH-LANGUAGE PATHOLOGY	3
SPLP 6000	INTRODUCTION TO AUDITORY HABILITATION/REHABILITATION	3
SPLP 6535	SUPERVISION AND ADMINISTRATION IN SERVICES OF SPEECH AND LANGUAGE PATHOLOGY	3

Specialization Course Requirements - 40 credits

SPLP 6100	ARTICULATION AND PHONOLOGY DISORDERS	3
SPLP 6101	LANGUAGE DISORDERS IN CHILDREN I	3
SPLP 6102	LANGUAGE DISORDERS IN CHILDREN II	3
SPLP 6210	FLUENCY DISORDERS	3
SPLP 6215	VOICE DISORDERS	3
SPLP 6320	DIAGNOSTIC METHODS IN SPEECH-LANGUAGE PATHOLOGY	3
SPLP 6325	ACQUIRED LANGUAGE DISORDERS	3
SPLP 6405	AUGMENTATIVE AND ALTERNATE AID FOR COMMUNICATION	3
SPLP 6430	DYSPHAGIA IN CHILDREN	3

**Graduation Requirements**

The student of the Master of Science in Speech-Language Pathology must:

1. Complete and pass the 59 credits of the Program with a minimum grade of B.

SPLP 6435	AND ADULTS MOTOR DISORDERS IN SPEECH	2
SPLP 6440	WRITTEN LANGUAGE DISORDERS	2
SPLP 6910	CLINICAL PRACTICE I	3
SPLP 6911	CLINICAL PRACTICE II	4
SPLP 6970	INTEGRATION SEMINAR	2

various challenges and needs in the management of marketing products and services.

3. Demonstrate continuous commitment to their professional development.

### Admission Requirements

1. Comply with the requirements for admission in the current Graduate Catalog.
2. Hold a bachelor's degree with a minimum of 9 undergraduate credits in marketing, approved with C or higher.

## Strategic Marketing (MS)

The Master in Science of Strategic Marketing is aimed at professionals, administrators, managers, directors and owners of businesses and would-be entrepreneurs interested in developing and implementing strategies that respond to changes in local and global markets.

The Ponce Campus is authorized to offer this program through online education.

### Competencies Profile of Graduates

The Program is designed to develop the competencies that will enable students to:

#### Knowledge

Demonstrate knowledge and understanding of:

1. the theoretical and practical foundations of the strategic planning of marketing.
2. the aspects necessary to develop strategic marketing plans that generate value and growth.
3. the marketing strategies that complement the corporate strategy.
4. the new challenges and paradigms of a Manager in the marketing environment.

#### Skills

1. Develop strategic plans for products and services.
2. Interpret indicators of effectiveness of strategies in the area of marketing.
3. Apply theories, principles and models of strategic planning in marketing efforts.

#### Attitudes

1. Demonstrate the importance of the ethical principles of research.
2. Value technology as a useful means to address the

### Requirements for a Master in Science of Strategic Marketing (MS)

Specialization Requirements - 36 credits

SMKT 6005	MARKETING LAWS	3
SMKT 6010	STRATEGIC COMMUNICATION and CREATIVITY	3
SMKT 6020	BRAND STRATEGIES	3
SMKT 6030	STRATEGIES FOR PRODUCTS AND SERVICES	3
SMKT 6040	ECONOMICAL AND FINANCIAL STRATEGIES IN MARKETING	3
SMKT 6050	SALES STRATEGIES	3
SMKT 6060	IMPLEMENTATION AND ASSESSMENT STRATEGIES	3
SMKT 6070	STRATEGIES OF DISTRIBUTION AND LOGISTICS	3
SMKT 6971	PROJECT: DESIGN OF A STRATEGIC PLAN	3
BADM 5090	BUSINESS MARKETING	3
BADM 6160	MARKETING RESEARCH	3
BADM 6350	STRATEGIC MARKETING	3

## Teaching of English as a Second Language (MA)

The of Master of Arts in Teaching English as Second Language, also known as TESOL, aims to prepare professionals in applied linguistics and literature in English as a second or other language. The objectives of the program are:

1. Prepare educators at the preschool, elementary, secondary and postsecondary levels to be able to apply techniques and strategies consistent with the latest trends in the teaching of linguistics, literature

and education in TESL to the teaching-learning process of English As a second or other language.

2. Provide students of this master’s degree the academic preparation to continue doctoral studies and to continue innovating research projects in the field of teaching English as a second or other language and in related disciplines.
3. Prepare individuals interested in their continuous professional development and lifelong learning.

The Metropolitan and San Germán campuses are authorized to offer this Program.

### Competencies Profile of Graduates

The Program is designed to develop the skills that allow the student:

#### Knowledge

Demonstrate knowledge and understanding of:

1. The fundamental concepts and descriptive techniques of the core areas of linguistics.
2. Application processes in teaching English as a second or other language in light of the most recent findings about the nature of language, learning and language teaching.
3. The tools used to prepare, apply, adapt, and evaluate materials based on the techniques used to develop language skills in elementary, secondary, postsecondary or adult students who are learning English as a foreign language or as a second language.
4. Current theories on the measurement of language skills, linguistic measurement and the effect of the exam format on the teaching-learning process.

#### Skills

1. Integrate the phonological, structural and functional aspects of the use of English.
2. Recognize the concepts of reading and writing applied to English for speakers of other languages.
3. Apply advanced writing and composition skills for the preparation of professional and research projects.
4. Analyze the theories and methods related to the teaching of writing and its practical applications in the study of English for speakers of other languages.

5. Establish the necessary factors for reading comprehension in a second or other language by studying the vernacular.
6. Develop strategies on how to teach literature as part of teaching English.
7. Design research papers on topics related to teaching English.
8. Present the results of your research orally and in writing.

#### Attitudes

1. Value the importance of applying logical and critical thinking in the teaching, evaluation and supervision of English programs for speakers of other languages.
2. Show commitment to learning and continue to develop professionally.
3. Respect and accept cultural and linguistic differences by studying English.
4. Demonstrate openness and acceptance of the new technologies used in the field of teaching English.
5. Demonstrate a positive and empathetic attitude towards students who demonstrate greater difficulty during the process of acquiring English.
6. Value the importance of English as a means of global communication and as a tool in the world of work.

#### Admission Requirements

Candidates for admission to the Master in TESOL must meet all admission requirements for entering master’s degree programs established in the section “Admission Requirements for Master’s Programs” of the Graduate Catalog, except requirement 3: *Demonstrate, through an examination...* In addition, candidates must have a phonological and structural mastery of English that they will demonstrate by writing an essay and by an interview with the Department Director or his representative.

#### Requirements for the Master of Arts in Teaching of English as a Second Language

Specialization Requirements	30 credits
Prescribed Distributive Requirements	6 credits
Total	*36-39 credits

Specialization Requirements - 30 credits  
ENGL 5040 ENGLISH PHONOLOGY

ENGL 5050	SYNTAX AND MORPHOLOGY OF ENGLISH	3	*Students who take the ENGL 6970 course (Integrative Seminar CAPSTONE) or the ENGL 6992_ course (Research Project in MA-TESOL) to meet the Graduation Requirements established in this Graduate Catalog, will complete the Program with 39 credits.
ENGL 5220	ACADEMIC WRITING	3	
ENGL 5240	TEACHING WRITING IN THE CLASSROOM TO STUDENTS OF ENGLISH (ELLS)	3	
ENGL 6090	READING IN A SECOND LANGUAGE	3	
ENGL 6100	THEORIES AND PRINCIPLES OF TESOL	3	
ENGL 6113	MATERIALS AND TECHNIQUES FOR TEACHING ENGLISH TO STUDENTS (ELLS)	3	
ENGL 6170	ASSESSMENT AND EVALUATION OF LINGUISTIC ABILITIES	3	
ENGL 6530	TESOL RESEARCH	3	
ENGL ____	English - Students must choose a course in the area of literature in accord with their interests.	3	
<i>ENGL ____: Students must choose a course in the area of literature in accord with their interests.</i>			
Prescribed Distributive Requirements - 6 credits			
Students will select six (6) credits from the following courses:			
ENGL 5030	PRINCIPLES OF LINGUISTICS	3	Students who take compression tests to meet the Graduation Requirements set forth in this Graduate Catalog will complete the Program with 36 credits. The MA-TESOL Program does not offer the Creative Work modality as an option to meet the Graduation Requirements.
ENGL 5110	TEACHING OF LITERATURE IN ELLS CLASS	3	
ENGL 5210	DRAMATIC LITERATURE	3	
ENGL 5230	LITERATURE FOR YOUNG READERS	3	
ENGL 5320	SOCIOLINGUISTICS	3	
ENGL 5330	ACQUISITION AND LEARNING OF A FIRST AND A SECOND LANGUAGES	3	
ENGL 6180	USE OF TECHNOLOGY IN TESOL	3	
ENGL 6310	CONTEMPORARY LITERATURE	3	
ENGL 6350	REPRESENTATIVE WORKS OF ENGLISH LITERATURE	3	
ENGL 6600	SUPERVISION IN TESOL	3	
ENGL 6610	CURRICULUM DEVELOPMENT IN TESOL	3	<b>Technology and Administration of Data Banks (Post-Bachelor Professional Certificate)</b>
ENGL ____	Special Topics	3	

## Technology and Administration of Data Banks (Post-Bachelor Professional Certificate)

The Professional Certificate in Technology and Administration of Data Banks strives to prepare computer specialists that have the necessary skills to plan, develop, manage, tune and troubleshoot data banks mainly related to the client-server platform in an open environment.

The Program, in addition to permitting students to obtain a Professional Certificate, is directed to the formation of specialists in programming, application and integration of data banks in information systems, with an open approach. This is done with a scientific perspective regarding programming oriented to the object and responding to the new technologies in the computing field.

The knowledge and ability acquired through this Program will allow graduates to develop new information systems and knowledge that enterprises need today. The open focus applied in this Program keeps students from restricting themselves to an owned or closed computer system architecture, and orients them towards the prevailing public standards, in which networks offer inter-connections and inter-operations.

The Program consists of two stages: the first 21 credits are focused on studying data banks, and lead to the Professional Certificate in Technology and Administration of Data Banks.

Students may continue their studies to obtain a Master in Open Information Computer Systems by taking 18 additional credits, 9 of which must be prescribed distributive courses.

The Metropolitan Campus is authorized to offer this Program.

**Requirements for the Technology and Administration of Data Banks (Professional Certificate) - 21 credits**

Required Courses

COIS 5100	RELATIONAL DATA BANKS	3
COIS 5120	CLIENT-SERVER NETWORKS AND ARCHITECTURE	3
COIS 5130	DESIGN METHODOLOGY AND ADVANCED TOOLS	3
COIS 5200	APPLICATION OF PROGRAMMING LANGUAGES IN DATABASES	3
COIS 5210	DATABASE MANAGEMENT	3
COIS 5400	RAPID APPLICATION DEVELOPMENT	3
COIS 6200	SYSTEM TUNING, TROUBLESHOOTING, CODIFICATION, SECURITY AND QUALITY	3

7. Analyze the influence of the different theological models in the Latin American context.
8. Create a critical interreligious and interdisciplinary dialog.
9. Apply knowledge to decision making processes in matters of an ethical nature.
10. Stimulate reflection of the Christian faith and its relation to the spreading of values and improvement of society.

The Metropolitan Campus is authorized to offer this Program.

**Admission Requirements**

Candidates for admission must:

1. Hold a Master in Religion, Master in Theology, Master in Divinity or its equivalent, or in related areas from an accredited university or from an accredited institution of graduate studies, with a grade point average of no less than 3.00. Candidates that have a master’s degree in other fields, who have approved a minimum of 15 credits at this level in Religion, will also be considered.
2. Complete the admission form, which will include an essay about their intellectual and professional career, highlighting the factors that made the candidate apply to the Program. It should also express the candidate’s academic, vocational, and professional purposes.
3. Have a full knowledge of the Spanish language and competency in the English language.
4. Have taken one of the following examinations: Graduate Record Examination (GRE), Miller Analogy Test or Examen de Admisión a Estudios de Posgrado (EXADEP) [Graduate Studies Aptitude Test] within the last three years of the date admission is requested. The Program’s Admission Committee will establish the acceptable minimum score levels for the degree.
5. Have taken the test for the Teaching of English as a Foreign Language (TOEFL) - Required for students whose first and second language is not English.
6. Have passed a statistics course.
7. Present three (3) letters of recommendation, preferably from Faculty members that can properly comment on their academic, intellectual and personal

**Theology (PhD)**

The main purpose of the Program is to prepare specialists with advanced academic studies in the fields of Christian Education and Pastoral Theology. These studies train the graduates to contribute as researchers and instructors of the Christian faith in the spiritual, social and academic areas, in Puerto Rico, as well as in the Caribbean, Latin America and Hispanic communities in the United States. From an interdisciplinary and ecumenical approach, it fosters thought about theology and its relevance in contemporary society. The Program emphasizes the analysis of the theological foundations of Christianity and the essential role that they play in the formation of ethical values of human beings.

The student who completes the Program successfully will be able to:

1. Evaluate the religious phenomenon in humans at the individual and community levels.
2. Explain the concepts of Christian theology.
3. Critically evaluate the history and development of theology.
4. Justify and interpret the relevance of theological work in contemporary society.
5. Integrate research skills to theological thought.
6. Propose new perspective on the existing theological models in order to contribute to the knowledge of the discipline.

ability to develop doctoral studies.

8. Submit an essay, term paper, or critical exegesis (of no more than thirty pages) that shows competency in master's studies. Preferably, the work must be related to the major that is being requested at a doctoral level.
9. Have an interview with the Admission Committee of the Doctoral of Philosophy Program in Theology, and be favorably recommended by it.

Special cases of students who request admission by transfer from a foreign accredited university or institution of graduate studies will be evaluated according to their individual merits.

### Academic Progress Requirements

In the Doctoral Program the student will progress through the following phases:

1. Pass a reading examination in a third modern language after completing 24 credits of the Program.
2. Comply with the following requirements:
  - a. Pass all courses with a minimum of B.
  - b. Pass the comprehensive examination. Students must pass this test after having passed at least 30 credits (9 credits in core courses and 21 credits in courses related to their specialization).
  - c. Pass the thesis proposal.
3. Comply with all the preparation and presentation requirements of the dissertation.
4. Complete the degree in a period of seven years. Annual extensions can be awarded up to a maximum of three. These will be awarded based only on significant progress and work demonstrated by the student during the year that is awarded.

At the beginning of the first academic term of studies, the Director of the Doctoral Program will assign the student a faculty member that will temporarily serve as an academic advisor. At the end of the first academic term the advisor that will work with the student during the rest of the study program will be assigned. The advisor will be responsible of guiding the student on the courses that should be taken, as well as other aspects of the Program until the time of the comprehensive examination. At the end of the second academic term of the first year, the advisor will evaluate the work of the student during that period, and will give a

written copy of the evaluation to the student and to the Director of the Doctoral Program.

It is expected that from the beginning of the first year of studies the student explore topics from which the doctoral dissertation may be developed.

To be considered a Doctoral Candidate, the student must have passed all the courses of the Program, except THEO 8994 – Doctoral Dissertation. An exception to the rule could be made with a course that the student is taking the academic term when the comprehensive examination is requested.

Having being admitted to the Doctoral Program does not guarantee admission to the degree candidacy. During the period prior to the request of admission to degree candidacy, the student should consult with his advisor to choose the topic of the dissertation. Once the topic is determined with the approval of the advisor, the student will prepare the proposal for research and will submit it to the Director of the Doctoral Program. If the proposal is accepted, the Director will officially inform the student that he has been admitted as a candidate for the degree.

The Director of the Doctoral Program, with the prior agreement or the degree candidate, will name three faculty members to form the candidate's Dissertation Committee, one of who will be designated as the candidate's Dissertation Director. This faculty member will also chair the committee. The Director of the Doctoral Program will make available to this committee the candidate's file which contains a record of the academic work done by the candidate to date, the results achieved on the comprehensive examination, the preliminary research proposal and any other documents academically relevant to the work of the candidate. The candidate's Dissertation Committee will thenceforth be responsible for advising and directing the student until the Dissertation is completed. Its defense will be through an oral examination before the Committee, which will be integrated by the three faculty members appointed by the Director of the Doctoral Program. The Committee can also invite other qualified persons to participate during the defense of the dissertation.

The Committee must officially approve the dissertation before this requirement can be completed. The student must comply with all the requirements to obtain the degree in a period of seven (7) years of having started in the Program. After those seven (7) years, an annual extension may be awarded up to a maximum of three. The extensions will be awarded only based on the significant progress and work shown by the student during the year prior requesting

the extension.

All candidates must be completely fluent in the Spanish language. They must also have sufficient competency in English to be able to carry out complex and long readings in this language. In addition, candidates must pass an examination certifying that they have the necessary reading skills in a third modern language. This examination must be passed after completing 24 credits of the Program. The student may not take more than one course per academic term until this requirement of the third modern language is met.

**Graduation Requirements**

1. Pass all the courses of the Program with a minimum grade of B.
2. Pass the comprehensive examination.
3. Show knowledge of a third modern language.
4. Successfully complete, present, and defend the doctoral dissertation.

**Requirements for the Doctor of Philosophy Program in Theology**

Core Course Requirements	18 credits
Prescribed Distributive Requirements	12 credits
Operational Requirements	9 credits
Elective Courses	6 credits
<b>Total</b>	<b>45 credits</b>

Core Course Requirements - 18 credits		
THEO 7000	FUNDAMENTAL THEMES OF CHRISTIAN THEOLOGY	3
THEO 7010	BIBLICAL STUDIES	3
THEO 7020	CHRISTIAN ETHICAL PERSPECTIVES	3
THEO 7030	HISTORY OF CHRISTIANITY	3
THEO 7190	CLASSIC EXPONENTS OF CHRISTIAN SPIRITUALITY	3
THEO 8020	HUMAN SUFFERING AND THE PROBLEM OF EVIL AND LOVE	3

**Prescribed Distributive Requirements - 12 credits**

Select 12 credits from the following courses in the area of dissertation.

<b>Christian Thought</b>		
THEO 7016	EVANGELIZATION IN THE CARIBBEAN	3
THEO 7017	THEOLOGY: COLONIAL AMERICA	3
THEO 7019	THEOLOGY: CONTEMPORARY AMERICA	3
THEO 7220	NEW RELIGIOUS MOVEMENTS IN THE AMERICAS	3
THEO 7250	SPANISH-CARIBBEAN THEOLOGICAL METHODS	3
THEO 8000	MISSION THEOLOGY	3

<b>Practical Theology</b>		
THEO 7100	CONTEMPORARY THEORIES OF CHRISTIAN THEOLOGY	3
THEO 7110	THEOLOGICAL AND PHILOSOPHICAL FOUNDATIONS OF EDUCATIONAL MINISTRY	3
THEO 7260	THEOLOGY OF PASTORAL ACTION	3
THEO 7270	CHRISTOLOGY AND PASTORAL ACTION	3
THEO 7290	ECCLESIOLOGY AND PASTORAL ACTION	3
THEO 8010	THEORY OF THE THEOLOGICAL METHOD	3

<b>Operational Courses - 9 credits</b>		
EDUC 7060	Quantitative Research	3
	Or	
HIST 8970	HISTORICAL RESEARCH METHODOLOGY	3
THEO 8993	DISSERTATION PROPOSAL	3
THEO 8994	DISSERTATION	3

**University Teaching (MA)**

The Master of Arts in University Teaching is directed towards preparing professionals to perform as educators in higher education. This degree presents an academic offering in harmony with the educational needs of educators at the higher education level in different university contexts in Latin America. The curricular design comprises four (4) fundamental areas.

1. Philosophical, Historical and Social Foundations of Universities
2. Theories and Methodologies for Educational Practice

3. Research

4. Technology

Students registered in the Program must have access to a computer with connection to the Internet. They must also have basic knowledge of computer handling and be able to work with word processing and electronic presentation applications and navigate the Internet.

Students desiring to enter the Master of Arts in University Teaching may replace the admission tests stipulated in the Graduate Catalog with an equivalent test.

The Metropolitan Campus is authorized to offer this Program through online education.

**Requirements for the Master of Arts in University Teaching**

Philosophical, Historical and Social Foundations of Universities Requirements	6	credits
Theories and Methodologies for Educational Practice Requirements	9	credits
Research Requirements	9	credits
Technology Requirements	6	credits
<b>Total</b>	<b>30</b>	<b>credits</b>

Philosophical, Historical and Social Foundations of Universities Requirements - 6 credits

EDUC 5200	DEVELOPMENT AND FUTURE OF HIGHER EDUCATION	3
EDUC 6605	CURRENT PROBLEMS AND CONTROVERSIES OF HIGHER EDUCATION IN LATIN AMERICA	3

Theories and Methodologies for the Educational Practice Requirements - 9 credits

EDUC 6024	EDUCATIONAL MEASUREMENTS AND EVALUATION	3
EDUC 6610	LEARNING THEORIES AND TEACHING MODELS IN HIGHER EDUCATION	3
EDUC 6620	PLANNING AND EDUCATIONAL DESIGN IN HIGHER EDUCATION	3

Research Requirements - 9 credits

EDUC 5111	EDUCATIONAL RESEARCH I	3
EDUC 5112	EDUCATIONAL RESEARCH II	3
EDUC 697A	INTEGRATION SEMINAR	3

Technology Requirements - 6 credits

EDUC 6601	VIRTUAL LEARNING COMMUNITIES IN HIGHER EDUCATION: EXPERIENCE I	3
EDUC 6602	VIRTUAL LEARNING COMMUNITIES IN HIGHER EDUCATION: EXPERIENCE II	3
EDUC 6603	VIRTUAL LEARNING COMMUNITIES IN HIGHER EDUCATION: EXPERIENCE III	3
EDUC 6615	EDUCATIONAL TECHNOLOGY IN HIGHER EDUCATION	

**Wound and Skin Care (Post Bachelor Professional Certificate)**

The Professional Certificate in Wound and Skin Care focuses on the identification, prevention, estimation, management, evaluation, rehabilitation, and skin lesion education of the patient, family, and interdisciplinary team. Includes caring of wounds that affect tissue integrity in different population groups, including, but not limited to pressure, vascular, peripheral and diabetic ulcers; as well as conditions resulting from incontinence, surgical procedures and traumas, among others. Application of ethical and legal principles during intervention. Integration of evidence-based practice during skin and wound care. Requires 180 hours of theory and 180 hours of practice.

The Arcibo Campus is authorized to offer this Certificate.

**Competency Profile of Graduates**

The certificate is designed to develop the competencies that allow the student to:

**Knowledge**

Demonstrate knowledge and understanding of:

1. the anatomy and physiology of the skin.
2. estimation, diagnosis, management and evaluation of



wound and skin care.

- evidence-based practice as a resource for the care of skin lesions.

**Skills**

- Apply concepts and skills related to wound care and prevention, management and risk reduction.
- Apply skills of estimation, diagnosis, patient management, education, and care management of skin alterations.
- Evaluate the patient’s response to skin lesion problems.
- Design protocols and guidelines for wound and skin care.
- Provide health personnel with wound and skin care competency education.

**Attitudes**

- Value teamwork as an effective means during treatment of a patient with skin lesions.
- Encourage patient safety in the various health care settings.
- Use ethical and legal principles during an intervention.

**Admission Requirements**

- Comply with the admission regulations established in the Graduate Catalog.
- Hold a Bachelor’s of Science in Nursing from an accredited institution.
- Hold a permanent and current nursing license.
- Submit the following original updated documents:
  - Permanent license and registration issued by the Puerto Rico Board of Nursing
  - Current nursing registration
  - Negative certificate of criminal background
  - Health certificate
  - Certificate of vaccination against hepatitis B, influenza and chicken pox

f. Respirators N-95 certification

**Graduation Requirements**

- The student will pass the certificate in wound and skin care courses (Professional Certificate) with a minimum B grade.
- The student will complete the certificate in wound and skin care (Professional Certificate) with a minimum 3:00 point grade average.
- Comply with the requirements stated in the Graduate Catalog of the University.

**Requirements for the Professional Certificate in Wound and Skin Care**

Professional Certificate Requirements - 16 credits		
WSCN 5000	PRINCIPLES OF WOUND AND SKIN CARE	3
WSCN 5010	ETIOLOGY OF SKIN LESIONS	3
WSCN 5020	MANAGEMENT AND ADMINISTRATION OF TREATMENT: BIOPHYSIOLOGICAL AND BIOPHYSICAL AGENTS	3
WSCN 5030	MANAGEMENT OF WOUND AND SKIN CARE IN SPECIAL PATIENT POPULATIONS	3
WSCN 6911	PRACTICUM IN WOUND AND SKIN CARE I	2
WSCN 6912	PRACTICUM IN WOUND AND SKIN CARE II	2

# Courses

## ACCT - Accounting

### **ACCT 5101 - FINANCIAL ACCOUNTING (3)**

Analysis and application of the theory of financial accounting at an advanced level. Preparation of financial reports for corporations and partnerships, consolidation of financial statements, mergers and acquisitions, taxes, issuance and valuation of stocks and bonds, and financial report analysis and interpretation. Discussion and analysis of current topics developing within the accounting profession.

Prerequisite: ACCT 2252.

### **ACCT 6110 - ACCOUNTING FOR NON-PROFIT ORGANIZATIONS (3)**

Application of accounting norms that apply to non-profit organizations. Emphasis on the accounting principles applicable to: government, hospitals, universities, health organizations, and social welfare, among others.

### **ACCT 6120 - COMMERCIAL LAW FOR ACCOUNTANTS (3)**

Study of the United States Uniform Code of Commerce. Emphasis on contractual law, commercial laws, labor laws, ethical-legal responsibility of Certified Public Accountants and other laws related to the practice of the profession.

### **ACCT 6220 - BUDGET PLANNING AND CONTROL (3)**

Study of the process of budget preparation and use as a tool for managerial decision making. Includes aspects related to the budget, from its initial stages to the control process once it is implemented.

Prerequisite: BADM 5040.

### **ACCT 6305 - ADVANCED AND CURRENT TOPICS IN AUDIT (3)**

Analysis of the activities in the planning and execution of an audit, in accordance with the principles and norms of the American Institute of Authorized Public Accountants (AICPA, according to its acronym in English). Importance of the study of the internal control system of a company; risk determination; determination of the sample and interpretation of it. Discussion of ethical values and international standards. Use of technology oriented to audit issues.

Prerequisite: BADM 6300.

### **ACCT 6315 - ADVANCED AND CURRENT TOPICS IN FINANCIAL ACCOUNTING (3)**

Analysis of business combinations and consolidated financial statements. Study and research of advanced and complex accounting concepts for commercial companies and for government and non-profit entities. Discussion of the concepts of ethics in the profession in international accounting. Use of technology oriented to financial accounting issues.

Prerequisite: BADM 6310.

### **ACCT 6325 - ADVANCED AND CURRENT TOPICS IN FEDERAL CONTRIBUTIONS (3)**

Analysis of advanced federal tax issues related to nonprofit entities, S corporations, general partnerships, limited liability companies, limited liability corporations, trusts, inheritance taxes and donations. Evaluation of the transfer of prices between related entities. Discussion of ethical values. Use of technology oriented to issues related to federal contributions.

Prerequisite: BADM 6320.

### **ACCT 6375 - UNITED STATES UNIFORM COMMERCIAL CODE (3)**

Analysis of the principles, concepts, elements and legal figures that form or create contractual obligations under the Federal Uniform Commercial Code. Examination of the different ways of resolving a contractual obligation and the laws and regulations related to the sale and distribution of negotiable instruments. Discussion of the legal responsibility of Authorized Public Accountants and of ethical values in the profession. Use of the corresponding technology.

Prerequisite: BADM 6310.

### **ACCT 6410 - INTERNATIONAL ACCOUNTING (3)**

Analysis of the main topics in international accounting such as national accounting systems and their effect on financial statements, decision making, the development of international accounting principles, the conversion of foreign currency, accounting in time of inflation, conversion prices and their implication in taxes. Comparison and analysis of accounting of several countries, discussion of coordination of accounting, with

emphasis on logic, profits, ethical practices, consequences and problems that this coordination entails.

### **ACCT 6420 - INTERNATIONAL FINANCIAL STATEMENTS AND THEIR ANALYSIS (3)**

View of international accounting in the context of multinational company management. Application of a practical analysis of international financial statements and analysis in special situations. Definition and discussion of the conversion of financial statements to the local currency, the accounting and economic risk in foreign currency transactions and accounting for protection strategies.

### **ACCT 6430 - ADVANCED INTERNAL AUDITING (3)**

Review of academic literature related to internal auditing. Use of an auditing cycle (planning, field work, findings report, recommendations and discussion of this). Description of the function of the internal auditor within the administrative structure of a company at the local and international levels. Establishment of the responsibilities of internal auditors and their relationship with external auditors, management and the board of directors. Discussion of auditing procedures in multinational dependencies.

### **ACCT 6440 - FORENSIC ACCOUNTING (3)**

Study of the research, manifestation, documentation and prevention of fraud. Analysis of fraud and the tools, techniques and methods of auditing it, and investigative accounting in multinational companies. Case studies and presentations by students will be used to recognize the different stages of the development of forensic accounting and its application in multinational companies.

### **ACCT 6940 - AUDIT SEMINAR (3)**

Analysis of special topics within the audit field by means of research, case analysis and related readings.

Prerequisite: BADM 6300.

### **ACCT 6945 - SEMINAR ON TAXES (3)**

Analysis of special topics within the Puerto Rico and Federal Tax Laws. Analysis of the most recent changes in these codes, by means of research, case analysis and related readings.

### **ACCT 6980 - RESEARCH SEMINAR (3)**

Research methods and techniques applied to accounting. Includes the design of a research proposal.

### **ACCT 6985 - RESEARCH PROJECT (3)**

Design and development of a research project on a current topic or problem related to accounting.

## **ANES - Anesthesia**

### **ANES 5105 - BIOCHEMISTRY AND PHYSICS (3)**

Concepts related to biochemistry and physics. Biochemical elements that facilitate the comprehension of pharmacokinetics and pharmacodynamics of anesthetic agents. Application of the laws of physics in the use of equipment and instruments in anesthesia.

### **ANES 5110 - INTRODUCTION TO ANESTHESIOLOGY (2)**

Historical development of anesthesia and current status of the anesthetist nurse in relation to other health professionals. Emphasis on moral-ethical and medical-legal considerations of anesthetic nursing practice and professional aspects of the anesthetist nurse.

### **ANES 5111 - PATHOPHYSIOLOGY I: CELLULAR (3)**

Analysis of the cellular biology, and the anatomy, physiology and pathophysiology of the nervous system with emphasis on the effects produced by the application of anesthesia.

### **ANES 5112 - PATHOPHYSIOLOGY II: BLOOD, CARDIOVASCULAR, RESPIRATORY AND RENAL (3)**

Analysis of the anatomy, physiology and pathophysiology of the cardiovascular, respiratory and renal systems and the implications related to anesthesia. Study of the ventilation and perfusion concepts and how these relate to oxygen, the administering of anesthesia and metabolism. Discussion of blood composition and the coagulation paths. Study of the effects in the cardiac and pulmonary commitment, renal function and its implications for administering anesthesia to the patient.

### **ANES 5113 - ADVANCED PATHOPHYSIOLOGY (3)**

Evaluation of the anatomy, physiology and pathophysiology of the conditions related to the acid-base imbalance of the endocrine and gastrointestinal systems. Analysis of the effects produced by the application of anesthesia.

Prerequisite: ANES 5112.

**ANES 5121 - PRINCIPLES OF ANESTHESIA I (2)**

Fundamentals of anesthetic management. Evaluation of pre and post anesthetic phase premedication, formulation of the anesthesia care plan, anesthetic techniques and procedures, endotracheal intubation equipment, documentation and prevention of complications. Mechanical principles governing the operation of anesthesia equipment and safety mechanisms.

Corequisite: ANES 5122.

**ANES 5122 - ADVANCED PHYSICAL HEALTH ASSESSMENT IN ANESTHESIA I (1)**

Application of advanced health assessment skills, including history and physical assessment of the patient for the preparation of the anesthesia care plan. Use of instruments to assess health conditions. Emphasis on application and treatment during perioperative period to perform anesthesia care that adequately meets the patient's conditions.

Corequisite: ANES 5121.

**ANES 5131 - PHARMACOLOGY ANESTHETICS I: ANESTHETICS (3)**

Pharmacokinetics and pharmacodynamic of drugs used in premedication and anesthetic agents. Emphasis on determining dosage, mechanisms of action, characteristics of drugs effects, toxicity, secondary effects and interactions with other medications.

**ANES 5132 - ADVANCED ANESTHETIC PHARMACOLOGY (3)**

Distinction of pharmacokinetics and pharmacodynamics in the advanced study of drugs used for multiple conditions of health, treatments and their side effect. Emphasis on oral antihypertensive, hypoglycemic, insulin, psychogenic, steroids, dysrhythmic, glycosides cardiac and antineoplastic drugs.

Prerequisite: ANES 5131.

**ANES 5221 - PRINCIPLES OF ANESTHESIA II: GENERAL SURGERY (2)**

Physical and mechanical bases for the management of monitors. Reading and interpretation of data obtained through monitors in the surgery room with patients with elective general surgery.

Prerequisite: ANES 5111, 5122. Corequisite: ANES 5222.

**ANES 5222 - CLINICAL PRACTICE ON PRINCIPLES OF ANESTHESIA II (2)**

Application of the physical and mechanical principles of monitors. Administration of anesthetics to patients on invasive monitoring, elective and ambulatory surgery and neurological procedures. Requires 24 hours of practice weekly.

Prerequisite: ANES 5122. Corequisite: ANES 5132.

**ANES 5307 - REGIONAL ANESTHESIA (2)**

Theoretical and practical considerations for the administration and management of regional anesthetics. Pharmacological aspects in the administration of anesthetic blocks: spinal, epidural and caudal. The use of local anesthetics is included.

**ANES 5331 - PRINCIPLES OF ANESTHESIA III: OBSTETRICS AND PEDIATRICS (2)**

Fundamentals on anesthetic management in obstetrics with emphasis on the pathophysiological condition of pregnancy in the obstetric process. Anesthetic management in pediatrics including anatomic, physiological and pathological characteristics from infancy to late childhood.

Corequisite: ANES 5222, 5332.

**ANES 5332 - CLINICAL PRACTICE ON PRINCIPLES OF ANESTHESIA III (2)**

Practice on procedures to alleviate pain. Preparation of the patient for the administration of regional and general anesthesia. Assessment and management of the fetus, mother and the child. Tracheal intubation considering the quantitative and qualitative differences of the patient. Continuous monitoring during the perianesthetic procedure. Requires 32 hours of practice weekly.

Prerequisite: ANES 5222. Corequisite: ANES 5331.

**ANES 5431 - PRINCIPLES OF ANESTHESIA IV: CARDIOTHORACIC AND NEUROLOGICAL (2)**

Anesthetic management of emergency patients and patients with trauma and in cardi thoracic surgery. Includes specific procedures in cardi thoracic anesthesia and neuroanesthesia.

Prerequisite: ANES 5313, 5331.

**ANES 5432 - CLINICAL PRACTICE ON PRINCIPLES OF ANESTHESIA IV (2)**

Administration of anesthesia to emergency patients and

patients in trauma and in cardiothoracic and neurosurgery. Practice in specialized settings. Requires 32 hours of clinical practice weekly.

Prerequisite: ANES 5332. Corequisite: ANES 5431.

### **ANES 5497 - TRENDS AND CONTROVERSIES IN ANESTHESIOLOGY (2)**

Trends and controversial topics in modern anesthesiology, such as: practice standards, patients' bill of rights, new trends in anesthesiology; ethic-legal controversies, interaction with health organizations and other topics of particular interest.

### **ANES 6390 - CLINICAL ANALYSIS (1)**

Discussion of case studies chosen during the clinical practice. Emphasis on the analysis and decision-making in the perianesthetic process.

### **ANES 6395 - RESEARCH PROCESS (3)**

Introduction to the research process: methodology, techniques and statistical analysis. Research of a nursing anesthetic problem identified by the student through observation during the perianesthetic intervention. Oral and written presentation of the problem, methodology used, findings and recommendations to improve the practice of anesthetic nursing.

Prerequisite: ANES 5432.

### **ANES 6397 - ADMINISTRATION AND SUPERVISION (2)**

Processes and techniques of administration and clinical supervision. Use of technology in clinical services. Theory and practice in quality control of personnel, equipment, materials and documents required in the anesthesia area.

### **ANES 6911 - INTEGRATED SUPERVISED PRACTICE I (2)**

Integration of knowledge and skills acquired from courses. Application of methods and techniques of administration of anesthetic and pharmacological agents. Intensive practice on pharmacological agents. Intensive practice in specialized settings under the supervision on an anesthesiologist and/or anesthetic nurse. Students begin with "on call" experiences. Requires 32 hours of practice weekly.

Prerequisite: ANES 5432.

### **ANES 6912 - INTEGRATED SUPERVISED PRACTICE II (2)**

Independent practice where the student acts as head anesthetist nurse under the indirect supervision of a clinical instructor (anesthesiologist or anesthetic nursing). Clinical experience at different levels of administration and supervision within the Department of Anesthesia. Requires 32 hours of practice weekly.

Prerequisite: ANES 6911.

### **ANES 6970 - INTEGRATED SEMINAR (3)**

Integration of concepts of the physiology and pharmacology courses and basic and advanced principles of anesthesia that contribute to the professional development of students. Use of a computerized review system recommended by the faculty in order to strengthen the psychomotor skills necessary to take the revalidation exam.

## **ARED - Art Education**

### **ARED 5221 - EVALUATION OF TEACHING AND LEARNING IN THE ARTS (3)**

Development of educational processes that facilitate the acquisition of Visual Arts skills. Application of these processes in the teaching of Visual Arts.

### **ARED 5301 - HISTORY OF VISUAL ARTS EDUCATION (3)**

Analysis of different perspectives of Visual Arts Education in schools and higher education. Consideration of the values, practices, and underlying beliefs to major events, which have influenced art education programs.

### **ARED 5401 - METODOLOGY OF THE TEACHING OF VISUAL ARTS (3)**

Analysis of the methodology, the principles and practices of the teaching of art. Evaluation of the problems of artistic education, curricular construction and implementation.

### **ARED 5421 - USE OF TECHNOLOGY IN THE TEACHING OF VISUAL ARTS (3)**

Analysis of existing computer programs to carry out experiments, simulations and demonstrations of the topics discussed in class. Review of the development of media literacy, methods and technology as tools to improve the content of the art class. Includes the development of innovative curricula in all areas of content. Emphasis on the interdisciplinary integration of the arts.

**ARED 5500 - VISUAL ARTS EDUCATION, CULTURE AND SOCIETY IN JOINT ACTION (3)**

Critical review of the social, cultural, economic, political and theoretical bases of the contemporary practice of Visual Arts Education. Understanding of the transformations in contemporary art and its challenges to the notions of originality, creativity and aesthetic formalism in order to rethink art.

**ARED 6010 - TECHNICAL MEDIA AND METHODS FOR THE TEACHING OF VISUAL ARTS (3)**

Analysis of the methods and teaching strategies, techniques and media in the creation of works of art. Test different scenarios for teaching and learning as the manager of creativity.

**ARED 6011 - BIDIMENSIONAL MEDIA WORKSHOP (3)**

Analysis and evaluation of the formal, technical and conceptual elements of bi-dimensional media. Development of an overview of the fundamentals of bi-dimensional media.

**ARED 6012 - TRIDIMENSIONAL MEDIA WORKSHOP (3)**

Analysis and evaluation of the formal, technical and conceptual elements of tridimensional media. Development of an overview of the fundamentals of tridimensional media.

**ARED 6901 - RESEARCH IN VISUAL ARTS PROJECT (3)**

Development of a research project in Visual Arts or Visual Arts Education, under the supervision of an education teacher. Requires an oral and written presentation of a research project. Grade: P/PP/NP.

**ARED 6902 - SEMINAR IN VISUAL ARTS (3)**

Analysis of topics related to the field of Visual Arts or Visual Arts education. Critical reflection of the literature, culture, and contemporary research. Prerequisite: Have passed all courses of the specialization. Grade: P/NP.

**ARED 7000 - RESEARCH IN VISUAL ARTS EDUCATION I (3)**

Analysis of theories and principles that guide research in Visual arts education. Emphasis on the development of a research project in Visual Arts.

**ARED 7010 - SOCIO-CULTURAL CONCEPTS OF ARTISTIC EDUCATION (3)**

Analysis of society as art Manager and the implications of this in the teaching of Visual Arts. Metaphorical interpretation of the time as a way for the construction of social and cultural memory from approaching artists, subjects and gallerists value productions.

**ARED 7015 - DIVERSITY, VISUAL CULTURE and ARTISTIC EDUCATION (3)**

Analysis of philosophical, historical, socio-political contexts of multiculturalism. Emphasis on the relationship of critical pedagogy and contemporary artistic practices.

**ARED 7030 - CREATIVITY IN THE ARTISTIC PROCESS (3)**

Analysis of the processes and of the theoretical statements about the phenomenon of creativity. Review of processes and conscious or unconscious of creation reasons.

**ARED 7055 - ART APPRECIATION OF ARTISTIC WORKS IN VISUAL ARTS TEACHING (3)**

Appreciation and analysis of the artistic work from the field of education attached to aesthetic currents and investigations, as well as changes that occur in the field of artistic thought.

**ARED 7065 - HISTORY OF VISUAL ARTS TEACHING IN PUERTO RICO (3)**

Review of the historical development of the teaching of art in Puerto Rico. It includes the education of art in different educational environments of the colonial Puerto Rico, the school in the change of sovereignty and the new school in the modern Puerto Rico. Evaluation of curricular contexts and the vision of the artistic education in the construction of citizenship.

**ARED 7070 - THEORIES OF ART, CULTURE AND EDUCATION (3)**

Analysis of the relationship between the theories of art, culture and pedagogy. Description of the elements of the artistic phenomenon, the study of art as a cultural phenomenon and as pedagogy.

**ARED 7075 - TEACHING LEARNING IN THE VISUAL ARTS (3)**

Evaluation of the Visual Arts as a form of knowledge: personal, social, and cultural implications. Analysis of learning and artistic development in the different stages of education. Application of the principles, theory and

approaches in the teaching of Visual Arts.

**ARED 7080 - CURRICULUM DEVELOPMENT IN VISUAL ARTS TEACHING (3)**

Analysis of classical elements in the development of curriculum in general education and specifically in the teaching of Visual Arts. Examination of different models of curriculum based on the analysis and evaluation of educational projects in the discipline in different social and cultural contexts. It requires the construction of a curricular model to develop a curriculum.

**ARED 7510 - COMPARED EDUCATION: VISUAL ARTS EDUCATION (3)**

Visual analysis of similarities between educational events of the Visual Arts and their relations with the political, economic, social and cultural environment. Development of research projects that provide links between arts education and multicultural, ecological issues and inclusion proposals.

**ARED 7520 - AESTHETICS IN THE TEACHING OF VISUAL ARTS (3)**

Aesthetic analysis. Discussion of aesthetic theories and art theories and their relationship to the teaching of the visual arts.

**ARED 8001 - WORKSHOP: APPRECIATION, EXPRESSION AND REFLECTION (3)**

Analysis simultaneous three dimensions related to the Visual Arts: appreciation, expression and reflection in theoretical-practical workshops and sessions of reflection-discussion.

**ARED 8010 - EMERGING ART, TECHNOLOGY AND COMMUNICATION IN THE TEACHING OF VISUAL ARTS (3)**

Examination of new currents in contemporary arts, conceptual and practical vision of the visual arts and their manifestations as a product of society. Use of the artistic media of communication and information and new technologies in pedagogical practices as a resource for the development of new skills in students bringing them closer to the dynamics of the contemporary world.

**ARED 8025 - EDUCATIONAL PROCESSES OF CREATIVE COGNITION (3)**

Analysis of the principles and areas of action of the creative cognition. Discussion of theoretical aspects of cognition and creativity.

**ARED 8100 - CONSTRUCTIONIST ANALYSIS OF ARTISTIC KNOWLEDGE (3)**

Analysis of the elements and functions that articulate discourses around artistic knowledge. Artistic fact as part of the knowledge related to human knowledge and as a mediator of social constructions.

**ARED 8960 - THESIS SEMINAR IN ART TEACHING (3)**

Development of research in visual arts that allow to build spaces of dialogue, explore dynamics and theories that contribute to the consolidation of the academic base and professional offer at the scientific, conceptual, pedagogical and creative levels. Development of thesis proposal. Grade: P/NP.

**ARED 8991 - DISSERTATION I (3)**

Development of a dissertation proposal. It requires the defense and approval of the proposal by a dissertation committee. Grade: DP/P/NP.

Prerequisite: Have approved the comprehensive exam.

**ARED 8992 - DISSERTATION II (3)**

Preparation of the dissertation. Requires approval of the proposal of the "Institutional Review Board" (IRB). It includes the oral defense and final approval of the document by the dissertation committee. Grade: DP/P/NP.

Prerequisite: ARED 8991.

## ARTS - Fine Arts

**ARTS 5135 - ART AND PUBLIC POLICY (3)**

Research and analysis of philosophical and political affairs that influence the relationship between the arts and government.

**ARTS 5140 - PHILOSOPHY OF ART (3)**

Study and analysis of the principal trends in the philosophy of art and their influence upon this medium. Review of these trends within the context of Puerto Rican art: past, present and future.

**ARTS 5980 - HISTORY OF PUERTO RICAN ART (3)**

Analysis of artistic evolution in Puerto Rican from pre-Columbian times to the present. Study of themes, styles and iconography and the influence of the different schools of universal art on Puerto Rican art.

**ARTS 6010 - HISTORY OF ANCIENT ART (3)**

The history of art from the second century BC to the second century AD. Emphasis on the study of Egypt, and the Near East and the Aegean, Greek Etruscan and Roman arts.

**ARTS 6020 - HISTORY OF MEDIEVAL ART (3)**

The history of art from the beginning of the Christian era. Includes the Byzantine, early Medieval, Romanesque and Gothic periods.

**ARTS 6030 - HISTORY OF RENAISSANCE AND BAROQUE ART (3)**

The history of art of the Renaissance and Baroque periods. Emphasis on the Renaissance, high Renaissance, mannerism, Baroque periods and the eighteenth century, their manifestations in the Fine Arts and in European and American architecture.

**ARTS 6040 - HISTORY OF MODERN ART (3)**

The history of modern art and the principal movements of the nineteenth and twentieth centuries. Analysis of these periods and their influence on western art.

**ARTS 6050 - HISTORY OF ORIENTAL ART (3)**

The principal movements of oriental art: its particularities and influence on universal art.

**ARTS 6060 - HISTORY OF PRE-COLUMBIAN ART (3)**

Overview of art in Latin America from the prehistoric period to the discovery of America. Analysis of the different indigenous cultures, their iconography and styles.

**ARTS 6070 - HISTORY OF LATIN AMERICAN ART (3)**

The principal art movements in Latin America, the artists, and their social, political and historical context. Analysis of the development of contemporary Latin American art in its regional and universal context.

**ARTS 6080 - HISTORY OF CONTEMPORARY PUERTO RICAN ART (3)**

The styles and trends in Puerto Rican art with special attention to the period of the 1950's to the present. The development of printmaking, the influence of the socioeconomic and political changes on Puerto Rican esthetics and the development of the arts.

**ARTS 6111 - ADVANCED CERAMICS I (2 to 6)**

Application of basic technical principles of ceramics in creative work. Analysis of construction by hand and by lathe and their possibilities as plastic processes. Introduction to the use of computerized programs for the calculation and formulation of clay and varnish formulas.

**ARTS 6(111-115) - Advanced Ceramics I (2-6)**

Application of basic technical principles of ceramics in creative work. Analysis of construction by hand and by lathe and their possibilities as plastic processes. Introduction to the use of computerized programs for the calculation and formulation of clay and varnish formulas.

**ARTS 6112 - ADVANCED CERAMICS I (2 to 6)**

Application of basic technical principles of ceramics in creative work. Analysis of construction by hand and by lathe and their possibilities as plastic processes. Introduction to the use of computerized programs for the calculation and formulation of clay and varnish formulas.

**ARTS 6113 - ADVANCED CERAMICS I (2 to 6)**

Application of basic technical principles of ceramics in creative work. Analysis of construction by hand and by lathe and their possibilities as plastic processes. Introduction to the use of computerized programs for the calculation and formulation of clay and varnish formulas.

**ARTS 6114 - ADVANCED CERAMICS I (2 to 6)**

Application of basic technical principles of ceramics in creative work. Analysis of construction by hand and by lathe and their possibilities as plastic processes. Introduction to the use of computerized programs for the calculation and formulation of clay and varnish formulas.

**ARTS 6115 - ADVANCED CERAMICS I (2 to 6)**

Application of basic technical principles of ceramics in creative work. Analysis of construction by hand and by lathe and their possibilities as plastic processes. Introduction to the use of computerized programs for the calculation and formulation of clay and varnish formulas.

**ARTS 6121 - ADVANCED CERAMICS II (2 to 6)**

Exploration and research of specific problems of this medium. Statement and analysis of complex technical construction problems.

**ARTS 6(121-125) - Advanced Ceramics II (2-6)**

Exploration and research of specific problems of this medium. Statement and analysis of complex technical



construction problems.

**ARTS 6122 - ADVANCED CERAMICS II (2 to 6)**

Exploration and research of specific problems of this medium. Statement and analysis of complex technical construction problems.

**ARTS 6123 - ADVANCED CERAMICS II (2 to 6)**

Exploration and research of specific problems of this medium. Statement and analysis of complex technical construction problems.

**ARTS 6124 - ADVANCED CERAMICS II (2 to 6)**

Exploration and research of specific problems of this medium. Statement and analysis of complex technical construction problems.

**ARTS 6125 - ADVANCED CERAMICS II (2 to 6)**

Exploration and research of specific problems of this medium. Statement and analysis of complex technical construction problems.

**ARTS 6131 - ADVANCED CERAMICS III (2 to 6)**

Experimentation in non-traditional techniques in this medium. Exploration with the use of mixed materials and techniques in the realization of artistic work.

**ARTS 6(131-135) - Advanced Ceramics III (2-6)**

Experimentation in non-traditional techniques in this medium. Exploration with the use of mixed materials and techniques in the realization of artistic work.

**ARTS 6132 - ADVANCED CERAMICS III (2 to 6)**

Experimentation in non-traditional techniques in this medium. Exploration with the use of mixed materials and techniques in the realization of artistic work.

**ARTS 6133 - ADVANCED CERAMICS III (2 to 6)**

Experimentation in non-traditional techniques in this medium. Exploration with the use of mixed materials and techniques in the realization of artistic work.

**ARTS 6134 - ADVANCED CERAMICS III (2 to 6)**

Experimentation in non-traditional techniques in this medium. Exploration with the use of mixed materials and techniques in the realization of artistic work.

**ARTS 6135 - ADVANCED CERAMICS III (2 to 6)**

Experimentation in non-traditional techniques in this medium. Exploration with the use of mixed materials and

techniques in the realization of artistic work.

**ARTS 6141 - ADVANCED CERAMICS IV (2 to 6)**

Study, technical and stylistic analyses of contemporary artistic works and their plastic possibilities.

**ARTS 6(141-145) - Advanced Ceramics IV (2-6)**

Study, technical and stylistic analyses of contemporary artistic works and their plastic possibilities.

**ARTS 6142 - ADVANCED CERAMICS IV (2 to 6)**

Study, technical and stylistic analyses of contemporary artistic works and their plastic possibilities.

**ARTS 6143 - ADVANCED CERAMICS IV (2 to 6)**

Study, technical and stylistic analyses of contemporary artistic works and their plastic possibilities.

**ARTS 6144 - ADVANCED CERAMICS IV (2 to 6)**

Study, technical and stylistic analyses of contemporary artistic works and their plastic possibilities.

**ARTS 6145 - ADVANCED CERAMICS IV (2 to 6)**

Study, technical and stylistic analyses of contemporary artistic works and their plastic possibilities.

**ARTS 6211 - ADVANCED PRINTMAKING I (2 to 6)**

Application of printmaking principles and techniques in creative work. Analysis of printmaking techniques, stencils, lithography and relief and their possibilities in the plastic process. Introduction to the use of the computer for the solution of graphic design problems.

**ARTS 6(211-215) - Advanced Printmaking I (2-6)**

Application of printmaking principles and techniques in creative work. Analysis of printmaking techniques, stencils, lithography and relief and their possibilities in the plastic process. Introduction to the use of the computer for the solution of graphic design problems.

**ARTS 6212 - ADVANCED PRINTMAKING I (2 to 6)**

Application of printmaking principles and techniques in creative work. Analysis of printmaking techniques, stencils, lithography and relief and their possibilities in the plastic process. Introduction to the use of the computer for the solution of graphic design problems.

**ARTS 6213 - ADVANCED PRINTMAKING I (2 to 6)**

Application of printmaking principles and techniques in creative work. Analysis of printmaking techniques,

stencils, lithography and relief and their possibilities in the plastic process. Introduction to the use of the computer for the solution of graphic design problems.

**ARTS 6214 - ADVANCED PRINTMAKING I (2 to 6)**

Application of printmaking principles and techniques in creative work. Analysis of printmaking techniques, stencils, lithography and relief and their possibilities in the plastic process. Introduction to the use of the computer for the solution of graphic design problems.

**ARTS 6215 - ADVANCED PRINTMAKING I (2 to 6)**

Application of printmaking principles and techniques in creative work. Analysis of printmaking techniques, stencils, lithography and relief and their possibilities in the plastic process. Introduction to the use of the computer for the solution of graphic design problems.

**ARTS 6221 - ADVANCED PRINTMAKING II (2 to 6)**

Exploration and investigation of specific problems of this medium. Statement and analysis of technical problems of complex printings. Management and manipulation of images in the computer for the production of positives and final works.

**ARTS 6(221-225) - Advanced Printmaking II (2-6)**

Exploration and investigation of specific problems of this medium. Statement and analysis of technical problems of complex printings. Management and manipulation of images in the computer for the production of positives and final works.

**ARTS 6222 - ADVANCED PRINTMAKING II (2 to 6)**

Exploration and investigation of specific problems of this medium. Statement and analysis of technical problems of complex printings. Management and manipulation of images in the computer for the production of positives and final works.

**ARTS 6223 - ADVANCED PRINTMAKING II (2 to 6)**

Exploration and investigation of specific problems of this medium. Statement and analysis of technical problems of complex printings. Management and manipulation of images in the computer for the production of positives and final works.

**ARTS 6224 - ADVANCED PRINTMAKING II (2 to 6)**

Exploration and investigation of specific problems of this medium. Statement and analysis of technical problems of complex printings. Management and manipulation of images in the computer for the production of positives and

final works.

**ARTS 6225 - ADVANCED PRINTMAKING II (2 to 6)**

Exploration and investigation of specific problems of this medium. Statement and analysis of technical problems of complex printings. Management and manipulation of images in the computer for the production of positives and final works.

**ARTS 6231 - ADVANCED PRINTMAKING III (2 to 6)**

Experimentation in non-traditional techniques in this medium. Exploration in the use of mixed materials and techniques. Management and the appropriate and safe use of materials and equipment in the accomplishment of printed works.

**ARTS 6(231-235) - Advanced Printmaking III (2-6)**

Experimentation in non-traditional techniques in this medium. Exploration in the use of mixed materials and techniques. Management and the appropriate and safe use of materials and equipment in the accomplishment of printed works.

**ARTS 6232 - ADVANCED PRINTMAKING III (2 to 6)**

Experimentation in non-traditional techniques in this medium. Exploration in the use of mixed materials and techniques. Management and the appropriate and safe use of materials and equipment in the accomplishment of printed works.

**ARTS 6233 - ADVANCED PRINTMAKING III (2 to 6)**

Experimentation in non-traditional techniques in this medium. Exploration in the use of mixed materials and techniques. Management and the appropriate and safe use of materials and equipment in the accomplishment of printed works.

**ARTS 6234 - ADVANCED PRINTMAKING III (2 to 6)**

Experimentation in non-traditional techniques in this medium. Exploration in the use of mixed materials and techniques. Management and the appropriate and safe use of materials and equipment in the accomplishment of printed works.

**ARTS 6235 - ADVANCED PRINTMAKING III (2 to 6)**

Experimentation in non-traditional techniques in this

medium. Exploration in the use of mixed materials and techniques. Management and the appropriate and safe use of materials and equipment in the accomplishment of printed works.

**ARTS 6241 - ADVANCED PRINTMAKING IV (2 to 6)**

Study, technical and stylistic analyses of contemporary artistic works and their application in printmaking.

**ARTS 6(241-245) - Advanced Printmaking IV (2-6)**

Study, technical and stylistic analyses of contemporary artistic works and their application in printmaking.

**ARTS 6242 - ADVANCED PRINTMAKING IV (2 to 6)**

Study, technical and stylistic analyses of contemporary artistic works and their application in printmaking.

**ARTS 6243 - ADVANCED PRINTMAKING IV (2 to 6)**

Study, technical and stylistic analyses of contemporary artistic works and their application in printmaking.

**ARTS 6244 - ADVANCED PRINTMAKING IV (2 to 6)**

Study, technical and stylistic analyses of contemporary artistic works and their application in printmaking.

**ARTS 6245 - ADVANCED PRINTMAKING IV (2 to 6)**

Study, technical and stylistic analyses of contemporary artistic works and their application in printmaking.

**ARTS 6311 - ADVANCED PAINTING I (2 to 6)**

Application of principles and techniques of painting in creative works. Discussion and analysis of techniques of painting, oil, acrylics and others, and their possibilities in the production of pictorial works.

**ARTS 6(311-315) - Advanced Painting I (2-6)**

Application of principles and techniques of painting in creative works. Discussion and analysis of techniques of painting, oil, acrylics and others, and their possibilities in the production of pictorial works.

**ARTS 6312 - ADVANCED PAINTING I (2 to 6)**

Application of principles and techniques of painting in creative works. Discussion and analysis of techniques of painting, oil, acrylics and others, and their possibilities in the production of pictorial works.

**ARTS 6313 - ADVANCED PAINTING I (2 to 6)**

Application of principles and techniques of painting in creative works. Discussion and analysis of techniques of

painting, oil, acrylics and others, and their possibilities in the production of pictorial works.

**ARTS 6314 - ADVANCED PAINTING I (2 to 6)**

Application of principles and techniques of painting in creative works. Discussion and analysis of techniques of painting, oil, acrylics and others, and their possibilities in the production of pictorial works.

**ARTS 6315 - ADVANCED PAINTING I (2 to 6)**

Application of principles and techniques of painting in creative works. Discussion and analysis of techniques of painting, oil, acrylics and others, and their possibilities in the production of pictorial works.

**ARTS 6321 - ADVANCED PAINTING II (2 to 6)**

Exploration and investigation of specific problems of this medium. Formal statement and analysis of technical problems in achieving pictorial pieces.

**ARTS 6(321-325) - Advanced Painting II (2-6)**

Exploration and investigation of specific problems of this medium. Formal statement and analysis of technical problems in achieving pictorial pieces.

**ARTS 6322 - ADVANCED PAINTING II (2 to 6)**

Exploration and investigation of specific problems of this medium. Formal statement and analysis of technical problems in achieving pictorial pieces.

**ARTS 6323 - ADVANCED PAINTING II (2 to 6)**

Exploration and investigation of specific problems of this medium. Formal statement and analysis of technical problems in achieving pictorial pieces.

**ARTS 6324 - ADVANCED PAINTING II (2 to 6)**

Exploration and investigation of specific problems of this medium. Formal statement and analysis of technical problems in achieving pictorial pieces.

**ARTS 6325 - ADVANCED PAINTING II (2 to 6)**

Exploration and investigation of specific problems of this medium. Formal statement and analysis of technical problems in achieving pictorial pieces.

**ARTS 6331 - ADVANCED PAINTING III (2 to 6)**

Experimentation in non-traditional techniques in this medium. Exploration in the use of mixed materials and techniques. Management and appropriate use of materials in the creation of pieces.

**ARTS 6(331-335) - Advanced Painting III (2-6)**

Experimentation in non-traditional techniques in this medium. Exploration in the use of mixed materials and techniques. Management and appropriate use of materials in the creation of pieces.

**ARTS 6332 - ADVANCED PAINTING III (2 to 6)**

Experimentation in non-traditional techniques in this medium. Exploration in the use of mixed materials and techniques. Management and appropriate use of materials in the creation of pieces.

**ARTS 6333 - ADVANCED PAINTING III (2 to 6)**

Experimentation in non-traditional techniques in this medium. Exploration in the use of mixed materials and techniques. Management and appropriate use of materials in the creation of pieces.

**ARTS 6334 - ADVANCED PAINTING III (2 to 6)**

Experimentation in non-traditional techniques in this medium. Exploration in the use of mixed materials and techniques. Management and appropriate use of materials in the creation of pieces.

**ARTS 6335 - ADVANCED PAINTING III (2 to 6)**

Experimentation in non-traditional techniques in this medium. Exploration in the use of mixed materials and techniques. Management and appropriate use of materials in the creation of pieces.

**ARTS 6341 - ADVANCED PAINTING IV (2 to 6)**

Study, technical and stylistic analyses of contemporary artistic works and their application to pictorial pieces.

**ARTS 6(341-345) - Advanced Painting IV (2-6)**

Study, technical and stylistic analyses of contemporary artistic works and their application to pictorial pieces.

**ARTS 6342 - ADVANCED PAINTING IV (2 to 6)**

Study, technical and stylistic analyses of contemporary artistic works and their application to pictorial pieces.

**ARTS 6343 - ADVANCED PAINTING IV (2 to 6)**

Study, technical and stylistic analyses of contemporary artistic works and their application to pictorial pieces.

**ARTS 6344 - ADVANCED PAINTING IV (2 to 6)**

Study, technical and stylistic analyses of contemporary artistic works and their application to pictorial pieces.

**ARTS 6345 - ADVANCED PAINTING IV (2 to 6)**

Study, technical and stylistic analyses of contemporary artistic works and their application to pictorial pieces.

**ARTS 6411 - ADVANCED DRAWING I (2 to 6)**

Application of principles and techniques of drawing in creative works. Analysis of plastic qualities of drawing techniques: abrasive and humid mediums.

**ARTS 6(411-415) - Advanced Drawing I (2-6)**

Application of principles and techniques of drawing in creative works. Analysis of plastic qualities of drawing techniques: abrasive and humid mediums.

**ARTS 6412 - ADVANCED DRAWING I (2 to 6)**

Application of principles and techniques of drawing in creative works. Analysis of plastic qualities of drawing techniques: abrasive and humid mediums.

**ARTS 6413 - ADVANCED DRAWING I (2 to 6)**

Application of principles and techniques of drawing in creative works. Analysis of plastic qualities of drawing techniques: abrasive and humid mediums.

**ARTS 6414 - ADVANCED DRAWING I (2 to 6)**

Application of principles and techniques of drawing in creative works. Analysis of plastic qualities of drawing techniques: abrasive and humid mediums.

**ARTS 6415 - ADVANCED DRAWING I (2 to 6)**

Application of principles and techniques of drawing in creative works. Analysis of plastic qualities of drawing techniques: abrasive and humid mediums.

**ARTS 6421 - ADVANCED DRAWING II (2 to 6)**

Exploration and investigation of specific problems of this medium. Formal statement and analysis of technical problems in performing artistic drawings.

**ARTS 6(421-425) - Advanced Drawing II (2-6)**

Exploration and investigation of specific problems of this medium. Formal statement and analysis of technical problems in performing artistic drawings.

**ARTS 6422 - ADVANCED DRAWING II (2 to 6)**

Exploration and investigation of specific problems of this medium. Formal statement and analysis of technical problems in performing artistic drawings.

**ARTS 6423 - ADVANCED DRAWING II (2 to 6)**

Exploration and investigation of specific problems of this medium. Formal statement and analysis of technical problems in performing artistic drawings.

**ARTS 6424 - ADVANCED DRAWING II (2 to 6)**

Exploration and investigation of specific problems of this medium. Formal statement and analysis of technical problems in performing artistic drawings.

**ARTS 6425 - ADVANCED DRAWING II (2 to 6)**

Exploration and investigation of specific problems of this medium. Formal statement and analysis of technical problems in performing artistic drawings.

**ARTS 6431 - ADVANCED DRAWING III (2 to 6)**

Experimentation in nontraditional techniques in this medium. Exploration in the use of materials and mixed techniques.

**ARTS 6(431-435) - Advanced Drawing III (2-6)**

Experimentation in nontraditional techniques in this medium. Exploration in the use of materials and mixed techniques.

**ARTS 6432 - ADVANCED DRAWING III (2 to 6)**

Experimentation in nontraditional techniques in this medium. Exploration in the use of materials and mixed techniques.

**ARTS 6433 - ADVANCED DRAWING III (2 to 6)**

Experimentation in nontraditional techniques in this medium. Exploration in the use of materials and mixed techniques.

**ARTS 6434 - ADVANCED DRAWING III (2 to 6)**

Experimentation in nontraditional techniques in this medium. Exploration in the use of materials and mixed techniques.

**ARTS 6435 - ADVANCED DRAWING III (2 to 6)**

Experimentation in nontraditional techniques in this medium. Exploration in the use of materials and mixed techniques.

**ARTS 6441 - ADVANCED DRAWING IV (2 to 6)**

Study, technical and stylistic analyses of contemporary artistic works and their application to drawing of artistic pieces.

**ARTS 6(441-445) - Advanced Drawing IV (2-6)**

Study, technical and stylistic analyses of contemporary artistic works and their application to drawing of artistic pieces.

**ARTS 6442 - ADVANCED DRAWING IV (2 to 6)**

Study, technical and stylistic analyses of contemporary artistic works and their application to drawing of artistic pieces.

**ARTS 6443 - ADVANCED DRAWING IV (2 to 6)**

Study, technical and stylistic analyses of contemporary artistic works and their application to drawing of artistic pieces.

**ARTS 6444 - ADVANCED DRAWING IV (2 to 6)**

Study, technical and stylistic analyses of contemporary artistic works and their application to drawing of artistic pieces.

**ARTS 6445 - ADVANCED DRAWING IV (2 to 6)**

Study, technical and stylistic analyses of contemporary artistic works and their application to drawing of artistic pieces.

**ARTS 6511 - ADVANCED SCULPTURE I (2 to 6)**

Application of principles and techniques of sculpturing in creative works. Analysis of sculpturing techniques: techniques of subtraction and addition of materials and their possibilities as a plastic process.

**ARTS 6(511-515) - Advanced Sculpture I (2-6)**

Application of principles and techniques of sculpturing in creative works. Analysis of sculpturing techniques: techniques of subtraction and addition of materials and their possibilities as a plastic process.

**ARTS 6512 - ADVANCED SCULPTURE I (2 to 6)**

Application of principles and techniques of sculpturing in creative works. Analysis of sculpturing techniques: techniques of subtraction and addition of materials and their possibilities as a plastic process.

**ARTS 6513 - ADVANCED SCULPTURE I (2 to 6)**

Application of principles and techniques of sculpturing in creative works. Analysis of sculpturing techniques: techniques of subtraction and addition of materials and their possibilities as a plastic process.

**ARTS 6514 - ADVANCED SCULPTURE I (2 to 6)**

Application of principles and techniques of sculpturing in creative works. Analysis of sculpturing techniques: techniques of subtraction and addition of materials and their possibilities as a plastic process.

**ARTS 6515 - ADVANCED SCULPTURE I (2 to 6)**

Application of principles and techniques of sculpturing in creative works. Analysis of sculpturing techniques: techniques of subtraction and addition of materials and their possibilities as a plastic process.

**ARTS 6521 - ADVANCED SCULPTURE II (2 to 6)**

Exploration and investigation of specific problems of this medium. Formal statement and analysis of technical problems of complex structures. Management and appropriate and safe use of materials and equipment in the construction of sculptured pieces.

**ARTS 6(521-525) - Advanced Sculpture II (2-6)**

Exploration and investigation of specific problems of this medium. Formal statement and analysis of technical problems of complex structures. Management and appropriate and safe use of materials and equipment in the construction of sculptured pieces.

**ARTS 6522 - ADVANCED SCULPTURE II (2 to 6)**

Exploration and investigation of specific problems of this medium. Formal statement and analysis of technical problems of complex structures. Management and appropriate and safe use of materials and equipment in the construction of sculptured pieces.

**ARTS 6523 - ADVANCED SCULPTURE II (2 to 6)**

Exploration and investigation of specific problems of this medium. Formal statement and analysis of technical problems of complex structures. Management and appropriate and safe use of materials and equipment in the construction of sculptured pieces.

**ARTS 6524 - ADVANCED SCULPTURE II (2 to 6)**

Exploration and investigation of specific problems of this medium. Formal statement and analysis of technical problems of complex structures. Management and appropriate and safe use of materials and equipment in the construction of sculptured pieces.

**ARTS 6525 - ADVANCED SCULPTURE II (2 to 6)**

Exploration and investigation of specific problems of this medium. Formal statement and analysis of technical

problems of complex structures. Management and appropriate and safe use of materials and equipment in the construction of sculptured pieces.

**ARTS 6531 - ADVANCED SCULPTURE III (2 to 6)**

Experimentation in nontraditional techniques in this medium. Exploration in the use of materials and mixed techniques in the creation of interior and exterior sculptures.

**ARTS 6(531-535) - Advanced Sculpture III (2-6)**

Experimentation in nontraditional techniques in this medium. Exploration in the use of materials and mixed techniques in the creation of interior and exterior sculptures.

**ARTS 6532 - ADVANCED SCULPTURE III (2 to 6)**

Experimentation in nontraditional techniques in this medium. Exploration in the use of materials and mixed techniques in the creation of interior and exterior sculptures.

**ARTS 6533 - ADVANCED SCULPTURE III (2 to 6)**

Experimentation in nontraditional techniques in this medium. Exploration in the use of materials and mixed techniques in the creation of interior and exterior sculptures.

**ARTS 6534 - ADVANCED SCULPTURE III (2 to 6)**

Experimentation in nontraditional techniques in this medium. Exploration in the use of materials and mixed techniques in the creation of interior and exterior sculptures.

**ARTS 6535 - ADVANCED SCULPTURE III (2 to 6)**

Experimentation in nontraditional techniques in this medium. Exploration in the use of materials and mixed techniques in the creation of interior and exterior sculptures.

**ARTS 6541 - ADVANCED SCULPTURE IV (2 to 6)**

Study, technical and stylistic analyses of contemporary artistic works and their application to sculptural pieces.

**ARTS 6(541-545) - Advanced Sculpture IV (2-6)**

Study, technical and stylistic analyses of contemporary artistic works and their application to sculptural pieces.

**ARTS 6542 - ADVANCED SCULPTURE IV (2 to 6)**

Study, technical and stylistic analyses of contemporary

artistic works and their application to sculptural pieces.

**ARTS 6543 - ADVANCED SCULPTURE IV (2 to 6)**

Study, technical and stylistic analyses of contemporary artistic works and their application to sculptural pieces.

**ARTS 6544 - ADVANCED SCULPTURE IV (2 to 6)**

Study, technical and stylistic analyses of contemporary artistic works and their application to sculptural pieces.

**ARTS 6545 - ADVANCED SCULPTURE IV (2 to 6)**

Study, technical and stylistic analyses of contemporary artistic works and their application to sculptural pieces.

**ARTS 6611 - ADVANCED PHOTOGRAPHY I (2 to 6)**

Application of principles, techniques and chemical processes of black and white photography in creative work.

**ARTS 6(611-615) - Advanced Photography I (2-6)**

Application of principles, techniques and chemical processes of black and white photography in creative work.

**ARTS 6612 - ADVANCED PHOTOGRAPHY I (2 to 6)**

Application of principles, techniques and chemical processes of black and white photography in creative work.

**ARTS 6613 - ADVANCED PHOTOGRAPHY I (2 to 6)**

Application of principles, techniques and chemical processes of black and white photography in creative work.

**ARTS 6614 - ADVANCED PHOTOGRAPHY I (2 to 6)**

Application of principles, techniques and chemical processes of black and white photography in creative work.

**ARTS 6615 - ADVANCED PHOTOGRAPHY I (2 to 6)**

Application of principles, techniques and chemical processes of black and white photography in creative work.

**ARTS 6621 - ADVANCED PHOTOGRAPHY II (2 to 6)**

Exploration and investigation in specific problems of color photography and its possibilities as a creative process. Management and use of specialized chemicals and equipment to obtain photographic work in color.

**ARTS 6(621-625) - Advanced Photography II (2-6)**

Exploration and investigation in specific problems of color photography and its possibilities as a creative process. Management and use of specialized chemicals and equipment to obtain photographic work in color.

**ARTS 6622 - ADVANCED PHOTOGRAPHY II (2 to 6)**

Exploration and investigation in specific problems of color photography and its possibilities as a creative process. Management and use of specialized chemicals and equipment to obtain photographic work in color.

**ARTS 6623 - ADVANCED PHOTOGRAPHY II (2 to 6)**

Exploration and investigation in specific problems of color photography and its possibilities as a creative process. Management and use of specialized chemicals and equipment to obtain photographic work in color.

**ARTS 6624 - ADVANCED PHOTOGRAPHY II (2 to 6)**

Exploration and investigation in specific problems of color photography and its possibilities as a creative process. Management and use of specialized chemicals and equipment to obtain photographic work in color.

**ARTS 6625 - ADVANCED PHOTOGRAPHY II (2 to 6)**

Exploration and investigation in specific problems of color photography and its possibilities as a creative process. Management and use of specialized chemicals and equipment to obtain photographic work in color.

**ARTS 6631 - ADVANCED PHOTOGRAPHY III (2 to 6)**

Experimentation in nontraditional techniques in this medium. Exploration in the use of materials, mixed techniques and technology to obtain photographic images. Adequate use of materials utilized in conservation of photographs. Production of photographic works of greater size for publication and photographic documentation.

**ARTS 6(631-635) - Advanced Photography III (2-6)**

Experimentation in nontraditional techniques in this medium. Exploration in the use of materials, mixed techniques and technology to obtain photographic images. Adequate use of materials utilized in conservation of photographs. Production of photographic works of greater size for publication and photographic documentation.

**ARTS 6632 - ADVANCED PHOTOGRAPHY III (2 to 6)**

Experimentation in nontraditional techniques in this medium. Exploration in the use of materials, mixed techniques and technology to obtain photographic images.

Adequate use of materials utilized in conservation of photographs. Production of photographic works of greater size for publication and photographic documentation.

**ARTS 6633 - ADVANCED PHOTOGRAPHY III (2 to 6)**

Experimentation in nontraditional techniques in this medium. Exploration in the use of materials, mixed techniques and technology to obtain photographic images. Adequate use of materials utilized in conservation of photographs. Production of photographic works of greater size for publication and photographic documentation.

**ARTS 6634 - ADVANCED PHOTOGRAPHY III (2 to 6)**

Experimentation in nontraditional techniques in this medium. Exploration in the use of materials, mixed techniques and technology to obtain photographic images. Adequate use of materials utilized in conservation of photographs. Production of photographic works of greater size for publication and photographic documentation.

**ARTS 6635 - ADVANCED PHOTOGRAPHY III (2 to 6)**

Experimentation in nontraditional techniques in this medium. Exploration in the use of materials, mixed techniques and technology to obtain photographic images. Adequate use of materials utilized in conservation of photographs. Production of photographic works of greater size for publication and photographic documentation.

**ARTS 6641 - ADVANCED PHOTOGRAPHY IV (2 to 6)**

Study, technical and stylistic analyses of contemporary artistic works and their application to photography.

**ARTS 6(641-645) - Advanced Photography IV (2-6)**

Study, technical and stylistic analyses of contemporary artistic works and their application to photography.

**ARTS 6642 - ADVANCED PHOTOGRAPHY IV (2 to 6)**

Study, technical and stylistic analyses of contemporary artistic works and their application to photography.

**ARTS 6643 - ADVANCED PHOTOGRAPHY IV (2 to 6)**

Study, technical and stylistic analyses of contemporary artistic works and their application to photography.

**ARTS 6644 - ADVANCED PHOTOGRAPHY IV (2 to 6)**

Study, technical and stylistic analyses of contemporary artistic works and their application to photography.

**ARTS 6645 - ADVANCED PHOTOGRAPHY IV (2 to 6)**

Study, technical and stylistic analyses of contemporary artistic works and their application to photography.

**ARTS 6940 - SEMINAR IN ART ADMINISTRATION (3)**

Topics related to the administration and supervision of organizations and/or facilities related to the arts. Emphasis on areas such as preparation and administration of budgets, collections, inventories and those areas particular to the infrastructure of physical facilities.

**ARTS 6944 - SEMINAR IN MUSEOLOGY (3)**

Theoretical and practical study of the work, organization and operation of museums. Experience supervised by a university professor in a museum or similar institution.

**ARTS 6954 - SEMINAR IN GALLERY ADMINISTRATION (3)**

Theoretical and practical study of the work, organization and operation of an art gallery. Experience supervised by a university professor in an art gallery or institution with similar functions.

**ARTS 6964 - SEMINAR: PRACTICE, THEORY, AND CRITIQUE OF ART (3)**

Study and analysis of the theories, trends and critiques of art with emphasis on contemporary works in Puerto Rico and abroad. Identification and analysis of controversial aspects of production and the role of an artistic critic.

**ARTS 6973 - SPECIAL PROBLEMS III (3)**

Analysis of the historical, ethical and philosophical background influencing new artistic trends. Readings, discussions and examination of contemporary art issues.

**ARTS 6975 - FINE ARTS RESEARCH, THEORY AND CONCEPT AND MEDIA (3)**

Evaluation of the conceptual aspects of the fine arts work. Consideration of research within the framework of the fine arts towards the realization of one's own artistic work. Assessment of thematic research techniques and procedures to strengthen the conceptual aspects in one's own work. Includes visual planning, image, and form.



**ARTS 6995 - CREATIVE PROJECT (6)**

Work, discussion and realization of a creative project as a substitution for the written thesis. This course will conclude with the presentation of an exhibition of the art pieces in the gallery of the University or in another suitable public area. Grade: P/NP.

Prerequisite: Authorization of the advisor and the completion of the specialization Prerequisites.

**ARTS 6998\_ - CREATIVE PROJECT (6)**

Work, discussion and realization of the creative project. Presentation of an exhibition of the work in a selected setting. A document will be written as a testimony of the artistic research process. Development of the concept and the realization of the artistic work that solves the conceptual and artistic proposal. It requires authorization from the counselor and having completed the Fundamentals in Fine Arts and specialization requirements. Grade: P/PP/NP.

Prerequisite: Have completed 24 credits in the specialization area.

**ATSD - Autism****ATSD 5010 - PSYCHOSOCIAL ASPECTS AND TRANSITION PROCESSES IN INDIVIDUALS WITH AUTISM (3)**

Study of theories of social cognition and evidence-based interventions for teaching and strengthening social and communication skills in individuals with autism. Identification of academic, family, emotional and social needs in the different life transition stages of individuals with autism.

**ATSD 5020 - NATURE AND NEEDS OF INDIVIDUALS WITH AUTISM AND THEIR FAMILIES (3)**

Discussion of the historical, etiological, multifactorial and current diagnostic criteria of autism. Recognition of the characteristics and needs of this population and their families in various areas related to their functioning, such as health, education, work, preparation for independent living, among others.

**ATSD 6010 - EVALUATION, DIAGNOSIS, AND INTERVENTION OF AUTISM SPECTRUM DISORDER (3)**

Evaluation of various assessment instruments aimed at the differential diagnosis of individuals with autism and

evidence-based programs for this population. Interpretation of evaluation results for the location of services, attention to the needs encountered, and the implementation of recommendations.

**ATSD 6020 - CLINICAL AND EDUCATIONAL INTERVENTION METHODS FOR INDIVIDUALS WITH AUTISM AND THEIR FAMILIES (3)**

Implementation of evidence-based practices to address clinical and educational interventions among individuals with autism and their families. Development of strategies to organize programs and evidence-based services for individuals with autism in different life stages.

**ATSD 6030 - BEHAVIOR MANAGEMENT AND OTHER CHALLENGES ASSOCIATED WITH AUTISM (3)**

Analysis of the behaviors of individuals with autism using the Functional Behavior Assessment Model. Focus on the strengthening of sensory integration and the management of comorbid diagnoses.

**ATSD 6040 - SUPERVISED CONSULTANCY IN AUTISM (3)**

Designing of an intervention with an individual with autism or their family integrating the models presented throughout the courses. Classroom presentation of intervention experience. Minimum B grade.

**BADM - Business Administration****BADM 5010 - QUANTITATIVE METHODS FOR DECISION ANALYSIS (3)**

Study of quantitative methods and the application of mathematical and statistical models for decision-making in organizations.

**BADM 5020 - BUSINESS ECONOMICS (3)**

Application of economic analysis in business decisions making at the executive level. It includes the study of the market system, production, costs, maximizing profit and competitive strategies. Analysis of current economic issues that affect decision making and the complexity of the company in the local and international level.

**BADM 5030 - RESEARCH METHODOLOGY (3)**

Study of the process of research: methodology, techniques, and statistical analysis. Application of the scientific method in the solution of problems related to organizations. Prerequisite: BADM 5010 or its equivalent.

**BADM 5040 - ACCOUNTING FOR MANAGERS (3)**

Use of accounting information for planning, control and decision-making. Application of the budget process in short and long term decisions. Behavioral evaluation management in the achievements of the company's goals. Consideration of ethical aspects in the company.

**BADM 5060 - MANAGEMENT INFORMATION SYSTEMS (3)**

Study of the use of management information systems and the impact on decision making. Emphasis on the competitive advantage of the use of information systems and electronic trade in the global world.

**BADM 5070 - PUBLIC POLICY TOWARD BUSINESS (3)**

Analysis of the government's monetary, fiscal and regulatory policies regarding business cycles and their impact on firms. Study of current trends in these areas at the local, national and international government levels.

**BADM 5090 - BUSINESS MARKETING (3)**

Application of marketing functions in the process of making managerial decisions. Study of marketing techniques in the creation and development of organizations with or without profit.

**BADM 5100 - ORGANIZATIONAL THEORY AND BEHAVIOR (3)**

Analysis of the dynamics of human interactions within the organizational culture. Integration of innovative and creative practices for motivation and development of human resources. Emphasis on the ethical and legal aspects of decision making.

**BADM 5120 - OPERATIONS MANAGEMENT (3)**

Development of ways to define, analyze and solve complex operational problems in all types of organizations. Analysis of problems associated with the effective use of strategic resources.

**BADM 5130 - ORGANIZATIONAL BEHAVIOR (3)**

Basic topics on organizational behavior, including motivation, communication, leadership, performance, organizational design, professional planning, power and conflict. The course aims to provide the knowledge and skills needed to work with individuals and groups as members of social and business systems.

**BADM 5140 - LEGAL AND SOCIAL ENVIRONMENT IN BUSINESS (3)**

Legal systems focusing on the managerial decision-making process. Special attention is given to the relationship between firms and the government and on how laws and the environment affect business activities. Contemporary legal problems and lawmaking trends are considered.

**BADM 5150 - ORGANIZATIONAL THEORY (3)**

Individual and group behavior in the organizational context, viewing the organization as a continuous social system. Analysis of organizational problems of change and development and of organizational processes.

**BADM 5190 - CORPORATE FINANCE (3)**

Analysis of the financial processes of the companies. Emphasis on the financial aspects of making decisions applied to corporations, small and medium-sized enterprises and multinational companies with an ethical and globalized dimension.

**BADM 5470 - FOUNDATIONS OF KNOWLEDGE MANAGEMENT (3)**

Description of the nature, evolution and theoretical concepts of the knowledge management in organizations, such as: tacit knowledge, explicit knowledge and learning.

**BADM 5480 - DIGITAL MARKETING (3)**

Analysis of digital marketing of companies and their products, through the Internet, mobile technology and other emerging and converging technologies. Integration of these technologies to the development of a marketing campaign.

**BADM 5491 - INTERNATIONAL MANAGEMENT OF HUMAN RESOURCES (3)**

Study of principles, theories, processes and policies in the management of human resources at the international level. Analysis of the economic, political, socio-cultural and technological elements in the discipline. Emphasis on the managerial functions of human resources in the globalized environment.

**BADM 5492 - DEVELOPMENT AND TRAINING OF INTERNATIONAL HUMAN RESOURCES (3)**

Design of training programs for the development and management of human resources at the international level. Planning and development of human resources for the administration of international companies are considered.

**BADM 5776 - TRANSFORMATION OF THE LIBERAL STATE IN CURRENT GLOBALIZATION (3)**

Critical analysis of the transformations of the liberal state in comparison with the ideal of the democratic state. Study of these processes within the framework of the implementation of the neoliberal ideology in current globalization.

**BADM 697A - INTEGRATION SEMINAR IN RESEARCH IN ACCOUNTING (3)**

Application of theoretical principles and research tools. Interpretation of relevant literature in processes of decision-making in the company and external consulting. It includes the development of a research proposal. Grade: P/NP.

Prerequisite: BADM 5030, 5040 and approval of all specialization courses.

**BADM 697B - INTEGRATION SEMINAR IN RESEARCH IN FINANCE (3)**

Application of theoretical principles and research tools. Analysis of research on the decision making in the contemporary company. Includes the development of a proposal for research. Grade: P/NP.

Prerequisite: BADM 5030, 5190 and approval of all specialization courses.

**BADM 697C - INTEGRATION SEMINAR IN RESEARCH AND CONSULTING IN HUMAN RESOURCES (3)**

Application of theoretical principles and research tools. Use of knowledge, skills and attitudes to integrate effective processes in strategic management of human resources. Emphasis on research and consulting services. Includes the development of a proposal for research. Grade: P/NP.

Prerequisite: BADM 5030, 5100 and approval of all specialization courses.

**BADM 697D - INTEGRATION SEMINAR IN RESEARCH IN INDUSTRIAL MANAGEMENT (3)**

Application of theoretical principles and tools of research for the formulation, development and evaluation of global strategies related to current and new trends in the management of operations. Emphasis on the role of operations management and entrepreneurial thinking. Includes the development of a research proposal. Grade: P/NP.

Prerequisite: BADM 5030, 6295 and approval of all specialization courses.

**BADM 697E - INTEGRATION SEMINAR IN RESEARCH IN MARKETING (3)**

Application of the theoretical principles and research tools. Analysis of cases and business situations in the domestic and international markets. Application of research methods for the solution of marketing problems. It includes the development of a research proposal. Grade: P/NP.

Prerequisite: BADM 5030, 5090 and approval of all specialization courses.

**BADM 697F - INTEGRATION SEMINAR FOR BUSINESS MANAGERS (3)**

Analysis of case studies related to significant managerial challenges that an executive manager faces and the practical solutions to these.

**BADM 697K - INTEGRATION SEMINAR IN RESEARCH IN THE GENERAL PROGRAM (3)**

Analysis of the principles and the general concepts of the business administration area. Application of research methods for the solution of complex problems in organizations. Grade: P/NP.

Prerequisite: BADM 5030 and fifteen credits approved in specialization courses.

**BADM 697L - INTEGRATING SEMINAR IN RESEARCH IN HEALTH SERVICES (3)**

Application of the knowledge acquired in the specialization courses. It includes aspects related to the administration of health services, public health and epidemiology, the evaluation of projects and programs, health care information systems and other related topics. Grade: P/NP.

Prerequisite: BADM 5030 and have passed all specialization courses.

**BADM 697M - INTEGRATED SEMINAR IN SOCIAL ENTREPRENEURSHIP RESEARCH (3)**

Critical analysis of multi-faceted cases in social entrepreneurship. Application of decision-making skills and leadership principles in risk management, promotion and granting of donations. Development of a case study of a social enterprise. Grade: P/NP.

Prerequisite: BADM 5030 and have passed all specialization courses.

**BADM 6010 - HUMAN RESOURCES MANAGEMENT IN THE INTERNATIONAL ENVIRONMENT (3)**

Critical analysis of the foundations, processes and policies inherent to the management of human resources in an international environment. Analysis of the fundamental vision of the dynamics of changes in the economic, political, socio-cultural and technological environment in the contemporary world. Evaluation of the impact of these transformations in the organizational structural models to obtain competitiveness in the globalized economy. Discussion of the characteristics of the recruitment, selection and development functions and the legal and financial responsibilities of personnel administration at the international level.

**BADM 6020 - TRAINING AND DEVELOPMENT OF THE HUMAN RESOURCE (3)**

Analysis of the components of a training program and development of human resources from the strategic perspective. Study of theories and techniques for the elaboration of programs of training and development of employees and managers. Emphasis on the needs analysis, the evaluation of programs and knowledge transfer.

**BADM 6030 - DATABASE SYSTEMS (3)**

Fundamental concepts for the design and implementation of database systems from the perspective of different levels of abstraction and data models: conceptual, logical and physical. Algebraic and relational calculus operations, Structured Query language (SQL), Data Definition Language (DDL) and Data Manipulation Language (DML). Trends, technologies and most influential current models of databases, including object oriented, semantic and deductive models.

Prerequisite: BADM 5060.

**BADM 6040 - SYSTEM ANALYSIS AND DESIGN (3)**

Techniques and methodologies used to develop information systems in the organization, including steps and procedures to follow from the initiation of a new system until its implementation in the enterprise. Application of computerized tools that facilitate the analysis and design of an information system. Techniques and methodologies used to develop information systems in the organization, including steps and procedures to follow from the initiation of a new system until its implementation in the enterprise. Application of computerized tools that facilitate the analysis and design of an information system.

Prerequisite: BADM 6030.

**BADM 6045 - TELECOMMUNICATIONS AND NETWORKING (3)**

Study of technologies, architectures, protocols, and network performance characteristics. Analysis of the strategies, tools and techniques for planning, implementation, management, maintenance and security of these. Emphasis on applications in the field of communications.

Prerequisite: BADM 5060.

**BADM 6060 - BANKING ADMINISTRATION (3)**

Analysis of the principles and managerial processes required for the administration of commercial banks.

**BADM 6070 - HUMAN RESOURCES MANAGEMENT (3)**

Analysis of challenges and trends in the strategic management of human resources in the face of global changes. Emphasis on the design of standards and programs related to the administration of human resources within the organizational context.

**BADM 6080 - ADMINISTRATION OF COMPENSATION AND BENEFITS (3)**

Analysis and design of an effective system of compensation (remunerations). Evaluation of the social, economic, legal and ethical implications in the determination of salaries, wages and benefits. Emphasis on the application of strategic techniques that affect the compensation system.

**BADM 6090 - SUPERVISION AND LEADERSHIP (3)**

Integration of functions and duties of the supervisor in the organizational processes. Emphasis in the supervision of a diverse workforce. Representation of roles of the supervisor within a globalized labor environment.

**BADM 6100 - INTRODUCTION TO OPERATIONS MANAGEMENT (3)**

Analysis of the principles of operations management. Emphasis on the functions of the operations manager in the administration of a global industrial company. Examination of the productive use of the factors of production and management of production and operations as a strategy for innovation and competitiveness of the industrial enterprises in a global environment. Study of new trends in the discipline.

**BADM 6130 - PRODUCTION PLANNING AND CONTROL (3)**

Analysis of principles and techniques in the planning and control of operations. Emphasis on the techniques of projection, production planning, material Prerequisites and inventory control.

**BADM 6140 - QUALITY MANAGEMENT AND CONTROL (3)**

Analysis of quality management in companies as a competitive strategy. Use of techniques of evaluation and quality control.

**BADM 6150 - PUBLIC FINANCE AND FISCAL POLICY (3)**

Analysis of public finances in order to analyze the process of decision-making process and behavior of the public sector. Use of the economic effects of government activity: spending on main government programs, income tax and intergovernmental transfer. Discussion of current fiscal policy problems.

**BADM 6160 - MARKETING RESEARCH (3)**

Application of the research process to market problems. Emphasis on analytical skills of research problems in the development of critical thinking. It includes the assessment of the potential and limitations of research methods.

Prerequisite: BADM 5090.

**BADM 6170 - MANAGEMENT SCIENCE APPLIED TO OPERATIONS MANAGEMENT (3)**

Application of quantitative methods to the decision-making process adaptable to production and operations, under conditions of certainty, risk and uncertainty.

**BADM 6180 - ADVANCED COST ACCOUNTING (3)**

Analysis, design and implementation of cost systems. Study of cost information for the process of making internal decisions and the preparation of external financial statements.

Prerequisite: BADM 5040.

**BADM 6190 - ADVANCED CORPORATE FINANCE (3)**

Advanced analysis of business management. Emphasis on the study of the factors and variables for the decision-making of investment in assets, capital structure and dividend policy. It includes the theory of investment portfolio and valuation models of capital assets.

Prerequisite: BADM 5190.

**BADM 6200 - INTERNATIONAL BUSINESS FINANCE (3)**

Study of the structure and functioning of foreign currency markets and of the factors that determine the exchange rates of currencies. Analysis of investment decision-making and the financing of companies and institutions from a global perspective.

**BADM 6210 - FINANCIAL ADMINISTRATION OF RETIREMENT PLANS (3)**

Study of the characteristics and operations of defined benefits and tax plans. The processes of investment and financial administration are analyzed in detail from the point of view of duty and of the fiduciary process provided by the Employee Retirement Income Security Act (ERISA) and applicable norms.

**BADM 6220 - MONETARY THEORY AND POLICY (3)**

Analysis of the interrelationships between supply and demand and the influence of these on the level of income, the employment and prices. Study of the formulation and implementation of monetary policy in banking matters and national and international credit.

**BADM 6230 - INVESTMENTS (3)**

Analysis of the factors and variables on decision making of financial instrument investment. Emphasis on the understanding of techniques and models of capital assets valuation, individually as well as in the context of instruments portfolios and of valuation relative to the market. Study of the different types of patrimony, debt and derivative financial instruments, as well as, of their respective markets.

Prerequisite: BADM 5190.

**BADM 6240 - FINANCIAL MARKETS (3)**

Study of the processes of change and innovations, instruments of value of public and private institutions in financial markets and the regulations to which they are subject. Emphasis on understanding the behavior of interest rates in the market, monetary policy and the financial administration of financial intermediaries.

**BADM 6260 - ADVANCED PROGRAMMING (3)**

Advanced concepts in computer programming. Use, handling and practical application of a selected programming language and its impact within businesses

and organizations.

Prerequisite: BADM 5060, 6030, 6040.

**BADM 6265 - KNOWLEDGE MANAGEMENT AND BUSINESS INTELLIGENCE (3)**

Analysis of knowledge management and business intelligence technologies. Study of the technology for the management of knowledge as a means to achieve a competitive advantage. Emphasis in issues related to the design and implementation of knowledge management strategies.

**BADM 6275 - INTERNET IN ORGANIZATIONS (3)**

Analysis of the essential characteristics, architecture, tools, and programming languages for the Web. Evaluation of e-commerce and recent developments in information services, including new work strategies, organizational structures and creative ways to reach consumers. Analysis of the challenges faced by individuals, organizations and society.

Prerequisite: BADM 6045.

**BADM 6285 - INFORMATION SECURITY, PRIVACY AND COMPLIANCE NORMATIVE (3)**

Analysis of the information technologies to comply with the policies, procedures, and controls in the management of information risks in accordance with legal and ethical Prerequisites. Emphasis in the security and audit of information in companies, privacy, and regulatory compliance of the Emerging Information Governance (GI) that applies to the management of electronic documents and the input and output of information.

**BADM 6290 - TRANSPORTATION SYSTEMS AND SUPPLY CHAIN (3)**

Analysis of the management of land, maritime and air transportation systems. Emphasis in the regulation, documentation and operation of transport systems. Study of new trends in the transport.

**BADM 6295 - GLOBAL OPERATIONS (3)**

Analysis of operations management of in a global environment. Use of production systems and competitiveness strategies at the global level. Emphasis on global communication systems, resource allocation, and capital investment. Includes location of operations, logistics, management of supply chain s, diversity of human factors and ethical and legal aspects at the global level.

**BADM 6300 - ADVANCED AUDITING (3)**

Analysis of the auditing standards generally accepted in the United States and the process of audit and other related services. Study of the role of the external auditor in accordance with the rules and laws that regulate the practice of the profession within an ethical framework.

Prerequisite: BADM 5040.

**BADM 6310 - ADVANCED FINANCIAL ACCOUNTING (3)**

Analysis of advanced financial accounting topics. Study of current topics in the area of accounting.

Prerequisite: BADM 5040.

**BADM 6320 - FEDERAL INCOME TAXES – ADVANCED (3)**

Analysis of the Federal law on contributions and study of cases related to the area of taxes. Application of alternatives to the tax return.

Prerequisite: BADM 5040.

**BADM 6330 - PUERTO RICO INCOME TAXES – ADVANCED (3)**

Analysis of the Puerto Rico law of contributions and study of cases related to the area of taxes. Application of alternatives to the tax return.

Prerequisite: BADM 5040.

**BADM 6340 - LEADERSHIP AND MOTIVATION (3)**

Analysis of the various styles of authority and leadership and their effectiveness on the different levels of the organization. Evaluation of the theories of personal motivation, their effectiveness and practicability.

**BADM 6350 - STRATEGIC MARKETING (3)**

Introduction to problems in the decision-making process at managerial levels within the different marketing strategies that develop during the planning period.

**BADM 6360 - MARKETING COMMUNICATION (3)**

Application of principles and concepts of communication in the managerial process. Analysis and solution of promotional problems arising in any organization. Emphasis on the five variables of the promotional program, their application and the implementation of marketing strategies.

Prerequisite: BADM 5090.

**BADM 6370 - SALES ANALYSIS AND FORECASTING (3)**

Analysis of general commercial conditions through the study of factors that determine the demand for goods and services, demand for industrial products and sale of companies. Identification and development of methods of sales projection for the planning and development of sales strategies.

Prerequisite: BADM 5090.

**BADM 6380 - CONSUMER BEHAVIOR (3)**

Evaluation of the personal and social factors that influence decision making in obtaining, consuming and purchase of products and services. Study of economic concepts and social sciences that help understand and forecast the behavior of the different types of consumers in the market.

Prerequisite: BADM 5090.

**BADM 6390 - GLOBAL MARKETING (3)**

Analysis of the process of marketing in global markets. Study of perspectives in the management of interactions in the international market and cultural, geographical, economic and political features. Emphasis on the regions in economic growth in the global market.

Prerequisite: BADM 5090.

**BADM 6410 - LABOR RELATIONS AND EXTERNAL ENVIRONMENT (3)**

Review of labor relations between management and labor organizations as well as the external environment that influences them. Analysis of the social, economic, political and technological factors that have affected the development of the labor movements and collective bargaining. The impact of relations on the general public and the news media is considered.

**BADM 6415 - INTERNATIONAL ADMINISTRATION OF SALARIES, BENEFITS AND SERVICES (3)**

Demonstration of the components and strategies of an effective model of total compensation in organizations immersed in the contemporary globalized economy, from the macroeconomic and microeconomic perspectives. Discussion of the legal and taxing aspects that impact remuneration in multinational companies and special programs of incentives, benefits and services to personnel sent from their country on international assignments.

**BADM 6420 - ORGANIZATIONAL PLANNING (3)**

Major administrative functions such as planning, direction, coordination and control. Study of objectives and techniques of planning and prediction. Evaluation of the effectiveness of different administration styles. The methods and intended purposes of control and coordination and their relationship with planning, directing, coordinating and controlling.

**BADM 6430 - ADMINISTRATION OF INTELLECTUAL CAPITAL (3)**

Analysis of the essential components of intellectual capital and of management in the administration of companies. Estimate of the existing intellectual capital in the organization and in the market.

Prerequisite: BADM 5470.

**BADM 6440 - ADVANCED PERSONNEL ADMINISTRATION (3)**

Study of the objectives, functions and procedures of personnel administration by examining contemporary theories. The needs of personnel administration of large and complex organizations of both the private and public sector are examined. Use of a comprehensive personnel program as an example of the broad administration of the organization.

**BADM 6450 - DECISION-MAKING (3)**

Economic and financial business problems and the techniques used in the decision-making process for their solution. Emphasis on the practical aspects of decision-making problems pertaining to the use of organizational resources. Discussion of business objectives, demand concepts, market structure, costs, capital flow as well as the different economic decision-making techniques.

**BADM 6460 - RISK AND INSURANCE (3)**

Fundamental principles and practices in the management of insurance. Emphasis on terminology, expedition and contents of contracts. Study of the methods used to deal with economic risks.

**BADM 6470 - STRATEGIES OF KNOWLEDGE MANAGEMENT (3)**

Evaluation of advanced topics and the research related to the knowledge management. Application of the practical knowledge on general management and the tactics to design, integrate and apply strategies based on the use of knowledge.

Prerequisite: BADM 6430.

**BADM 6480 - INTERNATIONAL PRICING (3)**

Analysis of factors that determine the design of the price strategies for international markets. Development of price strategies taking into account the particularities of the markets, the competitive scenario and the type of product from a managerial perspective.

**BADM 6500 - INTEGRATION SEMINAR ON ENTERPRENURIAL STRATEGIES (3)**

Analysis of the factors to be considered in the formulation and selection of strategies and policies for the development and operations of companies in local and international competitive markets. Grade: P/NP.

Prerequisite: Have completed all core courses.

**BADM 6510 - INTERNATIONAL LABOR ECONOMICS (3)**

Analysis of the problems related to the labor market and labor relations in the new order of the globalized economy. Definition of microeconomic aspects and relationships on an individual and enterprise scale, macroeconomic matters as policies for employment and social welfare. Use of research of specific markets, demographic and migratory changes of the work force in an international environment, problems of cultural diversity and participation of minority groups in the labor market, labor supply and demands, unemployment and inflation. Discussion of governmental strategies of labor promotion and investment in human capital, industrial policies and protection against competition, salary scales, collective bargaining and trends in social security plans.

**BADM 6550 - SEMINAR ON CURRENT MARKETING TOPICS (3)**

Analysis of general and specific current topics related to the marketing field. Study of managing situations and tendencies faced by marketing management, which impact short, medium, and long term strategies.

Prerequisite: BADM 5090.

**BADM 6555 - INTRODUCTION TO RESEARCH IN SOCIAL SCIENCES (3)**

Study of the research methods in the fields related to social sciences. Application of the techniques to undertake any type of research work, report or project related to the field of social sciences.

**BADM 6559 - ANALYSIS OF REGRESSION APPLIED TO SOCIAL SCIENCES (3)**

Application of evaluation techniques of models applied to the different fields of economics. Study of statistical inference to carry out contrasts of hypotheses and selection of models. Description of the techniques needed to include explanatory factors in the models.

**BADM 6577 - INTRODUCTION TO ECONOMETRY (3)**

Use of the necessary statistical and mathematical techniques for the analysis of regression applied to econometric models. Study of descriptive statistics and of statistical inference, of matrix algebra, the vectorial spaces, the quadratic forms and the techniques of optimization most common in economic applications.

**BADM 6580 - GLOBALIZATION: INTERNATIONAL COMMERCE, CAPITAL FLOW, NEW GOVERNANCE AND FAIRNESS (3)**

Interpretation of the intensification process of international economic relations in the commercial, financial, production, technological and institutional levels that have been carried out in the last decades under the name of globalization. Study of the formulation of strategies of development and the measurement of fairness.

**BADM 6590 - DIMENSIONS OF GLOBALIZATION AND INCIDENCES IN ECONOMIC, POLITICAL AND SOCIO LABOR RELATIONS (3)**

Analysis of the main trends in the distribution of production and employment among the great world-wide economic regions. Study of the basic differences in the job markets, migratory movements, the policies of employment as well as the role of education in the formation of the human and social capital at the global level.

**BADM 6600 - POLICY OF INNOVATION IN GLOBALIZATION (3)**

Study of the meaning of technological activities at the international level. Analysis of the characteristics and importance of technological knowhow in the context of the development policies of the nations.

**BADM 6610 - CULTURE, IDENTITY AND POLICY IN THE CONTEXT OF GLOBALIZATION (3)**

Analysis of the elements linked with globalization, identity and culture. Identification of the anthropological structures that make interaction possible among the different cultures.



**BADM 6620 - ADMINISTRATION OF HEALTH SERVICES (3)**

Study of the structures and control systems of health services in a variety of health care settings such as hospitals, clinics, retirement homes and nursing homes. Emphasis on the competences and responsibilities of the exercise of managerial functions in the area of health services within the ethical and legal context of the profession.

**BADM 6630 - PUBLIC HEALTH AND EPIDEMIOLOGY (3)**

Study of the concepts and disciplines that support public health with emphasis on epidemiological principles. Introduction to sciences and policies related to prevention, government responsibilities, biostatistics as an analysis tool, environmental health, social determinants of health, and its promotion. Public health models and their basis in prevention versus health models based on clinical care will be discussed.

**BADM 6640 - INFORMATION TECHNOLOGY IN HEALTH SERVICES (3)**

Analysis of information technology in health organizations. Integration of legal, financial and governmental aspects in the implementation of information systems. Emphasis on the security and privacy of patient health information.

**BADM 6650 - PLANNING AND EVALUATION OF HEALTH SERVICES PROGRAMS (3)**

Analysis of the planning process, design, implementation, evaluation, and dissemination of program results. Emphasis on the development of a program from an ethical context of social and legal responsibility.

**BADM 6660 - SOCIAL ENTREPRENEURSHIP (3)**

Introduction to social entrepreneurship and its development as an alternative to solving social problems. Analysis of the strategies to support the economic sustainability of the organization and its projects. Articulate the mechanisms of measurement, performance and evaluation of organizational plans and initiatives.

**BADM 6670 - MANAGEMENT OF NON-PROFIT ORGANIZATIONS (3)**

Application of the principles and concepts of the management of non-profit organizations in the national and international context. Emphasis on strategic planning and organizational structure. Examination of income generation and financial sustainability alternatives in compliance with

the required government regulations.

**BADM 6680 - EVALUATION OF SOCIAL ENTERPRISE PROJECTS AND PROGRAMS (3)**

Study of models and approaches to evaluate projects and programs for social enterprises. Design, implementation, monitoring and dissemination of the results of an evaluation plan. Discussion of models and advanced topics in the evaluation of projects and programs.

**BADM 6690 - SOCIAL MARKETING (3)**

Use of marketing principles to develop strategies and programs to achieve behavioral changes for a social good. Emphasis on the incorporation of marketing to face situations of daily practice. It includes the design of a plan to increase the acceptance of an idea or practice in selected market segments.

**BADM 6700 - GLOBAL BUSINESS (3)**

Analysis of global business and investments with emphasis on the Caribbean and Latin American regions. Comparative management approaches and business behavior in these areas.

Prerequisite: BADM 5090.

**BADM 6780 - THE MANAGER IN AN INTERNATIONAL ECONOMY (3)**

Principles and practices of behavior in businesses that extend beyond national boundaries. Discussion of important international agreements, considering the multiple roles that a manager can play at the international level.

**BADM 6820 - THE MULTINATIONAL COMPANY (3)**

Review of the interaction of forces that promote the formation and expansion of the multinational company. Analysis of the relations between the private and public sector. Historical origin of these enterprises, the legal frame within which they operate and financial resources. Discussion of specific aspects of operation such as production methods, marketing, personnel administration, research and development.

**BADM 6910 - PRACTICUM IN HUMAN RESOURCES (3)**

Supervised practice in the tasks of the supervisor in human resources. This will be done under the supervision of a faculty member and will consist of a minimum of 135 hours of practice. It includes meetings and periodic visits

to a practice center by the faculty member.

Prerequisite: Approval of three (3) specialization courses and authorization from the Department chair.

**BADM 6945 - SMALL BUSINESS INSTITUTE INTEGRATION SEMINAR (3)**

Designed to give the graduate student the opportunity to provide consulting services to clients of the Small Business Administration. Class work, field research, business analysis and report writing with recommendations and conclusions are integrated into the course.

**BADM 6957 - INTEGRATION SEMINAR IN RESEARCH IN INFORMATION SYSTEMS (3)**

Application of theoretical principles and research on issues related to the development of information systems. Integration of knowledge in related areas. Analysis of the impact advances in the management of the information resources and of ethical implications within the organization. It includes the development of a research proposal. Grade: P/NP.

Prerequisite: 5060 BADM and approval of all specialization courses.

**BADM 6971 - SEMINAR IN BUSINESS SOCIAL RESPONSIBILITY (3)**

Analysis of the theory and practices necessary to achieve a socially responsible company or organization. Providing company managers and professionals with knowledge of the existing methodologies to analyze, practice and inform employees on the company's social responsibility.

**BADM 797\_ - SPECIAL TOPICS SEMINAR (3)**

Development of special topics in the area of business administration, according to the student's interest and under the supervision of a faculty member. Comparison of discipline studies and their application in business strategies in different scenarios.

**BADM 797A - SPECIAL TOPICS SEMINAR IN ENTREPRENEURIAL AND MANAGERIAL DEVELOPMENT (3)**

Development of special topics in the area of entrepreneurial and managerial development, according to the student's interests and under the supervision of a faculty member. Comparison of discipline studies and their application in business strategies in different scenarios.

**BADM 797B - SPECIAL TOPICS SEMINAR ON MANAGEMENT INFORMATION SYSTEMS (3)**

Development of special topics in the management information systems area, according to the student's interest and under the supervision of a faculty member. Comparison of discipline studies and their application in business strategies in different scenarios.

**BADM 797C - SPECIAL TOPICS SEMINAR IN ACCOUNTING (3)**

Development of special topics in the accounting area, according to the student's interest and under the supervision of a faculty member. Comparison of discipline studies and their application in business strategies in different scenarios.

**BADM 797D - SPECIAL TOPICS SEMINAR IN MARKETING (3)**

Development of special topics in the marketing area, according to the student's interest and under the supervision of a faculty member. Comparison of discipline studies and their application in business strategies in different scenarios.

**BADM 797E - SPECIAL TOPICS SEMINAR ON FINANCE (3)**

Development of special topics in the area of finance, according to the student's interest and under the supervision of a faculty member. Comparison of discipline studies and their application in business strategies in different scenarios.

**BADM 7000 - ORGANIZATIONAL THEORY AND DESIGN (3)**

Review of the theories and practices related to the formal design of organizations. Analysis of the organizational problems of changes and development.

**BADM 7001 - PROFESSIONAL SEMINAR (1)**

Review of the business administration field from a scientific perspective. Analysis of the ethical and legal aspects regarding the development of research related to the discipline. Guidance on the academic and administrative processes related to the Doctoral Program in Entrepreneurial and Managerial Development. Will be taken during the first semester of studies. Grade: P/NP.

**BADM 7010 - ENTERPRISE DEVELOPMENT (3)**

Evaluation of the opportunities and risks that small and medium size organizations face in the international and

global world. Review of the public policy that affects enterprise development in Puerto Rico, the Caribbean and Latin America. Emphasis on the ethical, social and cultural aspects of enterprise development for small and medium size companies. Includes the development of a plan for the establishment of a company.

### **BADM 7020 - RESEARCH METHODS (3)**

Evaluation of the different theories, research methods, principles and instruments that give direction to scientific research applied to business administration.

### **BADM 7070 - ORGANIZATIONAL BEHAVIOR (3)**

Analysis of individual and group behavior in organizations, procedures for providing and strengthening emerging behavior. Review of the organizational interaction with the environment. Research of selected topics in organizational conduct. Includes a practical study of individual and/or group behavior in the organization.

### **BADM 7150 - PUBLIC POLICY AND CORPORATIVE DECISIONS (3)**

Analysis of the philosophical and economic foundations of the enterprise activity and the enterprise function in the growth of capitalism. Analysis of the effects of public policies on the economic results of the financial and enterprise activity in the capitalist economic system.

### **BADM 7201 - QUANTITATIVE METHODS I (3)**

Formulation and solution of managerial and economic problems using quantitative and statistical methods. Application of matrix algebra, differential calculus, linear programming and differential equations in the economic analysis.

### **BADM 7202 - QUANTITATIVE METHODS II (3)**

Application of statistical methods to summarize and analyze economic and commercial data in the decision-making process. Review of descriptive and inferential statistics, probability theory, variables distribution, decision making under risk and uncertain conditions, sampling, estimation and hypothesis tests. Development of intuitive reasoning by the use of statistical programs. Consideration of ethical aspects when using these methods.

Prerequisite: BADM 7201.

### **BADM 7220 - MICROECONOMIC THEORY (3)**

Theoretical and empirical analysis of consumer behavior, the firm and industry within the framework of a free commerce economy. Study of the production theory,

production costs, and different market structures. Includes development of empirical tests derived from theories discussed.

### **BADM 7223 - MACROECONOMIC THEORY (3)**

Review of the macroeconomic theory and policy in open economies and the adjustment problems according to different approaches. Comparison of the macroeconomic policy in open economies under flexible and fixed exchange rates.

### **BADM 7225 - MANAGERIAL ECONOMETRICS (3)**

Analysis and construction of econometric models of micro and macroeconomics using transversal data and historic series. Analysis of stationary and non-stationary historical series, using different econometric models and computer programs.

### **BADM 8950 - RESEARCH SEMINAR (3)**

Application of the different theories, research methods, principles and instruments in the preparation of research proposals. Critical analysis of ethical, legal and financing aspects of research projects. Development of style, forms and content of the proposal and dissertation.

Prerequisite: BADM 7020.

### **BADM 8991 - DOCTORAL DISSERTATION I (3)**

Development of the doctoral dissertation proposal. Defense of the first three chapters before the dissertation committee. The student must submit the proposal approved by the committee to the Institutional Review Board and have its approval, as is applicable. Grade: P/NP/DP.

Prerequisite: To have passed the comprehensive examination and course BADM 8950.

### **BADM 8992 - DOCTORAL DISSERTATION II (3)**

Writing of the dissertation. Defense of the doctoral dissertation in the specialization area of the student under the supervision of a doctoral dissertation committee. Grade: P/NP/DP.

Prerequisite: BADM 8991.

## **BIOL - Biology**

### **BIOL 5001 - INTEGRATED BIOLOGY I (3)**

Analysis of the structures of biomolecules and how these are related to their respective functions, their role in the regulation of the organelles, the cells and organisms in general.

### **BIOL 5002 - INTEGRATED BIOLOGY II (3)**

Analysis of the translation of signals that dictate the cellular function and embryonic development. Relation between the biomolecular aspects and the interaction of the organism with its environment.

Prerequisite: BIOL 5001.

### **BIOL 5011 - ORGANISMS: DIVERSITY AND INTERACTIONS (3)**

Analysis of the main groups of organisms that belong to the kingdoms, their importance in the ecosystems and their socioeconomic impact. Emphasis on the evolutionary development of animals and plants. Analysis of strategies for the protection and management of threatened or endangered species. It requires 45 hours of conference-laboratory.

### **BIOL 5012 - HUMAN BIOLOGY (3)**

Analysis of the structures of the human body and its functions. Emphasis on the concepts of pathologies related to organic systems. Incorporation of strategies and tests to demonstrate human structures and processes. It requires 45 hours of conference-laboratory.

### **BIOL 697\_ - SPECIAL TOPICS IN BIOLOGY (3)**

Analysis and discussion of different specific topics on Biology with emphasis on integration of the different levels of organization of life.

Prerequisite: BIOL 5002.

### **BIOL 6000 - ECOLOGY, EVOLUTION AND ENVIRONMENTAL SCIENCES (3)**

Analysis of the relationship of organisms with their environment at the levels of the individual, the population, the structure and the stability of ecosystems. Analysis of the ecology of Puerto Rico and its environmental problems. Integration of ecology concepts with the evolution of species. It requires 45 hours of conference-laboratory.

### **BIOL 6003 - MOLECULAR IMMUNOLOGY (3)**

Analysis of the molecular mechanisms used by the immunological system to recognize the antigens, to obtain their activation and the elimination of molecules, cells and organisms alien to the body. Clinical problems are included, mainly immunological ones. Emphasis on the interpretation of recent scientific readings presenting experimental studies in the field of molecular immunology.

### **BIOL 6004 - MOLECULAR GENETICS (3)**

Analysis of the hereditary characteristics, the relation between genes and the ruling of the genetic expression. Emphasis on molecular genetic research techniques. Includes topics such as structure and function of the genes, recombinant DNA, expression mechanism in prokaryotic and eukaryotic cells, genomic instability, cellular cycle control, proliferation, repair and apoptosis.

### **BIOL 6005 - BIOTECHNOLOGY AND BIOINFORMATICS (3)**

Analysis of the foundations of molecular biology that are the basis for the development and the applications of biotechnology. Includes the basic aspects of recombinant DNA technology, the methodology, techniques and processes that are necessary for the development of any biotechnological application. Emphasis on the studies of genomes, manipulation of genes, generation and handling of biological sequences and structural information, including the relation between sequence, structure and function of macro-molecules.

### **BIOL 6006 - BIOMOLECULAR TECHNIQUES LABORATORY (3)**

Training and development of the abilities of research and scientific thought by means of the accomplishment of experiments of a biomolecular nature. Application of the methodologies and use of equipment in research laboratories. Emphasis on experimental design and the fundamental skills of scientific writing. Requires 30 hours of lecture and 30 hours of closed laboratory.

### **BIOL 6007 - PLANTS BIOTECHNOLOGY (3)**

Analysis of the foundations of the molecular Biology of plants and the developments of technologies for genetic manipulation. Emphasis on the structure and function of the genes and genomes and the development of transgenic systems and metabolic genetic engineering, the environmental impact of the transgenic plants and the regulations that govern their use.

### **BIOL 6008 - ADVANCED VIROLOGY (3)**

Analysis of the general, physical and genetic characteristics of the main groups of viruses that infect humans with pathogenic interest. Emphasis on the cycles of infection and viral duplication at the molecular and cellular level. In addition, the fundamental aspects of the relation of the virus with the infecting cell guest and the immune response are discussed.

**BIOL 6009 - BIOREMEDIATION (3)**

Analysis of the foundations of remediation of contaminated environments by means of the use of biological methods. Analysis of the development and use of microorganisms, and natural and genetically modified plants for the treatment of waters, land and sediments.

Prerequisite: BIOL 5002.

**BIOL 6010 - PROTOZOOLOGY (3)**

Analysis of the main groups of protozoa that affect man and other animals. Emphasis on basic biological aspects, structure, ecology, survival strategies, their transmission and control.

**BIOL 6012 - BIOLOGY AND CONSERVATION OF MARINE MAMMALS (3)**

Analysis and discussion of topics in biology, ecology, distribution, abundance, taxonomy, phylogeny, evolution, anatomy, physiology, natural history, development, and behavior of the marine mammals. Emphasis on the conservation programs of whales, dolphins and manatees in the Caribbean area.

**BIOL 6013 - ENVIRONMENTAL MICROBIOLOGY (3)**

Analysis of the interactions between microorganisms and their biotic and a-biotic environment. Emphasis on the distribution, function and impact of microorganisms in the environment. Use of microorganisms as instruments of bioremediation and conservation. Requires 45 hours of lecture/lab.

**BIOL 6014 - BACTERIOLOGICAL DIAGNOSIS (3)**

Analysis of the general principles that govern the identification of the organisms. Study of the selection, collection and transportation of clinical samples and other products. Includes the study of conventional and fast methods of identification of microorganisms. The systems of classification of organisms and the main groups of bacteria. Requires 45 hours of lecture/lab.

**BIOL 6015 - EXTREMOPHILES (3)**

Study of organisms that live in extreme environments with an emphasis on bacteria. Analysis of the mechanisms that these have to live in various extreme environments. Discussion of the importance and commercial potential that these organizations have in different industries.

**BIOL 6016 - EVOLUTIONARY PROCESSES (3)**

Analysis of the evolutionary mechanisms and the patterns

of biological diversity that result from these. Focus on the genetic and ecological aspects of evolution. Discussion of the importance of evolution in the health, agriculture and conservation areas.

**BIOL 6020 - BIOTERRORISM AND BIODEFENSE (3)**

Development of the knowledge and analytical skills necessary to identify and assess biological threats of natural or intentional origin. The organisms with the greatest potential for bioterrorism and emerging organisms are analyzed. Emphasis is placed on the aspects of transmission, spread, symptoms, diagnosis, treatment and control of these infectious agents.

**BIOL 6021 - BIOSECURITY FOR RESPONDERS (3)**

Critical examination of biosecurity aspects for primary responders. Analysis of exposure risks for responders in the community, during transport, in the laboratory and in the hospital. Emphasis on aspects related to infection control and the protection of responders to avoid infection and protect their families from potential exposure.

**BIOL 6022 - FOOD HYGIENE AND BIOSECURITY (3)**

Analysis of the main diseases transmitted by water and food. It includes the study of the agents associated with the deliberate or involuntary contamination of foodstuffs and the hygiene measures to control them. Emphasis is placed on the aspects of food safety, risk reduction, epidemiological surveillance and the role of the laboratory in the control of outbreaks and epidemics.

**BIOL 6023 - MICROBIOLOGY AND MEDICAL ENTOMOLOGY (3)**

Study of tropical diseases transmitted by vectors with the greatest impact on public health. The main vectors and the diseases that they cause as transmitters of infectious agents and as directly responsible for pathology are discussed. Emphasis on diseases of viral, bacterial and parasitic origin with their respective treatments and the functions of systematic surveillance and vector control.

**BIOL 6050 - CELLULAR AND MOLECULAR BIOLOGY (3)**

Integration of genetics and molecular biology, their evolution and how they are framed within biotechnology and bioinformatics. Presentation of techniques for the analysis of DNA and proteins. Use of bioinformatics tools for the analysis of genetic sequences and proteins. Emphasis on the application of these concepts in the

classroom for the different school levels. It requires 45 hours of conference-laboratory.

**BIOL 6102 - ENVIRONMENTAL AND ECOLOGICAL SCIENCES (3)**

Analysis and discussion of environmental characteristics and their effect on the different ecological systems. Study of the main processes of environmental contamination of the soil, water and air. Emphasis on the strategies of conservation and restoration of the ecological systems by means of the use of the different trends of ethical-ecological thought.

**BIOL 6103 - TROPICAL ECOLOGY (3)**

Analysis of the evolution of species in the tropics. Emphasis on tropical communities and ecosystems. Emphasis on the biotic and a-biotic interactions that influence the biodiversity of the tropics. Includes the flow of energy through the trophic network. Requires 45 hours of lecture/lab.

**BIOL 6104 - POPULATION ECOLOGY (3)**

Analysis of the dynamics of populations and importance in the evolutionary mechanisms. Focus on demography, population growth and control of tropical organisms. Includes the techniques of population studies, marks and recapture, histories of life and genetics of populations. Requires 45 hours of lecture/lab.

**BIOL 6105 - ISLAND BIOGEOGRAPHY (3)**

Analysis of the geologic origins and the biodiversity of islands. Focuses on the a-biotic and biotic processes that influence the ecological and evolutionary processes in islands. Emphasis on islands as models for the study of evolution and conservation.

**BIOL 6107 - POLLUTION AND ECOLOGICAL SYSTEMS (3)**

Analysis of the main factors that govern the ecosystems and the impact of contamination on them. Analysis of the flow of polluting agents and toxic compounds through the environment.

**BIOL 6108 - ENVIRONMENTAL PHYSIOLOGY OF ANIMALS (3)**

Analysis of the physiological aspects of ecology and conservation. Analysis of the evolution and operation of physiological systems in relation to the environment. Emphasis on the dynamics of the natural history of animals and their dependency of the environment in which they develop, with special attention to the hydro, energy,

locomotion and thermoregulation balance of terrestrial vertebrates in islands.

**BIOL 6109 - DEVELOPMENTAL BIOLOGY (3)**

Study of the development of multi-cellular organisms. Discussion of the anatomical perceptions of embryology and the life cycle of organisms. Emphasis on the relation between unicellular and multi-cellular organisms. Analysis of the genetic factors and their roles in the development of the embryo in the context of the specification of the different structures within the organism. Emphasis on the foundations of experimental embryology and the importance of cellular communication.

Prerequisite: BIOL 5002.

**BIOL 6110 - RESEARCH SKILLS IN BIOLOGY (3)**

Application of the stages of the scientific method: bibliographic search, experimental design, interpretation and data analysis; as well as the presentation and writing of scientific articles. Emphasis on research applicable to students at intermediate and higher levels. It requires 45 hours of conference-laboratory.

**BIOL 6111 - CURRENT TOPICS IN BIOLOGY (3)**

Critical analysis of current issues in biology through readings and discussion of articles from scientific journals. Prerequisites: The student must have approved 15 credits of the area of specialization or with the authorization of the professor of the course.

**BIOL 6204 - METHODS OF RESEARCH IN ECOLOGY (3)**

Development of skills of research and scientific thought. Includes the discussion of theoretical aspects and field practice to prepare students in the planning and development of research in ecology. Emphasis on the experimental design and on the fundamental skills of the scientific document. Requires 30 hours of lecture and 30 hours of closed lab.

**BIOL 6904 - CELLULAR BIOLOGY (3)**

Analysis of the function and structure of cells, tissue, organs and their organizational levels, including physical and chemical mechanisms. Development of a curricular segment. Course designed for students in the Master of Education in Curriculum and Teaching of Biology.

**BIOL 6905 - MOLECULAR BIOLOGY (3)**

Comprehensive study and analysis of topics in structure and expression of nucleic acid, repair and genetic

regulation, recombination and transcription of the DNA, the genetic code and protein synthesis, cellular division and carcinogenesis, in addition to the basic principles of biotechnology. Laboratory demonstrations are included. Development of a curricular segment. Course designed for students in the Master of Education in Curriculum and Teaching of Biology.

### **BIOL 6906 - HUMAN PHYSIOLOGY (3)**

Comprehensive study and analysis of human body function. Emphasis on the integration of basic functions from the cellular level to the total organism. Integration of physiological concepts for problem solving. Laboratory demonstrations will be included. Development of a curricular segment. Course designed for students in the Master of Education in Curriculum and Teaching of Biology.

### **BIOL 6907 - IMMUNOLOGY (3)**

Study and analysis of the cellular, humeral and molecular aspects of immune reactions. There will be an introduction to the immunocitochemistry. Emphasis on antigen-antibody reactions. Laboratory demonstrations will be included. Development of a curricular segment. Course designed for students in the Master of Education in Curriculum and Teaching of Biology.

### **BIOL 6908 - MARINE BIOLOGY (3)**

Comprehensive course that includes the general description of tropical marine ecosystems and the integrated study of oceanographic processes of the communities of the costal area, beaches, rocky coast, areas of marine grass, mangrove swamps and coral reef. The interactions of the plankton and bentikos ecosystems, nutrient cycle, productivity and trophic chains will be described. Field trips will be included. Development of a curricular segment. Course designed for students in the Master of Education in Curriculum and Teaching of Biology.

### **BIOL 6909 - BIOGEOGRAPHY (3)**

Study of space distribution patterns of flora and fauna on the earth's surface. Designed with a multidisciplinary approach with emphasis on the connection of ecology, geography, geology and the evolutionary history of earth organisms. Field trips will be included. Development of a curricular segment. Course designed for students in the Master of Education in Curriculum and Teaching of Biology.

### **BIOL 6910 - ENVIRONMENTAL SCIENCE (3)**

Study and analysis of the principle concepts and forms of teaching environmental science at the primary and secondary school levels. Emphasis on the scientific aspects of environmental studies, including the description and analysis of socioeconomic and cultural factors that affect the natural environment and ecosystems. Field trips will be included. Development of a curricular segment. Course designed for students in the Master of Education in Curriculum and Teaching of Biology.

### **BIOL 6970 - INTEGRATIVE SEMINAR IN BIOLOGY (3)**

Analysis of current topics related to the field of biology or teaching in biology. Critical analysis of contemporary scientific literature and research. It requires the presentation of written and oral works. Prerequisite: Have passed all specialization courses. Grade: P/NP.

### **BIOL 6971 - SEMINAR I (1)**

Analysis of recent scientific articles in the different areas of Biology. Emphasis on the discussion of the most recent techniques and the analysis of the results. Grade: P/NP.

### **BIOL 6972 - SEMINAR II (1)**

Preparation of an oral presentation of a topic in the area of biology, using as it basis recent scientific articles. Grade: P/NP.

Prerequisite: BIOL 6971.

### **BIOL 6990 - SCIENTIFIC WRITING (3)**

Discussion of scientific articles focused on experimental design. Application of the principles of effective writing. Study of the appropriate styles of writing in the sciences. The development of scientific article and research proposals is required. Emphasis on the process of writing and the scientific and ethical principles associated to this.

Prerequisite: BIOL 6006 or BIOL 6204 according to the specialization.

### **BIOL 6991 - THESIS I (4)**

Development and presentation of a research proposal and the later conduct of a scientific research work based on this proposal. This proposal must have the approval of the thesis adviser. Grade: P/NP.

### **BIOL 6992 - THESIS II (4)**

Development of the scientific research work proposed in BIOL 6991. Grade: P/NP.

**BIOL 6993 - THESIS III (4)**

Completion and presentation of the scientific research work initiated in BIOL 6991 and continued in BIOL 6992. Grade: P/NP or TP.

**BIOL 6994 - CONTINUATION OF THESIS (3)**

Continuation of the scientific research work proposed in BIOL 6991 and elaborated in BIOL 6992. Rating: P/NP.

Prerequisite: BIOL 6992 and authorization of the department chair.

**BIOL 6995 - RESEARCH PROJECT IN BIOLOGY (3)**

Planning and development of a theoretical or experimental research project in the field of biology or teaching of biology, under the supervision of a professor. It requires an oral and written presentation of the research work and additional hours of work in or outside the laboratory. The student will enroll in this course as many times as necessary until completing his research work. Requisite: approval of the professor to enroll in the course. Grade: P/NP.

**BIOT - Biotechnology****BIOT 5011 - Cellular and Molecular Biotechnology (3)**

Analysis of the basic metabolic routes associated with cellular growth and their regulation. Includes the principles on which the Mendelian and molecular genetics, the methods used in genetic engineering and bioinformatics are based. Emphasis on the applications related to the selection and manipulation of DNA, the expression, the purification of proteins and the analysis of sequences.

**BIOT 5021 - Biotechnology Laboratory Skills I (3)**

Introduction to molecular and cellular laboratory techniques, fundamental in Biotechnology. It includes topics related to the design, implementation, skills development and analysis of applications of biomolecules such as DNA, RNA and proteins, and aspects of cloning and molecular expression. Introductory discussion of plant and animal tissue culture techniques. It requires 45 hours of face-to-face closed laboratory.

**BIOT 5022 - Biotechnology Laboratory Skills II (3)**

Application of instrumental methods and laboratory techniques for the study of biomolecules. Emphasis on the use of laboratory techniques such as ultraviolet, visible and infrared spectroscopy, atomic spectroscopy, liquid and gas

chromatography and mass spectrometry, in the qualitative and quantitative analysis of biomolecules. It includes the instrumental analysis of proteins and derivatives, carbohydrates, lipids and nucleic acids. Use of statistical methods to analyze and interpret the data generated. It requires 45 hours of face-to-face closed laboratory.

**BIOT 6100 - Bio-Security (2)**

Critical review of current topics in the area of security and biotechnology. Analysis of findings, applications and pertinent implications of animal and plant biotechnology.

**BIOT 6105 - Biotechnology of Microorganisms (3)**

Analysis of the concepts and of the applications of the microorganisms relevant to biotechnology. Includes the use of microorganisms in diverse genetic engineering techniques. Emphasis on their application in industry, agriculture and health.

**BIOT 6115 - Biotechnology of Plants (3)**

Analysis of the principles associated to the use of plants in biotechnology. The implications of the biotechnology in modern agriculture, genetic engineering of plants, and in bio-fuels are examined. Identification of the challenges and opportunities in the use of plants in biotechnology.

**BIOT 6116 - Micro-Propagation of Plants (3)**

Critical analysis of the principles and technologies associated with the micro-propagation of plants. Description of the Prerequisites of culture rooms, sterile clothes, aseptic techniques and instrumentation to generate and maintain the plants in optimal growth conditions. Application of plant tissue, organs, cells and protoplasts cultures.

**BIOT 6120 - Animal Biotechnology (3)**

Critical review of the genetic bases of features associated with health and animal production. Analysis of the potential of animal cells with regard to their selective and programmed alteration through genetic engineering. Integration of the technologies of genomic manipulation in animal cells. Includes strategies for the genetic improvement of animals and the different ethical-social perspectives and socio-ethical implications.

**BIOT 6125 - Instrumental Analysis of Biomolecules (3)**

Review of the theoretical aspects and the applications of the instrumental methods for the analysis of bio-molecules. Emphasis on ultraviolet spectroscopy, and visible and infrared spectroscopy of atomic absorption, liquid and gaseous chromatography, centrifugation, electrophoresis



and mass spectrometry. Emphasis on the instrumental analysis of proteins and derivatives, carbohydrates, lipids and nucleic acids.

**BIOT 6130 - Animal Tissue Culture in Industrial Biotechnology (3)**

Analysis of the applications of tissue culture of animal origin, mainly mammals, in the biotechnology industry and in medicine. Emphasis on the requirements for the generation, characterization and management of an optimal tissue culture at an industrial level. Evaluation of the potential of animal cells as relevant tools for the development of tests, methods and products that prevent and / or counteract diseases. It includes the explanation of strategies for the genetic improvement of animal cells, as well as the different perspectives and ethical-social implications related to tissue culture.

**BIOT 6200 - Industrial and Commercial Biotechnology (3)**

Critical analysis of the technologies involved in the production of biological products and the strategies for the planning and the organization of biotechnological industries. Emphasis on the technologies required in the bio-processes for the production of secondary metabolites, enzymes, biopharmaceuticals, among others. Integration of examples of business plans, marketing and intellectual property regarding biotechnology.

**BIOT 6210 - Improvement of Cultures for the Production of Food and Biofactories (3)**

Analysis of the theoretical aspects and the practical applications of the biotechnological methods for the improvement of cultures. Discussion of the technologies associated with the use of plants as expression systems and means to produce substances with biomedical, agricultural and environmental value. Emphasis on the development of plants with high nutritional value and as bioreactors.

**BIOT 6215 - Biotechnology and Crop Production (3)**

Analysis of biotechnological developments in agricultural crops for food production. Contrast of trends in the agri-food industry and sustainable food production to face climate change. Evaluation of biotechnological tools to achieve higher quality and quantity of food.

**BIOT 6220 - Research Methods in Biotechnology (3)**

Application of the scientific method in the solution of a problem related to biotechnology. Includes the preparation of a research proposal, the training and the implementation of laboratory techniques, the interpretation and the analysis

of scientific data, as well as the presentation of preliminary data related to the proposal.. Selection of the Thesis Committee. Grade: P/NP.

**BIOT 6221 - Research Methods in Biotechnology II (3)**

Continuation of research in the biotechnology area. Application of the scientific method in the solution of a problem related to biotechnology. Includes follow-up to the development of a research topic, the interpretation and the analysis of scientific data in harmony with the thesis proposal. Grade: P/NP.

Prerequisite: BIOT 6220.

**BIOT 6225 - Marine Biotechnology (3)**

Analysis of the principles and technologies associated with the biotechnological applications of marine life. Discussion of the applications related to biotechnological products derived from marine life, such as biofuels and medicines.

**BIOT 6230 - Bioprocesses (3)**

Analysis and practice of the technologies involved in the biological conversion of raw material, such as: plant-made pharmaceuticals, foods, fuels, secondary metabolites, and chemical substances. Integration of examples of biotechnological products and procedures to assure quality and compliance with the regulations of the industry.

**BIOT 6235 - Biotechnology of Food (3)**

Analysis of the role of biotechnology in food processing and preservation. Comparison of the different strategies for using microorganisms in food production. Discussion of regulations, quality and biosafety in the food industry.

**BIOT 6240 - SPECIAL TOPICS IN BIOTECHNOLOGY (3)**

Critical analysis of recent and relevant topics in the area of biotechnology. Emphasis on findings and on biotechnological applications to solve biomedical, industrial, environmental and agricultural problems.

**BIOT 691\_ - Internship in the Biotechnology Industry (3)**

Application of biotechnology principles in a real setting, through an internship in an industry or institution that carries out activities in the area of biotechnology. 150 hours of practice are required in the bio-industry. Analysis of processes that involve methodologies, techniques, regulations and business issues of biotechnology. Requires 45 hours of conference. Grading: P / NP

### **BIOT 6990 - Thesis in Biotechnology (3)**

Development of a thesis by means of the compilation and analysis of the experimental results of the research project. The student will work under the supervision of a thesis adviser and the thesis committee. Includes the defense of the thesis. Students will register as many times as necessary until finishing their research work. Grade: P/TP/NP.

Prerequisite: BIOT 6220.

### **BIOT 797\_ - SPECIAL TOPICS IN BIOTECHNOLOGY (3)**

Analysis of special and current issues in biotechnology. Emphasis on new methodological and technical aspects.

### **BIOT 7110 - MOLECULAR AND EPIGENETIC BIOLOGY (3)**

Study of the concepts of central dogma, DNA and gene regulation in eukaryotic and prokaryotic organisms. Emphasis on RNA biology, RNA-induced silencing mechanisms in eukaryotes and phenotype characterization using direct and inverse genetic approaches. Analysis of Mendelian Genetics with emphasis on the application of epigenetics. Application of experimental designs for the understanding of molecular biology and epigenetics in biotechnology. Requires 30 hours of conference and 45 hours of laboratory.

### **BIOT 7120 - PROTEOMIC (3)**

Analysis of the function of individual proteins or protein collection within an organism. Application of current methodologies used to identify and analyze proteins. It includes protein electrophoresis, chromatography, mass spectrometry and analysis using protein databases to generate comparison between tissues. Evaluation of new tools for the analysis of proteins involved in metabolic pathways. Analysis of cases derived from current scientific literature is required. Requires 30 hours of conference and 45 hours of laboratory.

### **BIOT 7130 - EXPERIMENTAL DESIGNS AND BIO-STATISTICS (3)**

Analysis of the theoretical foundations and practical applications of various experimental designs for biological studies. Emphasis on the integration of statistical knowledge for the application of analysis of variance, average and probability in experimental designs. Includes sample selection, correlation analysis and regression.

### **BIOT 7140 - BIOINFORMATICS (3)**

Computerized analysis of the structure of nucleic acids and proteins. Emphasis on the study of genomes, transcripts, proteomes, gene manipulation, generation and management of sequences and structural information. Examination of the fundamental properties of genes, chromosomes and genetic alterations using the available bioinformatics tools to extract and analyze the information. It requires 30 hours of conference and 45 hours of open laboratory.

### **BIOT 7210 - SCIENTIFIC COMMUNICATION SKILLS (3)**

Study of the basic principles of writing and persuasive presentation. Application of the principles of writing to a scientific audience. Emphasis on the presentation of research. It includes the identification and justification of the problem, previous work, future perspectives, experimental materials, data collected and discussion of results.

### **BIOT 7220 - INTERNATIONAL LAWS, REGULATIONS AND STANDARDS IN BIOTECHNOLOGY (3)**

Study of international laws, regulations and standards related to biotechnology. Discussion of the ethical and moral aspects of the application of genetic engineering and molecular manipulation of living organisms, bioethical and regulatory impacts related to biotechnology and its modern advances. Emphasis on regulations and commercial aspects related to the application of biotechnology.

### **BIOT 7230 - AGRICULTURAL BIOTECHNOLOGY (3)**

Analysis of the current state of crop biotechnology, applications of cisgenesis and transgenesis, as well as of the innovation involved in the approaches of genetic modification and its application in plants. Emphasis on the analysis of advanced regulations applied to plant improvement, cisgenic development, biodiesel production using oil crops, used oils and algae. Integration of the most outstanding characteristics, differences between transgenic and cisgenic, the impact of germplasm of transgenic plants on agriculture and reforestation. Requires 30 hours of conference and 45 hours of laboratory.

### **BIOT 7240 - DEVELOPMENT AND GENETIC EXPRESSIONS IN ANIMALS (3)**

Study of advanced gene transfer techniques in animals using the recombinant DNA technique. Discussion of cloning strategies, gene libraries, DNA sequence analysis,

selection of recombinant organisms by genetic expression, polymerase chain reaction (PCR), and hybridization techniques. Analysis of the cellular and molecular aspects of animal growth and tissue development, with emphasis on animals for human consumption. Requires 30 hours of conference and 45 hours of laboratory.

### **BIOT 7310 - GLOBAL PROBLEMS IN BIOTECHNOLOGY (3)**

Discussion of the role of plants in the global ecosystem and the relationship between plants and people. Analysis of genetically modified plants in relation to consumers and the environment. Emphasis on conventional and organic agriculture, sustainable production, patents, GMOs, and ethical and moral implications worldwide. It includes advances in biotechnology in the fight against bioterrorism, forensic sciences, marine biology, genetic therapy, bioassays, and various diagnostic procedures.

### **BIOT 7320 - BIOETHICS AND INTERNATIONAL REGULATORY PROBLEMS (3)**

Analysis of individual and organizational responsibilities in research. Emphasis on business aspects and the biotechnology trade. Discussion of issues related to government and industrial regulations, intellectual property rights, privacy, ethics, and social concerns nationally and internationally. Discussion of relevant cases related to biotechnology.

### **BIOT 7330 - ROTATION IN BIOTECHNOLOGY LABORATORIES (3)**

Development of practical skills for the use of various laboratory instruments and equipment through rotation in different areas of biotechnology research. Emphasis on the execution of techniques to carry out short-term projects. Rotation will be through several experimental processes within the laboratory of a single researcher or through multiple laboratories in and outside of Puerto Rico. Requires 30 hours of conference and 45 hours of laboratory. Requires the approval of the chair of the doctoral program.

### **BIOT 7340 - METABOLIC ENGINEERING (3)**

Design of metabolic pathways to convert raw materials into food, pharmaceuticals, fuels, and other chemicals. Emphasis on genetic engineering to modify the metabolism of an organism. It includes modern technologies and challenges within the field. Evaluation of the design of metabolic pathways and their regulatory mechanisms. Requires 30 hours of conference and 45 hours of laboratory.

### **BIOT 7350 - INDUSTRIAL BIOTECHNOLOGY (3)**

Discussion of the problems, strategies and technologies of the biotechnology industry. Emphasis on methods for planning and organizing biotechnology companies. Integration and development of the elements of a business plan with methods to assess the needs of capital, personnel, technology, and marketing sectors. Technology evaluation and the development of joint ventures related to biotechnology. Requires 30 hours of conference and 45 hours of laboratory.

### **BIOT 7360 - VEGETABLE TISSUE AND CELL CULTURE (3)**

Analysis of the concepts related to totipotency and the different cultivation techniques of plant cells, tissues and organs for the effective and efficient regeneration of plants using in vitro culture conditions. Practical use of micropropagation and germplasm of plants for the development of future research and for commercialization. Requires 30 hours of conference and 45 hours of laboratory.

### **BIOT 7370 - BIOTECHNOLOGY OF FOOD SECURITY (3)**

Evaluation and integration of the main health and safety problems of bioengineering. It includes food products of plant or animal origin and food components. Emphasis on the biotechnological controls of microorganisms transmitted by food and food processing systems.

### **BIOT 7380 - BIOTECHNOLOGY OF CROP IMPROVEMENT (3)**

Analysis of the application of biotechnology in the improvement of plants of economic interest to increase the characteristics of high value. Integration and application of the fundamental concepts of plant regeneration and micropropagation, molecular biology, genetic engineering, genetic expression, progeny evaluation, gene cloning, and resistance to various parameters that generate stress in plants. Emphasis on the search for solutions to various challenges in crop improvement through biotechnology. Study of innovative techniques to improve the productivity and sustainability of crops. Requires 30 hours of conference and 45 hours of laboratory.

### **BIOT 7390 - MARINE BIOTECHNOLOGY (3)**

Analysis of the relevant technologies and applications for the mass culture of fish, macroalgae and microalgae for the production of biomass or specific products. Discussion of basic culture, physiology and nutrition of organisms, environmental factors that affect cell composition, mass

culture and subsequent processing. Detailed evaluation of the economic applications of microalgae that are used for the generation of products at the industrial level and the analysis of species with research potential. Requires 30 hours of conference and 45 hours of laboratory.

**BIOT 8911 - RESEARCH METHODS I (3)**

Application of the scientific method in solving problems associated with Biotechnology. It includes the preparation of an independent research proposal and the selection of mentors that will constitute the thesis committee. Review and approval by the mentors of the research proposal. It is required to have completed the core courses and periodic meetings with the mentors to discuss the progress of the proposal. Grade: P / PP / NP.

**BIOT 8912 - RESEARCH METHODS II (3)**

Development of thirty percent (30%) of the research objectives approved by the mentors in the course of Research Methods I. Discussion of the analysis of the initial results of the investigation. Regular meetings with mentors are required to discuss the progress of the research proposal. Grade: P/PP/NP.

Prerequisite: BIOT 8911.

**BIOT 8913 - RESEARCH METHODS III (3)**

Development of ninety percent (90%) of the research objectives approved by the Thesis Committee in the course of Research Methods I. Discussion of the analysis of the research results with the thesis committee. Emphasis on the critical analysis of the results for the final design of the research dissertation. Regular meetings with mentors are required to discuss the progress of the investigation. Grade: P/PP/NP.

Prerequisite: BIOT 8912.

**BIOT 8917 - INTERNATIONAL PRACTICES (3)**

Participation in a supervised practice experience in an international laboratory. Emphasis on learning scientific methods and analyzing data in research, developing skills to initiate international collaborations and personal interactions with the scientific community. The presentation and discussion of research work is required. This course may require additional costs related to trips abroad. Requires the approval of the chair of the doctoral program.

**BIOT 8991 - DOCTORAL DISSERTATION IN BIOTECHNOLOGY I (3)**

Integration of experimental theory and practice for the

development of one hundred percent (100%) of the research objectives of the doctoral thesis project on an innovative topic of biotechnology. The development and preparation of a peer-reviewed article for international publication and the follow-up to the written document of the doctoral dissertation is required. Grade: P/DP/NP.

Prerequisite: BIOT 8913.

**BIOT 8992 - DOCTORAL DISSERTATION IN BIOTECHNOLOGY II (3)**

Application of oral presentation skills of research work before an expert audience in the area. Emphasis on the development of the structure of a presentation and detailed analysis of the research work. The presentation and defense before the Thesis Committee will be required. Grade: P/DP/NP.

Prerequisite: BIOT 8991.

## BLED - Bilingual Education

**BLED 5020 - SOCIOCULTURAL ASPECTS IN BILINGUAL TEACHING (3)**

Analysis of the factors that influence in the concept of multicultural and bilingual education. Emphasis on the selection and integration of teaching strategies, assessment and curriculum that reflect language, ethnic group, gender and other components of cultural diversity.

**BLED 5040 - MATERIALS AND TECHNOLOGY IN THE BILINGUAL CLASSROOM (3)**

Evaluation and preparation of resources for teaching in a bilingual and multicultural scene. Use of technology in teaching in a multicultural society and analysis of its implications for the teaching and learning process.

**BLED 5050 - BILINGUAL EDUCATION FOR DIVERSE AND EXCEPTIONAL STUDENTS (3)**

Application of research results in the teaching of emerging and completely bilingual students. Analysis of teaching methods for linguistically diverse and exceptional students.

**BLED 6020 - METHODS OF BILINGUAL TEACHING AT THE ELEMENTARY LEVEL (3)**

Analysis of models and strategies of teaching in a bilingual environment at the elementary level. Demonstration of teaching techniques. Evaluation of materials and resources available on the market.

**BLLED 6040 - CONTEMPORARY TOPICS IN BILINGUAL EDUCATION (3)**

Exploration and discussion of contemporary topics in the field of the bilingual education.

**BLLED 6510 - ASSESSMENT IN A BILINGUAL EDUCATIONAL SCENARIO (3)**

Study of the basic principles and the innovating approaches to evaluation in bilingual education. Selection, adaptation, development and administration of a variety of evaluation techniques.

**BUED - Business and Entrepreneurial Education****BUED 5000 - ADMINISTRATION OF OCCUPATIONAL AND TECHNICAL PROGRAMS (3)**

Analysis of theories and principles governing the administration of vocational and technical programs. Emphasis on the participation of the administrator in the development and supervision of curriculum, budget preparation and personnel training. History of these programs and applicable federal and state laws.

**BUED 5010 - METHODOLOGY IN THE TEACHING OF THE KEYBOARD AND PROCESSING INFORMATION (3)**

Analysis of the instructional procedures, principles and techniques in developing skills for the selection and preparation of instructional material; measurement of achievement, and evaluation of student performance. Examination of the problems in developing of high level of keyboard skills and in information processing.

**BUED 5015 - METHODOLOGY IN THE TEACHING OF ENTREPRENEURIAL, BUSINESS ADMINISTRATION AND MARKETING (3)**

Application of administrative theories, entrepreneurial principles, the process of formation or acquisition of companies, and the techniques and procedures in the managerial process. Application of marketing concepts and principles. Analysis and evaluation of teaching strategies applicable to the area of enterprise development, business administration and marketing at the different levels.

**BUED 5020 - METHODOLOGY IN THE TEACHING OF ACCOUNTING (3)**

Analysis of the principles, techniques and resources

governing the teaching of accounting. Development of instructional objectives, competencies, methods, activities and evaluation techniques. Integration of the computer in teaching accounting.

**BUED 5030 - METHODOLOGY IN THE TEACHING OF SHORTHAND, TRANSCRIPTION OR ANOTHER SYSTEM OF ABBREVIATED WRITING (3)**

Study of instructional procedures, principles and techniques in developing skills, selection and preparation of teaching material, measurement of achievement and evaluation of student performance. Examination of the problems in abbreviated writing systems. Integration of the elements in the development of transcription skills.

**BUED 5035 - COMPUTERS IN THE TEACHING OF BUSINESS AND ENTREPRENEURIAL EDUCATION (3)**

Analysis of principles, techniques and resources used in the evaluation of computers as instructional tools. Computer programs useful in teaching business and entrepreneurial education courses. Programs with educational applications, such as: calculus electronic sheet, database, word processing, advertising art, and tutorials.

**BUED 5040 - CURRICULAR INNOVATIONS IN TEACHING (3)**

Analysis of the trends related to the principles, techniques and resources for teaching different disciplines in the area of business and entrepreneurial education. Evaluation of current topics and their implications for the development of pedagogical initiatives.

**BUED 5050 - FUNDAMENTALS OF VIRTUAL LEARNING (3)**

Study through the discussion of the principles and theories on which virtual education is based. Analysis of diverse scenarios and effective teaching techniques for the implementation of virtual offerings. Use of synchronous and asynchronous technological tools to achieve learning in virtual environments.

**BUED 5055 - METHODOLOGY FOR THE TEACHING OF COURSES RELATED WITH HEALTH SERVICES (3)**

Analysis of business procedures in health service offices. Includes techniques and teaching strategies for courses related to this subject, as well as the study of electronic medical records and ethical principles. Evaluation of the laws, regulations and technological resources that govern

the function and operation of this type of office.

**BUED 5060 - PREPARATION OF MATERIALS FOR VIRTUAL EDUCATION (3)**

Application of design techniques and preparation of educational material directed towards learning through the Internet. Elaboration of instruction modules and didactic material to be distributed through a Website or a management system of on-line courses. Requires additional time in an open laboratory.

**BUED 6000 - ADMINISTRATION AND SUPERVISION OF BUSINESS AND ENTREPRENEURIAL EDUCATION (3)**

Introduction to the basic principles of administration and supervision; tendencies, strategies, history, laws, and purposes of business and entrepreneurial education.

**BUED 6010 - CURRICULUM DESIGN IN BUSINESS AND ENTREPRENEURIAL EDUCATION (3)**

Development, utilization and evaluation of the business education curriculum; effective curricular practices; basic guides for the development and evaluation of a business and entrepreneurial education curriculum. Identification of content, program organization, preparation of instructional objectives, guides for the selection and development of instructional materials.

**BUED 6020 - ASSESSMENT, MEASUREMENT AND EVALUATION IN BUSINESS AND ENTREPRENEURIAL EDUCATION (3)**

Analysis of the evaluation and assessment process in teaching Business Education courses with emphasis on skills courses. Emphasis on the construction, administration and interpretation of tests and the existing evaluation systems and electronic manuals in the area.

**BUED 6050 - STRATEGIES FOR OFFICE PERSONNEL TRAINING (3)**

Application of the educational theories of learning to the training of office systems personnel. Analysis of the instructional designs, technology, entrepreneurship, implementation and evaluation of trainings in an office environment. Analysis of laws that apply to the training of personnel. Writing of proposals for training office personnel.

**BUED 6060 - INTEGRATION OF TECHNOLOGY IN BUSINESS AND ENTREPRENEURIAL EDUCATION (3)**

Integration of instructional designs and the use of

technologies to achieve both teaching and learning processes. Application of strategies, techniques and technology assistance for students with special needs. Evaluation of existing technology for both teaching and administrative processes in Business and Entrepreneurial Education.

**BUED 6070 - VIRTUAL LEARNING ENVIRONMENTS FOR EXCEPTIONAL STUDENTS (3)**

Analysis of different virtual learning scenarios and their impact on the teaching of exceptional students. Practice in the development and evaluation of learning experiences for virtual environments aimed at exceptional students.

**BUED 6910 - PRACTICUM IN TEACHING BUSINESS EDUCATION COURSES AT THE SECONDARY AND/OR POST SECONDARY LEVEL (3)**

Supervised teaching of business courses at the secondary or post secondary level, coordinated by seminars. Students will be exposed to experiences within the classroom, under the direct supervision of a cooperating teacher with certification in the field. The internship will be conducted in public schools or in the approved scenarios that have business education programs.

**BUED 6911 - SUPERVISED PRACTICUM IN BUSINESS AND ENTREPRENEURIAL EDUCATION (3)**

Supervised practicum in the tasks of an administrator of a vocational or technical school with a Business Education Department, under a supervision of a faculty member. A minimum of eight hours of practicum per week during the semester for a minimum of 120 hours is required. Includes meetings and seminars with the practicum coordinator.

**BUED 6970 - INTEGRATING SEMINAR (3)**

Integration of the knowledge and skills acquired in the courses that compose the Master in Business Education. Emphasis on case analyses and the research of current topics related to this field of study.

**BUED 797\_ - SPECIAL TOPICS IN BUSINESS EDUCATION (3)**

Research of special topics in the area of the Business Education, in accord with student interests and under the supervision of a member of the faculty.

**BUED 7020 - HISTORICAL, SOCIAL AND ETHICAL ASPECTS IN BUSINESS EDUCATION (3)**

Review of the development of business education and its impact on society. Discussion of the elements related to the shifts of institutional paradigms; personal, organizational and social responsibilities. Analysis of the ethical principles related to the use of technology in the educational environment.

**BUED 7030 - CONTEMPORARY APPROACHES AND TEACHING STRATEGIES IN BUSINESS EDUCATION (3)**

Evaluation of contemporary teaching approaches and strategies applicable to Business Education. Critical review of instructional strategies for offering courses in traditional and nontraditional learning environments.

**BUED 7050 - BUSINESS EDUCATION AT THE POST-SECONDARY AND UNIVERSITY LEVELS (3)**

Evaluation of faculty and administrative practices and responsibilities in post-secondary and university level institutions in which Business Education programs are offered. Review of research related to the effectiveness of these programs.

**BUED 8500 - BUSINESS EDUCATION IN THE GLOBAL CONTEXT (3)**

Evaluation of the trends in Business Education programs at the local, state and international levels. Review of the different geographic and cultural contexts in which these programs are developed.

**BUED 8520 - EVALUATION AND SELECTION OF EMERGENT TECHNOLOGY IN BUSINESS EDUCATION (3)**

Evaluation of the emergent technology for business and vocational programs. Analysis of strategies for the effective selection of equipment and software for the development of academic programs.

**BUED 8525 - ASSESSMENT AND EVALUATION OF BUSINESS EDUCATION PROGRAMS (3)**

Design of assessment and evaluation strategies for the development of Business Education programs. Analysis of research related to assessment processes. Requires the preparation of an assessment project for an educational scenario.

**BUED 8615 - DESIGN AND ADMINISTRATION OF BUSINESS EDUCATION PROGRAMS (3)**

Evaluation of theories, principles, techniques and practices for the design and administration of academic programs based on competencies. Study and evaluation of the norms and regulations that govern these programs in public and private scenarios.

**BUED 8620 - INSTRUCTIONAL DESIGN FOR ONLINE BUSINESS COURSES (3)**

Application of theories and techniques of instructional design for online skills courses. Preparation of a instructional module using a platform for course development.

**BUSI - International Business Intelligence****BUSI 6100 - INTERNATIONAL BUSINESS INTELLIGENCE (3)**

Description of business intelligence at strategic, tactical and operational levels. Discussion of the fundamentals in the value chain and its design, the management of customer service and local and international business process analysis. Exploration of transactions of processing systems, information management and executive information systems.

**BUSI 6200 - TOOLS IN BUSINESS INTELLIGENCE I (3)**

Assessment of the main elements of the databases in the functional areas of the company and its needs. Discussion of enterprise data relevant to the strategic levels and the value chain. Enterprise resource management and supply chain management simulations, data, storage. Analysis of the processes of support and service to the client for decision-making.

**BUSI 6300 - TOOLS IN BUSINESS INTELLIGENCE II (3)**

Application of tools to simulate business processes. Exploration of the critical factors for analysis and business decision-making. Integration of the concepts of critical performance through the development and application of database management. Building applications and optimization of processes and services-oriented models.

**BUSI 6970 - INTEGRATIVE SEMINAR (3)**

Seminar inclusive integration of the competencies required in the degree through the discussion of readings of

interdisciplinary, research, study and comparative analysis of business cases in the field of business intelligence and other relevant issues in the global arena.

### **BUSI 6990 - APPLICATION PROJECT (3)**

Development of an application project in the field of international business intelligence through simulation platforms. Integration of the principles, concepts, situations and problems related to business intelligence. Presentation of a written thesis and a simulation, supervised by a professor of the discipline. Grade: P/PP/NP.

Prerequisite: Having passed all core and specialization courses. It requires the approval of the Department Chair.

## **CHEM - Chemistry**

### **CHEM 5001 - CONCEPTUALIZATION AND APPLICATION OF CHEMISTRY IN THE CLASSROOM (3)**

Analysis of chemistry topics that are discussed in the classroom at the intermediate and higher levels. It includes micro and macro aspects, characteristics of chemical reactions, as well as calculations in chemistry. Analysis of relevant topics of modern chemistry. Discussion of techniques and recommended strategies for the teaching of chemistry topics in the classroom. It requires 45 hours of conference-laboratory.

### **CHEM 5005 - CHEMISTRY APPLIED IN THE DAILY LIFE (3)**

Application of chemical principles to everyday experiences. Emphasis on the use of the scientific method and those subjects that are covered in chemistry courses at the intermediate and higher school level, following the current curricular framework, as well as current topics. Preparation of audiovisual resources that stimulate scientific thinking and deepen students' chemical concepts. It requires 45 hours of conference-laboratory.

### **CHEM 5009 - DEVELOPMENT OF DIDACTIC MATERIALS IN CHEMISTRY (3)**

Design and manufacture of teaching materials that stimulate the scientific and logical thinking of the students, as well as their curiosity about chemistry. Review of safety standards, the use of everyday materials and electronic resources in the creation of laboratory experiences. Evaluation of the effectiveness of the materials created. It requires 45 hours of conference-laboratory.

### **CHEM 6000 - CHEMISTRY IN THE ENVIRONMENT (3)**

Analysis of the planet's environmental problems from a chemical point of view. Discussion of the chemical aspects in each environmental area: atmosphere, water and sediments. Evaluation of the use and benefits of green chemistry. Evaluation of information sources and tools available to the teacher. It requires 45 hours of conference-laboratory.

### **CHEM 6110 - SCIENTIFIC RESEARCH SKILLS IN CHEMISTRY (3)**

Application of the stages of the scientific method: bibliographic search, experimental design, interpretation and data analysis; as well as the presentation and writing of scientific articles. Emphasis on the research applicable to students at the intermediate and higher levels. It requires 45 hours of conference-laboratory.

### **CHEM 6111 - CURRENT TOPICS IN CHEMISTRY (3)**

Critical analysis of current issues in Chemistry through readings and discussion of articles from scientific journals. Requisites: The student must have approved 15 credits of the concentration area of specialization or with the authorization of the professor of the course.

### **CHEM 6904 - ADVANCED INORGANIC CHEMISTRY (3)**

Advanced study in the chemistry of transition elements with emphasis on coordination complexes, and on organometallic and inorganic compounds. Discussions will include molecular symmetry, electronic mechanisms of spectrums, theories of acids and bases, kinetic reactions and oxidation and reduction reactions. Study of group symmetry and theorems of the group theory with application to chemical structure, the type of connection and spectroscopy. Basic knowledge of linear algebra is needed. This course aims to prepare students to carry out research tasks in organic chemistry. As a complement to the educational component, students will develop a curricular segment where they will demonstrate mastery of the educational theory and a clear understanding of the fundamental chemical principles. Development of a curricular segment. Course designed for students in the Master of Education in Curriculum and Teaching of Chemistry.

### **CHEM 6905 - INSTRUMENTAL METHODS FOR CHEMICAL ANALYSIS (3)**

Advanced and detailed consideration of the theory and



practice of different methods of chemical analysis that use instrumentation in solving problems of chemical composition. The principles of different spectroscopic, electrochemical and chromatographic methods and their applications will be discussed. Applications of chemical analysis in areas such as molecular biology, science of materials, environmental science, earth science, pharmaceutical chemistry, and nutrition and public health will be discussed. Development of a curricular segment. Course designed for students in the Master of Education in Curriculum and Teaching of Chemistry.

### **CHEM 6906 - ORGANIC REACTION MECHANISMS (3)**

Detailed and intense revision of organic chemical reactions with emphasis on modern synthetic methods and their applications in the synthesis of complex organic compounds. Topics on stereochemistry, molecular structure, reaction mechanisms of organic molecules, and select reactions will be studied. Also considered will be reactions of enolates, reactions of condensation of carbonyl groups, interconversions of functional groups, reactions of electrophilic addition, reductions, organometallic reagents, arranged reactions, oxidations, synthesis strategies including retro-synthesis analysis in the context of multiple steps syntheses taken from recent specialized literature. Development of a curricular segment. Course designed for students in the Master of Education in Curriculum and Teaching of Chemistry.

### **CHEM 6970 - INTEGRATOR SEMINAR IN CHEMISTRY (3)**

Analysis of current issues related to the field of chemistry or teaching in chemistry. Critical analysis of contemporary scientific literature and research. It requires the presentation of written and oral works. Requisite: Have passed all concentration courses. Grade: P/NP.

### **CHEM 6995 - RESEARCH PROJECT IN CHEMISTRY (3)**

Planning and development of a theoretical or experimental research project in the field of chemistry or teaching of chemistry, under the supervision of a professor. It requires an oral and written presentation of the research work and additional hours of work in or outside the laboratory. The student will enroll in this course as many times as necessary until completing his research work. Requisite: Professor approval to enroll in the course. Grade: P/NP.

## **CJUS - Criminal Justice**

### **CJUS 5010 - LAW AND SOCIETY (3)**

Analysis of the interaction of the legal system of Puerto Rico, the individuals and society. Includes the laws, procedural aspects and the deliberate or non-deliberate consequences of the creation and application of the law. Integration of the criminological theories that contribute to the understanding of the dialectic relation between laws, individuals, and society.

### **CJUS 5023 - ELEMENTS OF CRIMINAL LAW (3)**

Discussion of the principles, theories and problems common to criminal law and of its development through history. Includes the doctrines of criminal responsibility and the legal capacity to commit crimes. Review of the elements of the crimes considering the infractions presented by the several fields of the penal legislation of Puerto Rico. Emphasis on the analysis and interpretation of legal cases.

### **CJUS 5055 - CRIMINOLOGY (3)**

Historical analysis of the scientific and interactive development of criminology and the creation of the formal and informal norms to take care of deviated and criminal behavior. Emphasis on the nature of the crime, the trends and the possible explanations of criminality from a biological, sociological, psychological and economic perspective. Review of social reactions to the social problem of criminality.

### **CJUS 5060 - METHODOLOGY OF SOCIAL-SCIENTIFIC RESEARCH (3)**

Analysis of the methodology of social-scientific research and its philosophical, theoretical and ethical aspects in the area of criminal justice. Application of the methodology studied in the design of the research proposal.

### **CJUS 5070 - SOCIAL-SCIENTIFIC RESEARCH APPLIED TO CRIMINAL JUSTICE (3)**

Application of the qualitative or quantitative designs of social-scientific research to a problem in the criminal justice area. Includes the integration of emerging technology in the field of research.

Prerequisite: CJUS 5060.

### **CJUS 5080 - PUBLIC POLICY AND THE STATE AND FEDERAL JUSTICE SYSTEMS (3)**

Analysis of the governmental structuring at the federal and state level. Emphasis on the criminological foundations of

federal and state public policy in Puerto Rico.

**CJUS 5237 - JUVENILE JUSTICE (3)**

Analysis of the historical development of the social and legal aspects and of juvenile delinquency. Review of the theories, factors and conditions associated with this social problem, preventive strategies and modalities of treatment for minors who commit infractions. Emphasis on the procedural aspects.

**CJUS 5299 - LAW AND CORRECTION (3)**

Analysis of the recent legal developments related to the correctional, institutional and community alternatives. Includes the rights that people under correctional supervision have.

**CJUS 5310 - CRIMINAL PROCEDURE AND EVIDENCE LAW (3)**

Discussion of the principles of procedural and evidentiary law from the criminal or forensic investigator's perspective. Analysis of applicable jurisprudence.

**CJUS 5320 - CONSTITUTIONAL AND ADMINISTRATIVE LAW (3)**

Discussion of the application of the constitutional rules established by the Constitution of the United States and the Constitution of the Commonwealth of Puerto Rico and their relation with the administrative procedure in governmental agencies. Includes the analysis of the laws applicable to citizens in the administrative procedure, as well as the applicable review of applicable jurisprudence and doctrines.

**CJUS 5340 - CRIMINALISTICS AND THE LAW (3)**

Technical and legal aspects of scientific techniques and instruments in the trial of criminal cases. Emphasis on the evidential value and assistance of applicable scientific aids to prosecutor and defender. Among others, the following will be considered: firearm identification, examination of questioned documents, physical and chemical evidence, dactiloscopical identification and instrumental detection of fraud.

**CJUS 5410 - WHITE COLLAR CRIME (3)**

Analysis of white collar crime: its origin, development, philosophy and its effects on the economy of Puerto Rico and the United States. Emphasis on the study of the topic from a sociological and practical theoretical perspective. Includes the discussion of state and federal laws to combat white collar crime and the functioning of investigative organisms.

**CJUS 5420 - FORENSIC SCIENCE (3)**

Analysis of the scope of forensic sciences, criminology, and the evaluation of physical and biological evidence in violent crimes. Discussion of the most important scientific-forensic disciplines in criminal investigation. Includes the approbatory value of evidence and its impact on the state and federal governmental institutions of the criminal justice system.

**CJUS 5430 - INTERVIEW AND INTERROGATION TECHNIQUES (3)**

Discussion of the importance of interrogation in all stages of the Criminal Justice System. Emphasis on the basic methods, skills, techniques and principles in penal litigation. Includes the processes used in the different stages of the procedure according to the Approbatory Law of the interrogation of witnesses in the penal process.

**CJUS 5510 - ALTERNATE METHODS OF ADJUDICATION (3)**

Discussion of the theoretical and practical aspects of alternate methods of adjudication. Identification of the necessary regulations, procedures and skills applicable to each one, with emphasis on the mediation of conflicts.

**CJUS 5520 - MANAGERIAL ASPECTS IN PUBLIC AND PRIVATE SECURITY (3)**

Analysis of the managerial aspects in the administration of public and private security, such as the organization and operation of security services. Emphasis on counseling in security that includes budget preparation, planning, recruitment and training, the preparation of reports, proposals and prevention strategies. Includes the analysis of the ethical and responsibility aspects in public and private security, as well as the benefits and limitations for the Criminal Justice System. Review of the jurisprudence and applicable laws.

**CJUS 5613 - ADDICTION, CRIMINALITY AND REHABILITATION (3)**

Analysis of the factors and conditions that induce people to depend on psychoactive or illegal substances and criminal behavior. Evaluation of the effectiveness of the prevention, treatment and rehabilitation strategies of persons with deviated behavior.

**CJUS 5634 - PSYCHOPATHOLOGY (3)**

Systematic study of those forms of behavior traditionally treated as pathological by the psychiatric model of human behavior and contrast of the medical and psychosocial viewpoints. Emphasis on the juridical viewpoint of

deviant behavior, especially as it affects criminal responsibility and the criminal justice process.

### **CJUS 5900 - SPECIAL ASSIGNMENT (3)**

Participation in a supervised practice experience in an agency of the State or Federal Criminal Justice System or the completion of an investigation project in areas of criminal justice. The nature of the practice or the investigation will be determined by the Faculty of the Program that will supervise both activities.

### **CJUS 5970 - SPECIAL TOPICS (3)**

Review of selected areas of contemporary importance in aspects related to criminal justice in regard to new social, legislative and judicial considerations in preventive, investigative, procedural, adjudicative, dispositive, and correctional processes for adults and minors who come in conflict with the law.

### **CJUS 6970 - INTEGRATION SEMINAR (3)**

Integrating seminar of an interdisciplinary character with general and specific material proportional to the distribution of these parts in the totality of credits required for the degree. The course will be developed by means of a methodology of readings, lectures, group discussions, case studies and others to address the relevant topics.

## **COED - Cooperative Education**

### **COED 5001 - COOPERATIVE EDUCATION I (3)**

Work experience that integrates theory and practice. The student will complete 120 hours in a real employment scenario with a minimum of 10 hours per week.

Prerequisite: Authorization of the chair of the department and the organization that will employ the student in the COED modality.

### **COED 5002 - COOPERATIVE EDUCATION II (3)**

Work experience that integrates theory and practice. The student will complete 120 hours in a real employment scenario with a minimum of 10 hours per week.

Prerequisite: COED 5001 and authorization from the chair of the department and the organization that will employ the student in the COED modality.

### **COED 5003 - COOPERATIVE EDUCATION III (3)**

Work experience that integrates theory and practice. The student will complete 120 hours in a real employment scenario with a minimum of 10 hours per week.

Prerequisite: COED 5002 and authorization from the chair of the department and the organization that will employ the student in the COED modality.

### **COED 6001 - COOPERATIVE EDUCATION IV (3)**

Work experience that integrates theory and practice. The student will complete 120 hours in a real employment scenario with a minimum of 10 hours per week.

Prerequisite: COED 5003 and authorization from the chair of the department and the organization that will employ the student in the COED modality.

### **COED 6002 - COOPERATIVE EDUCATION V (3)**

Work experience that integrates theory and practice. The student will complete 120 hours in a real employment scenario with a minimum of 10 hours per week.

Prerequisite: COED 5003 and authorization from the chair of the department and the organization that will employ the student in the COED modality.

### **COED 6003 - COOPERATIVE EDUCATION VI (3)**

Work experience that integrates theory and practice. The student will complete 120 hours in a real employment scenario with a minimum of 10 hours per week.

Prerequisite: COED 5003 and authorization from the chair of the department and the organization that will employ the student in the COED modality.

## **COIS - Open Information Computer Systems**

### **COIS 5100 - RELATIONAL DATA BANKS (3)**

Analysis and evaluation of the database models. Interpretation of an entity-relationship design for the creation of tables of a relational database. Emphasis on the relational model of Codd, its implications in the development of the Data Bank Management Systems (DBMS) and the standard SQL language. Creation and maintenance of a database in standard SQL.

### **COIS 5120 - CLIENT-SERVER NETWORKS AND ARCHITECTURE (3)**

Discussion of the basic concepts of telecommunications and local networks. Includes the different connection architectures and open systems. Emphasis on client-server architectures, technologies, middleware and clients. Analysis of benefits, costs and risks, communication between processes, remote processes, cooperative

environments, distributed architectures and future trends. Requires additional time in an open lab.

**COIS 5130 - DESIGN METHODOLOGY AND ADVANCED TOOLS (3)**

Application of the top down design methodology and the entity-relation model for the standardized design of a database. Design, development and implementation of a relational central bank. Development of complex data models. Includes advanced design tools. Requires additional time in an open lab.

**COIS 5200 - APPLICATION OF PROGRAMMING LANGUAGES IN DATABASES (3)**

Comparison of languages of the third and fourth generation. Application of a visual programming high-level language. Analysis of programming principles oriented towards the object. Management of libraries, subroutines, controls and designers to produce high quality programs oriented to programming for information systems with data banks and interaction with SQL. Requires additional time in an open lab.

Prerequisite: COIS 5100.

**COIS 5210 - DATABASE MANAGEMENT (3)**

Analysis of the administration and modification of a database. Includes management of users, accounts, functions and privileges. Database space administration. Emphasis on backup, recovery, integrity and concurrent access. Requires additional time in an open lab.

Prerequisite: COIS 5100.

**COIS 5220 - REENGINEERING PROCESSES (3)**

Solution for data Prerequisites in organizations. Crisis and identifying opportunities. Reengineering process in organizations (BPR). Redesigning processes, The role of information technologies. Leadership. Handling projects on a computer. Migration towards open and distributed settings. Case studies. Requires additional time in an open laboratory.

Prerequisite: COIS 5120.

**COIS 5300 - ANALYSIS OF OPEN SYSTEMS AND COMPUTER AIDED SOFTWARE ENGINEERING (CASE) (3)**

Analysis of the cycle for the development of an open information system. Includes analysis of strategies and diagrams. Application of Computer Aided Software Engineering (CASE) for the analysis, design, development

and documentation of an open information system. Emphasis on the development of an information system viability study. Requires additional time in an open lab.

Prerequisite: COIS 5130.

**COIS 5400 - RAPID APPLICATION DEVELOPMENT (3)**

Use of rapid application development systems (RAD). Design and construction of programming blocks, forms, reports and other applications using databases. Emphasis on the functional prototype of an open information system requiring a database. Requires additional time in an open lab.

Prerequisite: COIS 5200.

**COIS 5500 - DISASTER RECOVERY MANAGEMENT (3)**

Analysis of the methods for the identification of vulnerabilities and the adoption of appropriate countermeasures for the prevention and mitigation of risks of organizational failures. Application of the principles of disaster recovery and the preparation of disaster recovery plans, the assessment of risks, the development of policies and procedures. Implementation of a disaster recovery plan.

Prerequisite: COIS 5120.

**COIS 6000 - COMPUTING TECHNOLOGIES IN THE CLOUD (3)**

Evaluation and assessment of cloud computing technologies and their business and technical benefits. Analysis of the use of applications in the cloud for organizations. Development and implementation of applications and databases in the cloud using a variety of solutions, features and techniques.

Prerequisite: COIS 5100 and COIS 5200.

**COIS 6100 - MINING AND DATA STORAGE (3)**

Analysis of relevant aspects in the implementation of storage systems, such as size of databases, storage, performance and security. Discriminate on the divisions of data mining, text mining and web mining. Use of algorithms, methodologies and applications of data mining.

Prerequisite: COIS 5100.

### **COIS 6200 - SYSTEM TUNING, TROUBLESHOOTING, CODIFICATION, SECURITY AND QUALITY (3)**

Detailed review of relational databases to verify and correct initiation parameters that solve performance problems. Evaluation of the measurements taken on the equipment operating the database to make recommendations. Detailed review of code development aspects in applications affecting the performance of a database. Includes security, physical and logical protections and recovery from disasters in open information systems. Requires additional time in an open lab.

Prerequisite: COIS 5210.

### **COIS 6381 - BUSINESS INTELLIGENCE (3)**

Analysis of machine learning algorithms as well as application tools and standards for the analysis of large amounts of data. Application of predictive modeling, prediction techniques, optimization and simulation to develop intuition. Emphasis on decision support systems and data visualization.

Prerequisite: COIS 6100.

### **COIS 6980 - PROJECT DEVELOPMENT IN OPEN INFORMATION SYSTEMS (3)**

Design and development of an open information system in a client/server architecture. Establishment of the data Prerequisites of an organization. Creation of a relational database using advanced designed tools. Installation of a database allowing for access of different types of users (different privileges and accounts). The system must show that it observes the rules of data integrity, concurrence, management, tuning and maintenance. A formal public presentation of the system, with prior authorization of the project professor and the Coordinator of the Program is required. Students will register in this course as many times as necessary until finishing their project. Grade: P/NP.

Prerequisite: COIS 5300, 5400, 6200.

## **COMP - Computer Science**

### **COMP 5100 - DESIGN OF ALGORITHMS (3)**

Analysis and design of algorithms and advanced data structures. Emphasis on the mathematical model of problem complexity. Development of methodologies, problems and the correct data structures for their solution. Requires an open lab.

### **COMP 5105 - DISTRIBUTED DATABASE SYSTEMS (3)**

Study of the general concepts of the distribution systems of the architecture of the distributed database systems, design analysis of a distributed database. Study of semantic data control, query processing and transaction processing and reliability in a DDBMS. It requires additional hours of open laboratory.

### **COMP 5110 - AUTOMATA THEORY AND FORMAL LANGUAGES (3)**

Design of different types of automata. Visualization of the different concepts involved in automata theory. Use of the approach called learning from examples. Discussion of some aspects related to robots and formal languages. Study of the relations between formal languages and automata, as well as some of the forms of language specifications and their computer properties. Requires an open lab.

### **COMP 5120 - ARTIFICIAL INTELLIGENCE (3)**

Application of knowledge representation and use of algorithms for the solution of problems related to artificial intelligence. Analysis of the problems and solution techniques of artificial intelligence. Simulation of the processes of knowledge representation, search, control and learning in automatic systems. Introduction to the use of a language specialized for artificial intelligence. Requires 30 hours of lecture and 15 hours of virtual lab.

### **COMP 5125 - PARALLEL DATABASE SYSTEMS (3)**

Study of the general concepts of the systems of distribution of the architecture of the systems of databases in parallel. Analysis of the use of Parallel Databases on multiple environments or data engines and the use of disks designed to execute operations in parallel with the purpose of improving database performance. It requires additional hours of open laboratory.

### **COMP 5130 - DATABASE MANAGEMENT SYSTEMS (3)**

Analysis of the logical and physical aspects of database management systems, including relational data models such as entity-relationship, physical implementation methods, SQL query languages and QBE. Experience in the creation and manipulation of databases.

Prerequisite: COMP 5105.

**COMP 5320 - CRYPTOGRAPHY AND DATA SECURITY (3)**

Discussion of the mathematical principles of data security. Analysis of the various advances in cryptography, including public key encryption, digital signatures, data encryption standard (DES), security and safeguard key structures.

Prerequisite: COMP 5105.

**COMP 5325 - PROGRAMMING LANGUAGES (3)**

Discussion of the central concepts of programming languages and how they are manipulated into languages that follow certain paradigms. Analysis of languages in light of their semantic models. Application of structural, denotational, and axiomatic operational semantics. Detailed study of the nucleus of the Standard ML language. Includes the development of programs in that language and in some other current language. Requires 30 hours of lecture and 15 hours of virtual lab.

Prerequisite: COMP 5110.

**COMP 5425 - DATABASE SEMINAR (3)**

Study, analysis and discussion of practices, current problems and trends in Computing and disciplines related to the design, development, management and administration of Databases.

Prerequisite: COMP 5125.

**COMP 5510 - SOFTWARE DEVELOPMENT AND DESIGN (3)**

Analysis of the methodology that includes the development and design of systems to facilitate decision making. Emphasis on the development of prototypes to guide design activity. Discussion of the set of methods, techniques and tools of a software product.

Prerequisite: COMP 5110.

**COMP 5525 - SEMINAR I (3)**

Discussion and analysis of practices, current problems and trends in computation and related disciplines. This is a connect activity among professors, students and representatives of the industrial sector that provides students and the professor the elements to discern forms of application of the studied theory to the national reality.

Prerequisite: COMP 5120.

**COMP 6010 - OPERATIONS RESEARCH (3)**

Comparison of third and fourth generation languages. Learning and practice in a high-level language of visual programming. Development of a research plan under the supervision of a professor. Includes the operations, design and construction of logic models of programming for their implementation.

Prerequisite: COMP 5525.

**COMP 6200 - MULTIMEDIA AND HYPERMEDIA (3)**

Analysis of the fundamental concepts of multimedia and hypermedia, and their theoretical and practical aspects. Emphasis on the development of applications using Toolbook. Requires 30 hours of lecture and 15 hours of closed lab.

Prerequisite: COMP 5525.

**COMP 6250 - COMMUNICATION PROTOCOLS (3)**

Use of tools necessary for the design of data networks and use of the different communication protocols utilized by users. Requires an open lab.

Prerequisite: COMP 5525.

**COMP 6300 - NETWORKS I (3)**

Analysis of theoretical and methodological aspects typical of data transfer. Practice in installation, configuration and operation of a system local network administrator. Evaluation of the circumstances in which the local networks are viable solutions in data processing. Requires 30 hours of lecture and 15 hours of virtual lab.

Prerequisite: COMP 5510.

**COMP 6310 - INTERNAL DESIGN IN DATABASE SYSTEMS (3)**

Discussion of database management systems and their modern applications. Emphasis on the analysis and implementation of various decision methods that should be considered in the design and development of these systems. Storage management, access methods, query processing and optimization strategies, technique control, data management and semi-structured data management.

Prerequisite: COMP 5130.

**COMP 6315 - OPERATING SYSTEMS (3)**

Analysis of the different operating systems and current trends in research and development. Evaluation and

administration of the functions of an operating system. Requires an open lab.

Prerequisite: COMP 5510.

### **COMP 6400 - NETWORKS II (3)**

Analysis of the problems of computer networks design and their implementation. Use of networks and data management. Implementation of networks. Emphasis on technologies similar to Internet. Requires 30 hours of lecture and 15 hours of virtual lab.

Prerequisite: COMP 6300.

### **COMP 6410 - ANALYSIS, DESIGN AND STRUCTURE OF DATABASES (3)**

Discussion of database management systems and their modern applications. Emphasis on the analysis and implementation of various decision methods that should be considered in the design and development of these systems. Emphasis on storage management, access methods, query processing and optimization strategies, while controlling techniques, storage and data management, semi-structured data management and others. It requires additional hours of open laboratory.

Prerequisite: COMP 5125.

### **COMP 6500 - DATABASE WORKSHOP (3)**

Design, development and implementation of a relational data bank. Includes complex data models and advanced design tools. Requires 30 hours of lecture and 15 hours of virtual lab.

Prerequisite: COMP 5325.

### **COMP 6525 - PROGRAMMING WORKSHOP (3)**

Practice in the skills and abilities acquired from the programming languages and the development and application of programs. Includes models of operations research and support systems in decision making. Requires 30 hours of lecture and 15 hours of virtual lab.

Prerequisite: COMP 5325.

### **COMP 6530 - APPLICATION OF DATABASE SYSTEMS (3)**

Application of the concepts of design, management and administration in the management of database systems "defined in the Data Management area of the Systems Engineering Curriculum Project. Theoretical, methodological, technological and practical concepts for the design, management and administration of databases

that support functional and non-functional Prerequisites of a software system. It requires additional hours of open laboratory.

Prerequisite: COMP 5425.

### **COMP 6540 - ADVANCED DATABASE PROGRAMMING PROJECT (3)**

Development of the logical and functional structures of databases with emphasis on relational databases and distributed systems. Application of theory and practice through the development of a database programming project.

Prerequisite: COMP 6310.

### **COMP 6615 - SEMINAR II: COMPUTATION AND SOCIETY (3)**

Study of the relation and the impact that computer technology has had and its products in diverse human activities and disciplines. Emphasis on the analysis of aspects related to ethics, the gender relations and current legislation, among others. Requires an open lab.

Prerequisite: COMP 5525.

### **COMP 6650 - SYSTEMS ADMINISTRATION (3)**

Analysis of the function and processes of administration. Includes the technological resources related to Information systems. Development of a strategic plan that allows evolution, the administration and the evaluation of the Technology of Information in organizations. Requires an open lab.

Prerequisite: COMP 6525.

### **COMP 6970 - INTEGRATED SEMINAR (4)**

Analysis and discussion of aspects related to information systems. Development of a research project under the supervision of a professor using the appropriate ethical criteria of the profession. Students will register in this course while they are working on the project. Grade P/NP.

Prerequisite: Approval of the department chair.

## **COMU - Communication**

### **COMU 5100 - THEORIES AND COMMUNICATION PROCESSES (3)**

Study of the main theories of communication. Analysis of the factors that influence communication processes in their various dimensions.

### **COMU 5110 - COMMUNICATION AND ORGANIZATIONAL BEHAVIOR (3)**

Analysis of interpersonal and group communication processes within an organizational context. Examination of its influence on the behavior of individuals and work teams in achieving the objectives of the organization.

### **COMU 5210 - INTERCULTURAL COMMUNICATION (3)**

Study of the theories and models of intercultural communication from a business perspective. Analysis of the impact of diversity on verbal and nonverbal communication processes.

### **COMU 5320 - CORPORATE COMMUNICATION (3)**

Discussion of the principles and concepts of corporate communication. Integration of marketing, public relations and advertising tools in the development of a strategic communication program.

### **COMU 5400 - NARRATIVE TRANSMEDIA AND GAMIFICATION (3)**

Exploring the transmedia narrative and Gamification strategies as tools in strategic communication programs. Analysis of its impact on the behavior of individuals, audience participation and organizational culture.

## **CRIN - Crisis Intervention**

### **CRIN 5000 - FOUNDATIONS OF THE INTERVENTION IN CRISIS (3)**

Discussion of the fundamental concepts for nursing intervention in crisis situations. Integration of knowledge and skills related to the development of the personality and its effect in the handling of crisis situations.

### **CRIN 5001 - INTERVENTION IN CRISIS: CHILDHOOD TO ADOLESCENCE (3)**

Identification of crisis models and their application to the person from childhood to adolescence. Use of intervention strategies to meet the needs of the client in crisis situations. Requires 15 hours of conference; 90 hours of clinical laboratory in selected scenarios.

### **CRIN 5002 - INTERVENTION IN CRISIS: ADULTHOOD (4)**

Identification of crisis models and their application to the person during the stages of adulthood. Include their responses to their responses to crisis situations due to death or disability. Use of intervention strategies in crisis

situations to meet individual needs. Requires 30 hours of conference; 90 hours of clinical laboratory in selected scenarios.

### **CRIN 5003 - INTEGRATED PRACTICE I (4)**

Integration of knowledge and skills of problem solving and decision-making by intervening in crisis situations through the stages of growth and development. Integration of intervention skills in crisis situations at the individual, family, group and community levels. It requires 120 hours of clinical practice in selected scenarios.

Prerequisite: CRIN 5002.

### **CRIN 5004 - INTEGRATED PRACTICE II (4)**

Practice of knowledge and skills of intervention in crisis situations in critical care areas and emergency room. It requires 120 hours of clinical practice.

Corequisite: CRIN 5003.

## **CSNS - Computer Science in Networks and Security**

### **CSNS 5100 - NETWORK ANALYSIS AND DESIGN (3)**

Analysis and design of computer networks. Use of different design methodologies of scalable networks. Emphasis on policies and costs when designing a computer network. Evaluation of the different types of network traffic and their importance when designing.

### **CSNS 5110 - PRINCIPLES OF RESEARCH (3)**

Application of the scientific method in problem solving. Emphasis on the use of the methodology and terminology of quantitative and qualitative research. Includes the preparation of a research proposal.

### **CSNS 5121 - ROUTING TECHNOLOGIES I (3)**

Application of the internal routing methods used in the connections between wide area networks. Emphasis on protocols, routing algorithms, and the identification methodology of three layer packages and their interaction with the other layers of the OSI model.

### **CSNS 5131 - NETWORK SWITCHING TECHNOLOGIES I (3)**

Review of network switching technologies protocols and standards. Includes the environmental configuration of local area networks and of virtual local networks. Analysis of plot structures. Emphasis on the transmission of point to



point plots in a local area network and the administration of network switches at an operative system level.

### **CSNS 5220 - CRYPTOGRAPHY IN NETWORKS (3)**

Evaluation of the methods used by cryptography in the protection of the data and the use of the different coding technologies. Verification of the functionality of the coding in the protection of data integrity.

### **CSNS 5222 - ROUTING TECHNOLOGIES II (3)**

Application of exterior routing protocols and planning of scalable networks. Analysis of the routing protocol selection process between independent systems. Emphasis on the correct use of directions concerning local area networks and wide area networks.

Prerequisite: CSNS 5121.

### **CSNS 5232 - NETWORK SWITCHING TECHNOLOGIES II (3)**

Application of protocols and standards in multi layer functional network switches. Emphasis on the configuration of the environment of the local area network and of the local virtual private area network in the diagnosis of operational failures of network switches, and on the application of audit and security techniques used in the management of network switch services.

Prerequisite: CSNS 5131.

### **CSNS 6100 - FIREWALLS (3)**

Analysis of fundamental elements that make up a Firewall. Application of different design methodologies used in security network systems. Emphasis on the prevention plan for vulnerable situations to a security network system.

### **CSNS 6110 - SECURITY AND FORENSIC COMPUTING (3)**

Critical review of the vulnerability of information systems and the hacker profile. Analysis and control of risks. Includes the use of tools of open and commercial code to carry out simulated attacks and to protect information systems. Emphasis on the cryptography on forensic information, and on the characteristics of the specialist.

### **CSNS 6220 - INTRUSION DETECTION SYSTEMS (3)**

Evaluation of the operation of intrusion detection systems in local and wide area network systems. Emphasis on warning configuration through the use of traffic review policy techniques in networks.

Prerequisite: CSNS 6100, 6110.

### **CSNS 6230 - SECURITY DESIGN IN NETWORKS (3)**

Analysis of the design elements for security in networks and implementation of safety techniques and their tools. Design of safe network's for remote access and small and medians wireless.

Prerequisite: CSNS 5222 and 6110.

### **CSNS 6240 - ASSESSMENT OF SECURITY IN NETWORKS (3)**

Use of assessment techniques to investigate the new trends in security and their application. Design analysis of the methodology of security in networks. Evaluation of the faults in layers 2, 3, 4 and 7 of the Open System Interconnection model (OSI).

Prerequisite: CSNS 6230.

### **CSNS 6310 - NETWORK TROUBLESHOOTING TECHNIQUES (3)**

Evaluation of malfunctions in local and wide area networks. Emphasis on the techniques for identification of problems in the network by means of the use of OSI as a reference model. Analysis of common problems that can happen in a local or wide area network and the possible solutions to these problems.

### **CSNS 6320 - SATELLITE COMMUNICATIONS SYSTEMS (3)**

Review of the systems of satellite communications and their operation in data transmission. Emphasis on the Earth's orbits and the disruptions that affect the operation of a satellite system. Analysis of the components of a satellite system and their relation to computer networks systems.

### **CSNS 6330 - RESEARCH PROJECT (3)**

Identification of a research topic in the field of networks, telecommunications, or in network or information system security. Analysis of literature, selection of the methodology and the development of a research project. Application of research principles and methods. Creation and development of a research project to be evaluated and approved by the advisory professor of the project. The student will register in this course as many times as necessary until the research project is completed. Grade: P/NP.

Prerequisite: CSNS 5110, 5221.

## CYSE - Cyber Security

### **CYSE 5000 - INTRODUCTION TO CYBER SECURITY (3)**

Study of the concepts and techniques for security in computerized information systems and in computer networks. Exploration of security systems, applications, physical security policies and protection of computer networks.

### **CYSE 5010 - DESIGN, IMPLEMENTATION AND ASSESSMENT IN SECURITY (3)**

Analysis and design of security technologies for computerized information systems and computer networks, as well as their implementation. Development and use of safety assessment to investigate new trends, detect failures and take corrective action.

### **CYSE 5020 - ETHICAL AND LEGAL ASPECTS (3)**

Discussion of ethical and legal aspects that apply to the management of information systems and electronic data. Study of agencies and organizations that provide legal guidance and assistance in the industry.

### **CYSE 5030 - CYBER CRIMES: ANALYSIS AND MITIGATION (3)**

Analysis of the techniques used in cyber crimes and mitigation measures. It includes the study and development of Cyber security policies in both the public and private sectors.

### **CYSE 5040 - FORENSIC SECURITY AND COMPUTERS (3)**

Vulnerability assessment in information systems and networks, as well as the attacker profile. Use and application of tools to collect, investigate and analyze evidence in cyber crimes.

### **CYSE 5050 - NETWORK PENETRATION TESTS (3)**

Discussion of the planning, scope and execution of penetration tests in computer networks. Vulnerability analysis simulations, password attacks, wireless networks and Internet pages are carried out.

## DIAB - Education in Diabetes

### **DIAB 5000 - FUNDAMENTALS FOR CARE OF THE PERSON WITH DIABETES (4)**

Analysis of the concepts of normal metabolism, such as: glucose homeostasis, diabetes physiopathology, etiology,

diagnosis criteria and classification in the health care of people with diabetes mellitus. Emphasis on the administration of therapies of diabetes mellitus.

### **DIAB 5010 - ADMINISTRATION OF AN EDUCATIONAL PROGRAM IN DIABETES (4)**

Analysis of the concepts in the training of self administration of diabetes. Includes bio-psycho-social and mental assessment and the formulation of an educational plan for a metabolic control of diabetes mellitus. Requires 30 hours of lecture and 90 hours of lab.

### **DIAB 5020 - DIABETES IN DIFFERENT STAGES OF GROWTH AND DEVELOPMENT (4)**

Study of diabetes mellitus in the different stages of growth and development in the human being. Emphasis on prevention, detection and the differences in the modalities of treatment and self handling of diabetes mellitus. Requires 30 hours of lecture and 90 hours of lab.

### **DIAB 5030 - DIABETES AND ITS COMPLICATIONS (3)**

Analysis of the different complications that people with diabetes or those that are in risk of developing the condition may present. Emphasis on preventive measures to prevent their development. Application of the suitable treatment modalities for the diverse complications.

## DIMU - Instructional Design and Multimedia

### **DIMU 6100 - FUNDAMENTALS OF INSTRUCTIONAL DESIGN (3)**

Examination of the theories and concepts of instructional design. Analysis of the process of instructional models that are used for the development of educational models.

### **DIMU 6200 - INSTRUCTIONAL DESIGN MODELS (3)**

Analysis of the multidisciplinary process of systematic planning of instruction. Examination of instructional design models used as conceptual frameworks and their application.

### **DIMU 6300 - INSTRUCTIONAL STRATEGIES AND TECHNIQUES (3)**

Examination of the theoretical perspectives of the learning process. Analysis of the different strategies and instructional techniques adapted to the needs of learning environments with non-traditional methodological

approaches.

### **DIMU 6400 - INTEGRATION OF MULTIMEDIA IN INSTRUCTION (3)**

Study and evaluation of multimedia and its integration in the teaching and learning process. Application of effective teaching techniques that promote the incorporation of multimedia.

### **DIMU 6500 - DIDACTIC MULTIMEDIA (3)**

Development of multimodal resources for the teaching and learning process. Emphasis on the application of one of these as support for the development of instructional content.

### **DIMU 6600 - EDUCATIONAL VIDEOS (3)**

Study of the didactic use of videos in the teaching and learning process. Application of the phases for the design and development of an educational video.

### **DIMU 6700 - WEB TECHNOLOGY AND MOBILES (3)**

Examination of the origin, impact and evolution of web and mobile technologies in the teaching and learning process. Use of applications for the development of instructional content and its adaptation on the web or mobile devices.

### **DIMU 6800 - INSTRUCTIONAL VIDEO GAME INTEGRATION (3)**

Study of the use of videogames in the teaching and learning process in the new educational contexts. Analysis of the methodology of its integration to favor the development of cognitive, autonomic, creative and self-control abilities.

### **DIMU 6901 - INTEGRATIVE PROJECT I (3)**

Preparation of a proposal for the development of a project in the field of instructional or multimedia design that reflects the integration of knowledge and skills acquired. This course requires the approval of the program chair. Grade: P/PP/NP.

### **DIMU 6902 - INTEGRATIVE PROJECT II (3)**

Development and presentation of the integrative project in instructional or multimedia design. Grade: P/PP/NP

Prerequisite: DIMU 6901.

## **ECMP - Educational Computing**

### **ECMP 5100 - COMPUTER THOUGHT AND STANDARDS (3)**

Study of the principles of computer thought and the different related standards. Discussion of strategies for its implementation in the K-12 curriculum. Development of computer and creative thought by means of the exploration with the tool Scratch. Requires additional time in a virtual open lab.

### **ECMP 5105 - PRINCIPLES OF DESIGN OF E-LEARNING (3)**

Study of the foundations of the design of E-learning and websites. Application of theories and multimedia for the development of effective educational technologies. Discussion of research that supports the principles of design of E-learning. Evaluation of design tools and development of E-learning and websites. Requires additional time in a virtual open lab.

### **ECMP 5115 - PROGRAMMING LOGIC (3)**

Study of problem solving techniques by means of algorithms and solutions by means of flow charts. Emphasis on the use of tools for rapid development (RAD). Application of the control structures (sequential, selection and repetition) and structures of data in problem solving by means of computers. Codification of the solutions of problems in a high level programming language.

### **ECMP 5210 - PRINCIPLES OF COMPUTER SCIENCE (3)**

Application of concepts of computer science by means of the construction of movable programming of social benefit. Analysis of the principles of programming and sciences of calculations. Emphasis on the development of collaborative projects that use creative solutions. Requires additional time in a virtual open laboratory.

### **ECMP 5240 - FOUNDATIONS OF NETWORKS AND SECURITY (3)**

Analysis of the basic concepts of networks and security. Study of the components, the operating systems and the networks in a system of structured computers. Development of projects for people with diverse educational needs. Requires additional time in a virtual open lab.

### **ECMP 5245 - PROGRAMMING AND TEACHING OF A HIGH-LEVEL LANGUAGE (3)**

Application of a high-level language of structured programming and the methodology of object-oriented programming. Emphasis on problem solving, the development of algorithms and the strategies for the teaching of computer programming at the secondary level. Requires additional time in a virtual open lab.

Prerequisite: ECMP 5115.

### **ECMP 6100 - E-LEARNING AND SOCIAL NETWORKS (3)**

Study of the current and future trends of E-learning and the social networks in learning. Comparison of platforms of managing remote learning (LMS). Educational application of social tools, such as blogs, wikis, podcasts, webcasts and others, as an educational undertaking. Requires time in a virtual open laboratory.

### **ECMP 6160 - DIGITAL COLLABORATIVE LEARNING (3)**

Application of principles, models, methods and effective practices of collaborative and participatory learning in E-learning. Survey of the digital technologies that support teamwork. Requires additional time in a virtual open lab.

### **ECMP 6975 - RESEARCH SEMINAR IN EDUCATIONAL COMPUTING (3)**

Analysis of the procedure to follow in educational research. Identification of a research topic in the field of educational computation. Application of computerized tools for research, review of literature, selection of the methodology and the preparation of a research proposal. Requires additional time in a virtual open lab.

Prerequisite: ECMP 5245 and 6100.

### **ECMP 6980 - PROJECT DEVELOPMENT FOR EDUCATIONAL COMPUTING (3)**

Design of a project that uses effective strategies for the teaching of computer science. Development of the project according to the strategies, methodologies and standards studied in the course of the program. Grade: P/PP/NP.

Prerequisite: Authorization of the department chair.

### **ECMP 6990 - THESIS IN EDUCATIONAL COMPUTING (3)**

Development of a research theme or implementation of an original practical complex project in the area of

educational computing. The theme as well as the thesis advisor should be approved by the department chair. Grade: P/NP.

Prerequisite: ECMP 6975.

## **ECON - Economics**

### **ECON 5300 - STATISTICAL AND ECONOMIC ANALYSIS OF LABOR MARKETS (3)**

Analysis of the factors affecting the development and trends of labor markets in a capitalist economy. These include work supply and demand, economic analysis of compensation, income distribution and public policies. Application of the concepts and methodology of basic statistic and sampling.

### **ECON 6320 - ADVANCED LABOR ECONOMICS (3)**

Advanced study of economic problems in the labor market, population and labor force; the economic impact of bargaining, automation and change; and the effects of wages and wage bargaining on employment, the business cycle and industrial growth.

### **ECON 7200 - LABOR ECONOMY (3)**

Critical examination of the production functions of business and the contractual relationship of employment in corporate and non-corporate markets. Analysis of the collective action efforts in the work environment: workers unions and employment contracts.

### **ECON 8000 - ECONOMY OF THE LABOR MARKET STRUCTURE (3)**

Critical analysis of the economic theory and empirical evidence related to work distribution, salary determination, employment and unemployment.

### **ECON 8150 - REGIONAL AND GLOBAL ECONOMIC DEVELOPMENT (3)**

Review of economic theories, models and policies for economic development. Analysis of the aspects related to economic development planning and models most frequently used. Development of strategic factors for regional and global growth. Comparison of interregional disparities between developed and developing nations, as well as the policies designed to alleviate the problems arising from this disparity.

### **ECON 8312 - THEORY OF CAPITAL AND ECONOMIC CYCLES (3)**

Economical analysis of the nature and value of money, as

well as of the deposits of money. Evaluation of the process of credit expansion and its effects in the formation of capital, in the structure of production, and in the generation of economic cycles.

## **ECRE - Economic Crimes Research**

### **ECRE 597\_ - SPECIAL TOPICS (3)**

Critical analysis and discussion of readings and recent specialized research publications on matters related to the investigation of economic crimes.

### **ECRE 5010 - THEORETICAL FUNDAMENTALS OF ECONOMIC CRIMES (3)**

Recognition of the principles and theories related to the commission of economic crimes. Analysis of social, economic, political, legal and ethical factors linked to the realization of these criminal behaviors.

### **ECRE 5020 - ETHICS IN ORGANIZATIONS (3)**

Examination of the standards that govern the ethical behavior and compliance required of public and private institutions, both by state and federal legislation. Evaluation of institutional policies and their impact within the organization.

### **ECRE 5060 - LEGAL ASPECTS OF ECONOMIC CRIMES (3)**

Examination of state and federal laws that address the different types of economic crimes. Emphasis on the factors that influence the formulation of public policy on the subject.

### **ECRE 5080 - ORGANIZED CRIME, NATIONAL SECURITY AND TERRORISM (3)**

Analysis of the historical, social and economic aspects that affect the creation of criminal organizations. Emphasis on the effect of these organizations on national and international economy and politics. Discussion of the different elements between criminal organizations with economic interests and organizations with terrorist purposes.

### **ECRE 5110 - RISK MANAGEMENT, PREVENTION AND COMPLIANCE (3)**

Discussion of the risks faced by public and private organizations. Evaluation of loss prevention strategies. Identification and management of state and federal regulations with which these organizations must comply.

### **ECRE 5210 - FRAUD RESEARCH (3)**

Examination of the applicable methods in fraud investigation, from its origin to its applicability. Case discussion to identify aspects of fraud prevention, detection and investigation in different scenarios.

### **ECRE 5220 - OCCUPATIONAL FRAUD (3)**

Examination of the different methods that employees use to commit occupational fraud. Identification of different designs of strategies for prevention, detection and investigation of fraud in the workplace.

### **ECRE 5410 - CYBER CRIMES (3)**

Analysis of the criminal modalities that are committed through cyber networks. Examination of its legal and social effects, as well as in the formulation of public policy. Emphasis on the identification of risks within organizations.

### **ECRE 5420 - MODERN TECHNIQUES FOR THE COLLECTION OF THE EVIDENCE (3)**

Identification of modern techniques used in the collection, handling, processing and presentation of evidence obtained in crime investigation processes. Emphasis on the use of technology as a mean to gather evidence.

### **ECRE 5430 - INTERVIEW AND INTERROGATORY PROCESSES (3)**

Examination of the profiles of people who commit economic crimes. Management of interviewing and interrogation techniques in the investigation processes of these types of crimes. Differentiation between the interview and interrogation processes. Examination of the profiles of people who commit economic crimes. Management of interviewing and interrogation techniques in the investigation processes of these types of crimes. Differentiation between the interview and interrogation processes.

### **ECRE 6931 - RESEARCH PROJECT (3)**

Design and development of a strategic plan for prevention, detection and investigation of economic crimes within a public or private organization, which will be evaluated and approved by the project advisory professor. Qualification: P/NP.

Prerequisite: Have all specialization Prerequisites approved.

## **EDUC - Education**

### **EDUC 597\_ - SPECIAL TOPICS IN ELEMENTARY EDUCATION (3)**

Critical analysis and discussions of readings and recently published specialized research on subjects related to teaching and learning at the elementary level.

### **EDUC 5013 - SOCIOLOGICAL FOUNDATIONS OF EDUCATION (3)**

Systematic study of the interaction between the society and education, the school and the community as institutions which generate social change.

### **EDUC 5024 - PSYCHOLOGICAL FOUNDATIONS OF EDUCATION (3)**

Psychological principles of development, personality, learning and assessment and their application to the teaching-learning process within the socio-cultural context.

### **EDUC 5035 - VALUES AND PERSPECTIVES IN CONTEMPORARY EDUCATION (3)**

Analysis of the principal philosophical schools and examination of the axiological premises justifying contemporary educational purposes. Study of modern focuses on the teaching of values. Review of the Puerto Rican situation: Past, present and future perspectives.

### **EDUC 5045 - THE FAMILY, SCHOOL, COMMUNITY AND ETHICAL-MORAL AWARENESS (3)**

Study of the interaction and ways of family, school and community participation, and their impact in the integral development of children. Review of the role of curriculum for the development of ethical-moral intelligence. Value of family-school-community interaction to promote responsible citizenship in view of the cultural diversity of the society.

### **EDUC 5046 - THE INDIVIDUAL, SOCIETY AND EDUCATION (3)**

Theoretical principles explaining and/or describing the influence of the physical, psychological and sociocultural environment on human behavior within the educational context.

### **EDUC 5047 - PSYCHO-SOCIAL FOUNDATIONS OF EDUCATION (3)**

Discussion and analysis of the psycho-social applications and implications of the principle theories of learning.

Discussion of the contributions, applications and implications of neurosciences to the teaching and learning processes.

### **EDUC 5057 - COMPARATIVE EDUCATION (3)**

Analysis of the psychological and sociological foundations that include the theories of learning, the concept of intelligence, the styles of learning, the models of education and neuroscience. Valuation of the contributions, the applications and the implications of the psycho-social foundations of the education.

### **EDUC 5068 - WESTERN WORLD EDUCATION (3)**

Historical development of educational ideas, institutions and practices in the Western world. Begins with the invention of writing and follows the development of the Judean-Greek-Roman civilization up to education in Puerto Rico.

### **EDUC 5105 - USE OF TECHNOLOGY IN TEACHING OF MATHEMATICS (3)**

Integration of calculators and computers in the teaching of mathematics. Development of learning activities that require their use. Emphasis on the use and evaluation of educational software in mathematics as a means of support in the teaching-learning process.

### **EDUC 5107 - TECHNOLOGICAL INNOVATIONS IN THE TEACHING OF SCIENCES (3)**

Application of technological innovations in science education. Development of instructional modules with the use of interactive multimedia to integrate different areas of curricular science programs. It requires 45 hours of conference-laboratory.

### **EDUC 5111 - EDUCATIONAL RESEARCH I (3)**

Description of the scientific method in the solution of educational problems. Use of the terminology and methodology of quantitative and qualitative research. Includes the writing of a research proposal.

### **EDUC 5112 - EDUCATIONAL RESEARCH II (3)**

Practical study of an educational problem requiring the development of a research project under the supervision of a professor.

Prerequisite: EDUC 5111.

**EDUC 5114 - CURRICULUM AND TEACHING OF SOCIAL STUDIES AT THE ELEMENTARY LEVEL (3)**

Study of the curricular content of social studies in the elementary level. Emphasis on the exchange and the continuity; people, places and the environment; personal development and cultural identity; production, distribution and consumption; ethical, democratic, global, scientific and technological awareness. Development of methods, strategies and activities for the teaching of social studies, sustained by theoretical foundations and research of the discipline.

**EDUC 5115 - CURRICULUM AND TEACHING OF SCIENCE AT THE ELEMENTARY LEVEL (3)**

Study of the curricular content of science at the elementary level. Emphasis on the scientific method, the matter, energy, its manifestations and its transformations, conservation and change, the systems and models and their interactions. Development of methods, strategies and activities for the teaching of science, sustained by the most recent research in the discipline. Includes laboratory activities that will be developed and integrated to the course.

**EDUC 5116 - CURRICULUM AND TEACHING OF SPANISH AT THE ELEMENTARY LEVEL (3)**

Analysis of the curricular content of the subject of Spanish in the areas of the oral and written communication and the understanding of reading at the elementary level. Development of methods, strategies and activities, based on the new models of teaching of the language arts for their application to pedagogical practices.

**EDUC 5117 - CURRICULUM AND TEACHING MATHEMATICS AT THE ELEMENTARY LEVEL (3)**

Study of the curricular content of mathematics for the elementary level. Emphasis on the strategies for problem solving, numbers, arithmetic operations, fractions, ratio and proportion, measurement, the basic concepts of geometry, the solution of equations, the analysis of data and probability. Development of methods, strategies and activities for the teaching of mathematics at the elementary level, sustained by the most recent research in the discipline.

**EDUC 5118 - ENGLISH AS A SECOND LANGUAGE AND TEACHING IT AT THE ELEMENTARY LEVEL (3)**

Study of the theories and new models in the curricular

content of teaching English as a second language and its application to pedagogical practices at the elementary level. Emphasis on the development of methods, strategies and activities.

**EDUC 5119 - TOPICS IN HEALTH AND TEACHING THEM AT THE ELEMENTARY LEVEL (3)**

Study of topics in health and the development of methods, strategies and activities for teaching them. Emphasis on the prevention of things affecting health from the psychological, physiological the social perspective at the elementary level.

**EDUC 5120 - STATISTICS APPLIED TO THE FIELD OF EDUCATION (3)**

Study of the techniques of descriptive statistics and basic techniques of inferential statistics. Emphasis on solving practical problems and statistics applied to the field of education.

**EDUC 5121 - ENVIRONMENTAL SCIENCES AND THEIR EDUCATION IN THE ELEMENTARY LEVEL (3)**

Study of environmental sciences with emphasis on the conservation of natural resources. Design and evaluation of methods, strategies and activities that demonstrate the systemic, cyclical and holistic nature of the ecosystems and the importance of these principles in conservation.

**EDUC 5122 - CRITICAL ANALYSIS OF CHILDREN'S LITERATURE AT THE ELEMENTARY LEVEL (3)**

Critical analysis of children's literature from its origins, evolution, definition, characteristics and typology, with the purpose of using this as a pedagogical resource in the classroom. Study of recent research: its implications and applications.

**EDUC 5123 - CREATIVITY AND CORPORAL EXPRESSION (3)**

Analysis of recent research and models of creative thinking: their implications and applications to diverse scenarios. Theoretical and practical study of the possibilities of corporal expression. Emphasis on the development of methods, strategies and activities for teaching.

**EDUC 5124 - APPRECIATION AND INTEGRATION OF ART AT THE ELEMENTARY LEVEL (3)**

Study of design, history of art, the vocabulary and the strategies for its integration in the curriculum of the

elementary school. Applied approach to the different facets of art appreciation in the elementary school. Emphasis on the development of methods, strategies and activities for teaching.

**EDUC 5125 - THE FINE ARTS AND CORPORAL EXPRESSION IN TEACHING AT THE ELEMENTARY LEVEL (3)**

Understanding of artistic languages as the fine arts and the corporal expression. Analysis of its contribution for cultural enrichment and the development of creativity. Synthesis by means of the integration of the fine arts and corporal expression in the curriculum at the elementary level for the development of creative thought. The importance of the fine arts and corporal expression as a representation of ideas and feelings.

**EDUC 5130 - FUNDAMENTALS OF THE ACQUISITION OF READING AND WRITING (3)**

Review of the theories and the historical perspectives on the learning of reading and writing. Analysis of the psychological, linguistic and sociological bases of this learning. Emphasis on the development of the process of reading and writing, the understanding of reading, the written production, the social use of language and the appropriation of the writing system.

**EDUC 5133 - STATISTICS (3)**

Statistical methods applied to educational research. Application of descriptive and inferential statistics to data interpretation. Use of the computer in statistical analysis. Requires additional time in an open laboratory.

**EDUC 5142 - MEDICAL AND PSYCHOLOGICAL ASPECTS FOR THE REHABILITATION AND SPECIAL EDUCATION PROFESSIONAL (3)**

Medical and psychiatric principles in rehabilitation. Analysis of population trends, basic principles of medical and clinical sciences, common mental and physical disabling conditions, recent research, legal aspects, medical service programs in government and private vocational rehabilitation agencies.

**EDUC 5144 - INTRODUCTION TO REHABILITATION (3)**

Basic concepts in rehabilitation as a social movement. Historical, philosophical and legislative background in vocational rehabilitation with emphasis on the latest legislative changes at the federal and state levels and their repercussions in public and private service programs for handicapped persons. Analysis of the participation of

community organizations in the development of rehabilitation services.

**EDUC 5145 - VOCATIONAL EVALUATION OF PERSONS WITH SPECIAL NEEDS (3)**

Analysis of the Theory of Work Adjustment and intervention in vocational evaluation. Service models, types of cases and the role of the vocational evaluator.

**EDUC 5146 - TESTS AND METHODS IN VOCATIONAL EVALUATION I (3)**

Critical examination of the psychometric tests applicable to vocational evaluation and work samples. Development of an Individualized Vocational Evaluation Plan and the procedures for vocational clinical services.

Prerequisite: EDUC 5145.

**EDUC 5147 - TESTS AND METHODS IN VOCATIONAL EVALUATION II (3)**

Use of occupational factors derived from the Occupation Titles Dictionary to analyze the vocational profile of cases. Application of interviewing techniques and observation and report format. Discussion of cases with professionals related with the field.

Prerequisite: EDUC 5146.

**EDUC 5148 - PRACTICUM IN VOCATIONAL EVALUATION (3)**

Laboratory in the use of selected psychometric tests; work samples, analysis of occupational, medical and educational interviewing techniques and clinical observation. A minimum of 80 hours of laboratory is required.

Prerequisite: EDUC 5147.

**EDUC 5200 - DEVELOPMENT AND FUTURE OF HIGHER EDUCATION (3)**

Analysis of the purpose and historical development of higher education institutions in Europe, United States, Puerto Rico and other Latin American countries to the present and their future trends. Review of their moral, philosophical, social and psychological foundations.

**EDUC 5210 - TEACHING MANAGEMENT IN HIGHER EDUCATION (3)**

Identification, description and analysis of the pedagogic and research capabilities that the higher education teacher must have. Analysis of faculty hiring and retention procedures. Review of models, approaches and techniques for faculty development, retraining, and evaluation.



**EDUC 5220 - HIGHER EDUCATION MANAGEMENT (3)**

Management theories, processes, models and their applications to higher education scenarios. Includes the study of conductive processes and supervision as a process for assistance and improvement. Emphasis on systems theories, educational leadership, decision making processes for problem solution and program planning and development.

**EDUC 5230 - INSTITUTIONAL PLANNING, BUDGET AND ASSESSMENT (3)**

Analysis of theories, models and planning and evaluation of the quality of organizational results. Includes financing sources and the budget as a planning tool.

**EDUC 5250 - TEACHING OF READING AND WRITING (3)**

Study and analysis of the teaching of reading and writing. Study of the processes of text composition, reading from the interactive and transactional perspective. Emphasis on the impact of the new technologies in the processes of reading and writing and their pedagogical implications.

**EDUC 5320 - PROMOTION OF READING (3)**

Study of the policies to foment reading and the practices of the task of the promoter or mediator of reading in the 21st century. Emphasis on the main existing policies for the promotion of reading. Design of animation strategies to reading to stimulate the taste and the pleasure of reading in the school, family and community. Material administration and selection, in both printed and virtual forms.

**EDUC 5370 - FUNDAMENTALS OF COUNSELING AND PROFESSIONAL ETHICS (3)**

Introduction to the field of professional counseling. Discussion of the philosophical, psychological and sociological foundations in its evolution. Includes the study of the assistance processes and the different components of a counseling program. Emphasis on the analysis of the nature of the services inherent to the profession. Review, reflection and application of the ethical and legal principles inherent in the profession. Includes practical experiences.

**EDUC 5410 - EVALUATION OF READING AND WRITING (3)**

Study of the theories and methodological approaches that serve as the basis for evaluation of reading and writing. Design and evaluation of instruments for assessment of reading and writing in all disciplines.

**EDUC 5610 - SOCIAL CONDITIONS AFFECTING THE INDIGENT (3)**

Description and analysis of value development and of behavior in urban society and its impact on non-urban societies. Emphasis on social conditions affecting the health, well being and nutrition of the indigent.

**EDUC 5700 - SCHOOL AND COMMUNITY (3)**

Review of the place, function and authority of the school as a social institution and its relationship to non-school agencies.

**EDUC 5730 - PROMULGATION AND ADOPTION OF EDUCATIONAL INNOVATIONS (3)**

Evaluation of educational innovations and their potential for promulgation and adoption in schools.

**EDUC 5740 - EDUCATION OF THE EXCEPTIONAL POPULATION (3)**

Analysis and application of current state and federal legislation. Discussion of contemporary concepts, matters and trends in the evaluation, diagnosis and education of the population with incapacities. Emphasis on the services and opportunities for social, emotional, cognitive, vocational or occupational development. Analysis of current research.

**EDUC 5750 - EDUCATIONAL MEDIA (3)**

Educational materials laboratory. A practical course in the use and production of audiovisual materials and other media. Consideration of the specific value and applicability of these media in various subject matter areas.

**EDUC 5760 - ALTERNATIVES FOR THE FUTURE AND EDUCATIONAL POLICY (3)**

Philosophy of futurism and its application in the formulation of educational policy. Interdisciplinary approach to educational planning and program development from the futuristic point of view.

**EDUC 691A - INTERNSHIP IN INTERDISCIPLINARY SPECIAL EDUCATION (5)**

Integration of the knowledge and skills acquired through a supervised clinical experience in inclusive environments with infants, preschool children and students at the elementary, junior and high school levels. Students will analyze the importance of collaboration centered on the family, the placement in appropriate and inclusive environments and the empowerment of the family to make decisions. Two hundred twenty-five (225) hours at the rate of 15 hours weekly in a center selected by the University

professor are required. The center should actively promote the inclusion of children with disabilities.

Prerequisite: Have approved 27 credits of the Specialization Prerequisites.

**EDUC 697\_ - INTEGRATION SEMINAR IN SPECIAL EDUCATION (3)**

Evaluation of theories, concepts and principles that support the practice of special education and the educational services offered to exceptional students. Synthesis and evaluation of models and design of planning, teaching and evaluation of students of diverse exceptions. Includes research analysis and special projects.

**EDUC 697A - INTEGRATION SEMINAR (3)**

This course is for meeting the Prerequisites of Comprehensive Examinations and Other Options for masters' programs.

**EDUC 697G - INTEGRATION SEMINAR IN COUNSELING (3)**

Synthesis of the foundations and theories, concepts and principles that are required in the practice of counseling. Includes discussion of the ethical and legal aspects of the profession. The minimum passing score for this course is 80%. Grade: P/NP.

Prerequisite: PSCY 6090, EDUC 6918 y EDUC 6919.

**EDUC 6000 - HUMAN RESOURCES MANAGEMENT AND LABOR RELATIONS IN EDUCATIONAL SCENES (3)**

Analysis of the laws and processes that affect effective human resources administration in the educational scenario. Includes programs of professional development, motivation and satisfaction in the workplace.

**EDUC 6001 - FISCAL MANAGEMENT (1)**

Analysis of the fundamental elements of budgeting and finance in educational scenarios. Includes the preparation and control of budget in educational institutions.

**EDUC 6004 - INFORMATION SYSTEMS IN EDUCATIONAL MANAGEMENT (1)**

Application of existing technology and cybernetic information to administrative processes; logical functional design for processing, use of networks and their application and storage of information. Analysis and use of different useful computerized programs in educational management.

**EDUC 6013 - ORGANIZATIONAL BEHAVIOR IN EDUCATIONAL INSTITUTIONS (1)**

Analysis of individual, interpersonal and group behavior in the context of educational organizations, by using different models and theories. Includes the development and evolution of organizational theory. Application of the theories to the sociocultural setting in which educational management and instructional supervision occur.

**EDUC 6024 - EDUCATIONAL MEASUREMENTS AND EVALUATION (3)**

Evaluation of the academic achievement by means of the interpretation of the results of the forms of measurement used by the teacher. Analysis of the use of evaluation techniques, measurement and assessment in the teaching-learning process. Construction, administration, correction and interpretation of evaluation instruments and assessment. Application of technology in the evaluation process.

**EDUC 6035 - EDUCATIONAL PLANNING (3)**

Application of the principles of educational planning. Study of practical situations in educational planning. Requires the design of an educational project.

**EDUC 6043 - POPULATION WITH INTELLECTUAL IMPEDIMENTS (3)**

Analysis of the theories, concepts and current trends in the evaluation, diagnosis and assessment of the student with intellectual impediments. Evaluation of the services and opportunities for social, emotional, cognitive, vocational and occupational development. Analysis of recent research.

**EDUC 6044 - POPULATION WITH SPECIFIC LEARNING PROBLEMS (3)**

Analysis of the theories, concepts and current trends in evaluation, diagnosis and assessment of the population with specific learning problems. Evaluation of the services and opportunities for social, emotional, cognitive, vocational and occupational development. Analysis of recent research.

**EDUC 6045 - POPULATION WITH SUPERIOR INTELLIGENCE AND TALENTS (3)**

Study of the theories and current concepts on the population with superior intelligence and talents. Comparison of special service models. Analysis of research related to the superior abilities of this population and to educational practices.

**EDUC 6046 - CURRICULUM DEVELOPMENT (3)**

Study of the foundations of the curriculum and their application to curriculum development. Includes different models of curriculum design, the study of the development of curriculum as a system; needs, content and strategies for teaching, implementation, evaluation and improvement of curriculum and the design of a curricular segment.

**EDUC 6047 - NATURE AND NEEDS OF HANDICAPPED INFANTS AND PRESCHOOL CHILDREN (3)**

Review of the theories, concepts and current trends in the evaluation, diagnosis and assessment of pre-school handicapped infants. Discussion of the normal process in the basic areas of physical, cognitive, social, emotional and linguistic development, as well as self-aid and its deviations. Analysis of recent research.

**EDUC 6048 - ASSESSMENT AND PROGRAMMING FOR HANDICAPPED INFANTS AND PRESCHOOL CHILDREN (3)**

Methods and techniques for evaluating and programming services and individualized instruction for infants and preschool children. The importance of the parents' participation in service and educational programs. Emphasis on the provision of guidance and counseling for parents and their participation in the preparation of individualized service programs for the family and of individualized teaching programs.

**EDUC 6049 - DEALING WITH BEHAVIORAL DISORDERS (3)**

Study of the current theories and concepts, topics and trends in the evaluation, diagnosis and teaching of the population with specific learning problems. Review of the services and opportunities for social, emotional, cognitive, vocational and occupational development. Development of attitudes and values for a better quality of life. Analysis of recent research.

**EDUC 6050 - CURRENT ISSUES IN INTERDISCIPLINARY SPECIAL EDUCATION (3)**

Comparison of regular and special educational programs. Identification of variables promoting the union of both fields of study. Study of federal and state laws related to education from early childhood to high school, program models, community resources, and program development. Knowledge of appropriate teaching practices and the factors that promote education in natural and inclusive environments.

**EDUC 6053 - INTERVENTION WITH FAMILIES IN INCLUSIVE ENVIRONMENTS (3)**

Analysis of dynamic in family systems. Study of factors that affect family structure, impact of the presence of children with disabilities in the family, techniques for identifying the strengths and needs of the family and strategies for facilitating communication. Strategies for parents to intervene in their children's education with the purpose of improving academic achievement. Students will assist families in obtaining information and available services in the community.

**EDUC 6054 - ASSESSMENT IN INTERDISCIPLINARY SPECIAL EDUCATION (3)**

Study of methods and techniques for assessing children with or without disabilities from infant to high school students in natural environments. Analysis of assessment instruments for infants, pre-school and high school students with or without disabilities. Students will develop evaluation instruments and participate in the process of transdisciplinary assessment.

**EDUC 6055 - SEMINAR IN INTERDISCIPLINARY SPECIAL EDUCATION (3)**

Development of the Individualized Service Plan and the Individualized Educational Plan. Study of teamwork models with emphasis on the transdisciplinary model. Preparation of students of different disciplines to occupy direct intervention roles and provide a collaborative system for offering service to infants and students with special needs and to their families in inclusive environments.

**EDUC 6056 - CURRICULUM EVALUATION (3)**

Analysis of the models, phases and principles of the curricular evaluation. Analysis of the functions and responsibilities of the curriculum specialist and other school personnel in curriculum evaluation. Practice in the design and construction of instruments for the curriculum evaluation at the different school levels. Evaluation of current educational programs and projects in our educational system.

**EDUC 6057 - TEACHING MODELS AND STRATEGIES (3)**

Analysis and assessment of teaching models and the selection of instructional strategies applicable to different disciplines and levels.

**EDUC 6058 - LEGAL FOUNDATIONS OF EDUCATION (3)**

Analysis and evaluation of the laws and regulations that

govern education in Puerto Rico. Study of the local and federal courts decisions and their implications in education.

**EDUC 6059 - DESIGN AND DEVELOPMENT OF INTERDISCIPLINARY SPECIAL CURRICULA (3)**

Analysis of curricular principles from the pre-school level to high school and their application in Puerto Rico. Emphasis on the development of appropriate curriculum models that may be used for teaching preschool children, and elementary and high school students in inclusive programs and natural environments.

**EDUC 6060 - CURRICULUM, ASSESSMENT AND INTERVENTION METHODS FOR SPECIAL STUDENTS (3)**

Study of the curriculum, assessment, principles, techniques and innovative teaching strategies. Includes the examination of the materials, design and management of the environment to promote inclusion at all levels. Analysis of appropriate practices, interventions, programming, and health factors that affect the inclusion of students with disabilities.

**EDUC 6061 - CONTEMPORARY METHODS IN THE TEACHING OF SCIENCES (3)**

Analysis of different families of teaching models and their interaction with the process of teaching science at the secondary level. It includes analysis, reflection and individual and group evaluations of the teaching methods discussed. Creation and presentation of lessons of various models and instructional strategies.

**EDUC 6063 - CURRICULAR DESIGN AND EVALUATION IN EDUCATION IN SCIENCE (3)**

Analysis of the principles that guide the development of the curriculum. Evaluation of various curricular approaches that intervene in the preparation of the curriculum and how they relate to the educational process. Design and construction of a curricular segment aimed at addressing the concept of diversity in the teaching of science.

**EDUC 6066 - TECHNOLOGICAL AID IN TEACHING EXCEPTIONAL STUDENTS (3)**

Application of the use of technology to facilitate the teaching and learning process of exceptional students. Includes the necessary adaptations of this technology for the home, school and learning communities.

**EDUC 6068 - ADVANCED LANGUAGE AND READING (3)**

Advanced laboratory course in the procedures and practices of teaching language and reading. Clinical practice with individuals and small groups of children at the elementary and secondary levels. Emphasis on the development of practical and informal techniques and materials, diagnosing reading difficulties and the development of adequate reading skills and interests.

**EDUC 6079 - INSTRUCTIONAL LEADERSHIP (3)**

Analysis of the competencies related to the application of supervision and instructional leadership to improve the teaching-learning process and other services related to teaching. Practical experiences in the educational scenario are required.

**EDUC 6090 - STUDENTS WITH AUTISM (3)**

Discussion of the etiological aspects of autism. Analysis of the theories, concepts and current trends in the evaluation, diagnosis and assessment of the population with autism. Emphasis on the services and opportunities for social, emotional, cognitive, vocational and occupational development. Analysis of recent research.

**EDUC 6091 - PSYCHOSOCIAL AND NEUROPHYSIOLOGICAL ASPECTS OF STUDENTS WITH ASD (3)**

Analysis of psychosocial and neurophysiological factors that define students with Autism Spectrum Disorders. Examination of the impact of diagnosis on family, sexuality, privacy, education, employment, recreation and culture.

**EDUC 6092 - METHODS OF MULTISENSORY AND MULTIMODAL COMMUNICATION FOR STUDENTS WITH ASD (3)**

Examination of developmental processes and evaluation of verbal and non-verbal communication skills. Examination of strategies to improve communication of students with Autism Spectrum Disorder.

**EDUC 6093 - BEHAVIOR MANAGEMENT AND INTERVENTIONS FOR STUDENTS WITH ASD (3)**

Differentiation of the principles of behavior management and interventions for students with Autism Spectrum Disorders. Analysis of the different behavioral methodologies used with students diagnosed with Autism Spectrum Disorders.

**EDUC 6095 - CURRICULUM AND EDUCATIONAL METHODOLOGIES FOR STUDENTS WITH ASD (3)**

Analysis of curricular models and methodologies for students with ASD. Research on educational practices for students with Autism Spectrum Disorders. Design of intervention plans to improve the quality of life and education of students with Autism Spectrum Disorders.

**EDUC 6096 - CURRICULAR ADAPTATION OF TEACHING SKILLS FOR THE STUDENT WITH ASD (3)**

Study of the methods that facilitate the integration and inclusion of students with Autism Spectrum Disorders in the mainstream curriculum. Selection of strategies to modify the curriculum for these students in the regular classroom. Development of a plan to address learning problems to promote student learning.

**EDUC 6113 - EDUCATIONAL ADMINISTRATION (PK - 6) (3)**

Application of theories and models related to the basic strategies of decision-making in the principal work areas of educational administration at the elementary level. Areas include personnel management and supervision, finance, school organization, school population, educational programs and interaction between the school and the community. Includes case studies and school visitations for the purpose of creating an administrative and supervisory environment.

**EDUC 6124 - EDUCATIONAL ADMINISTRATION (7-12) (3)**

Application of theories and models related to the basic strategies of decision-making in the principal work areas of educational administration at the secondary level. Areas include personnel management and supervision, finance, school organization, school population, educational programs and interaction between the school and the community. Includes case studies and school visitations for the purpose of creating an administrative and supervisory environment.

**EDUC 6143 - TRANSITION PROCESS AND EMPLOYMENT IN SPECIAL EDUCATION AND VOCATIONAL REHABILITATION (3)**

Description of the concepts, modalities of employment and transition services in special education and vocational rehabilitation for employment opportunities for the exceptional population. Analysis of recent research.

**EDUC 6210 - HUMAN RESOURCES AND LABOR RELATIONS (3)**

Practical applications of theories, principles, legal aspects, techniques, and modern procedures in faculty and administrative personnel management in higher education. Strategies aimed at satisfying professional and occupational competencies required by such institutions.

**EDUC 6220 - HUMAN DEVELOPMENT AND DIVERSITY PROCESESS (3)**

Critical analysis of theories and research on human development and diversity and its implications for education. Includes practical experiences.

**EDUC 6230 - STUDENT SERVICES (3)**

Student needs in Higher Education communication and motivational processes and the support services offered. Discussion of laws and regulations that affect students. Analysis of the nature and roles of student organizations, and the cultural activities that nurture and contribute to the integral development of students.

**EDUC 6240 - TECHNIQUES IN BEHAVIOR ANALYSIS (3)**

Application of learning principles and techniques in behavior analysis to the exceptional population. Students will apply these techniques to groups and individually. Direct experience in the application of knowledge acquired.

**EDUC 6270 - EVALUATION AND DESIGN OF TEACHING FOR EXCEPTIONAL STUDENTS (3)**

Application of formal and informal instruments in the evaluation of exceptional students. Use of the evaluation results to design and implement the Individual Teaching Program.

**EDUC 6281 - SUPERVISED PRACTICE I (3)**

Practical experience in a rehabilitation or educational service setting or in a related community agency. Includes, under the supervision of the professor, individual interventions in the planning, administration, correction and interpretation of tests and the writing of reports. Students are required to complete a minimum of 160 hours of practice at their assigned center at the rate of eight hours weekly, and are required to devote 2.6 hours of reading and writing outside the center. The supervised practice will be conducted from Monday to Friday within the regular work schedule of the center.

Prerequisite: EDUC 5148.

**EDUC 6282 - SUPERVISED PRACTICE II (3)**

Culmination of the supervised practical experience in the application of the techniques and methods of vocational evaluation. The student will perform all the functions of a vocational evaluator. A minimum of 160 hours, including eight hours weekly of direct service is required.

Prerequisite: EDUC 6281.

**EDUC 6300 - STRATEGIES, METHODS AND TECHNIQUES FOR TEACHING READING AND WRITING TO THE EXCEPTIONAL POPULATION (3)**

Review of instruments used for evaluation and diagnosis of the difficulties in reading and writing at the different educational levels. Analysis of strategies, methods and intervention techniques with the population that presents difficulty. Includes the detection of needs and the design of activities for individual programming by means of direct experiences.

**EDUC 6310 - METHODOLOGY IN TEACHING MATHEMATICS (3)**

Analysis of the methods and strategies of teaching mathematics. Discussion of the trends in the educational system, the philosophical bases: behaviorism and constructivism, and controversies in the teaching of mathematics. Review of documents of the Puerto Rico Department of Education and of professional associations related to the teaching of mathematics.

**EDUC 6320 - STRATEGIES, METHODS AND TECHNIQUES FOR TEACHING MATHEMATICS TO THE EXCEPTIONAL POPULATION (3)**

Review of instruments used for the evaluation and diagnosis of the difficulties in the learning of mathematics. Analysis of strategies, methods and intervention techniques with the population that presents difficulty. Includes practice in detection of needs for individual programming, by means of the study of cases and direct experiences.

**EDUC 6340 - DEVELOPMENT OF LANGUAGE AND READING (3)**

Analysis of the stages of linguistic development and the diverse theories on the acquisition of language and reading. Discussion of the interrelation between language and reading. Study on speech disorders and language and their impact on the methodology to be used for the teaching of reading and writing. Evaluation, diagnosis and teaching of reading and writing.

**EDUC 6345 - METHODS OF EVALUATION (3)**

Planning and design of evaluation of educational projects. Practice in compiling, coding, processing and analyzing evaluation information. Identification of difficulties in the evaluation project and training to avoid them in practice.

Prerequisite: EDUC 6024.

**EDUC 6360 - THE FAMILY IN THE EDUCATION OF HANDICAPPED CHILDREN (3)**

Analysis of the problems associated with parents and families involved in rearing handicapped children. Techniques for effective communication between parents and teachers are presented as well as the resources available for assisting the parents. The importance of parents in the educational process, the rights and importance of values and professional ethics in the interaction process. Includes field experience, contacts with parents and simulated experiences.

**EDUC 6380 - ADMINISTRATION OF SPECIAL EDUCATION PROGRAMS (3)**

Principles of special education administration. Analysis of administrative problems inherent with the compliance of the Prerequisites established by state and federal laws governing service and providing protection to the public. Discussion of the principles of professional ethics and value conflicts in providing special education services.

**EDUC 6420 - COUNSELING FOR LIFE AND CAREER TRANSITION (3)**

Application of the concepts related to life and career counseling in the transition stages of human development.

Prerequisite: EDUC 6220 y EDUC 6455.

**EDUC 6451 - COUNSELING THEORIES (3)**

Analysis of the theoretical frameworks: psychodynamic, behavioral, cognitive behavioral, humanistic and postmodernist, and their respective counseling theories. Application of theories in case conceptualization and therapeutic interventions and their respective techniques, considering the ethical and legal aspects of the profession.

Prerequisite: EDUC 5370 y EDUC 6220.

**EDUC 6452 - INDIVIDUAL COUNSELING (3)**

Discussion of the concepts, models, strategies and techniques of individual intervention in the counseling process. Emphasis on the observation of techniques in directed professional activities and demonstrations through

simulations, recordings and other practical experiences in the classroom. Assessment of the ethical and legal aspects of the profession. Includes practical experiences.

Prerequisite: EDUC 6451.

### **EDUC 6455 - ASSESSMENT OF THE INDIVIDUAL (3)**

Analysis of the principles and the formal and informal assessment process used by counselors to understand the individual as an integral whole. Examination of the statistical methods used to qualify and interpret tests and other standardized instruments and their application in the assistance process. Emphasis on the understanding and transformation of raw scores to standard scores of statistical elements. Includes the ethical and legal aspects that govern the assessment process.

Prerequisite: Have approved a statistics course with a minimum grade of C.

### **EDUC 6457 - ASSESSMENT AND EVALUATION IN COUNSELING (3)**

Administration and interpretation of assessment instruments specific to professional counseling: evaluation, intervention, management and referral. Integration of aspects of personality, academic achievement, aptitude, and talents in career assessment. Emphasis on the ethical and legal aspects that govern the evaluation process. Requires practical experiences.

Prerequisite: EDUC 5370, EDUC 6220 y EDUC 6455.

### **EDUC 6460 - CHILD AND ADOLESCENT COUNSELING (3)**

Examination of the different problems that affect the development of children and adolescents and their physical, mental, emotional, and social functioning. Includes models and strategies for the counseling of children and adolescents from the perspective of development, prevention and remediation. Emphasis on ethics, research and the application of counseling approaches in the child and adolescent population. Includes practical experiences in school and other scenarios.

Prerequisite: EDUC 5370 y EDUC 6220.

### **EDUC 6470 - GROUP COUNSELING (3)**

Analysis of the theories, techniques and procedures of group counseling that apply to the development of an intervention plan, considering the ethical and legal aspects of the profession. Participation in activities that facilitate

the development of competencies and skills necessary for group counseling. Includes practical experiences in school and other scenarios.

Prerequisite: EDUC 6452.

### **EDUC 6472 - FAMILY COUNSELING AND CONSULTATION (3)**

Analysis of theories, research and models for family counseling, considering the ethical and legal aspects of the profession. Discussion of the construction of gender and its relationship with family. Examination of theories, strategies and techniques for intervention with families, as well as consultation models with parents and caregivers of students.

Prerequisite: EDUC 6470.

### **EDUC 6480 - SEMINAR: CONTEMPORARY PROBLEMS AND TRENDS (3)**

Topics selected according to the problems, challenges and demands of current society.

### **EDUC 6580 - INTEGRATION OF TECHNOLOGY IN INSTRUCTIONAL DESIGN (3)**

Study of the technological resources for instructional design at the elementary level. Emphasis on the discussion of the contents of the disciplines by integrating technology to facilitate experiences that optimize the educational process, and critical and creative thought. Assessment of the importance of ethical and legal behavior, in a global and digital society.

### **EDUC 6601 - VIRTUAL LEARNING COMMUNITIES IN HIGHER EDUCATION: EXPERIENCE I (3)**

Analysis of the principles, foundations and applications of online learning technology, the typology and characteristics of virtual learning communities and the trends and controversies in this type of educational environment. Reflection, analysis and construction of a proper significance with respect to the experiences obtained as university online program students. Bibliographical search on the development of virtual communities, discussion of ethical aspects of online learning and reflection on the experience of participating in a virtual learning community.

### **EDUC 6602 - VIRTUAL LEARNING COMMUNITIES IN HIGHER EDUCATION: EXPERIENCE II (3)**

Planning and development of a virtual learning community

and reflection on the experience of using educational technology. This experience continues in course EDUC 6603.

Prerequisite: EDUC 6601.

**EDUC 6603 - VIRTUAL LEARNING COMMUNITIES IN HIGHER EDUCATION: EXPERIENCE III (3)**

Discussion of strategies for maintaining virtual learning communities and creation of a portfolio where the master's degree experiences related to the use of technology and online education are compiled.

Prerequisite: EDUC 6602.

**EDUC 6605 - CURRENT PROBLEMS AND CONTROVERSIES OF HIGHER EDUCATION IN LATIN AMERICA (3)**

Analysis of the current problems of higher education, such as: teaching in the globalized world, innovation and use of new technologies, university government and policies adopted by Latin American countries, efficiency, quality and fairness in higher education. Discussion of the external and internal factors that affect the university's government and its effects on teaching.

**EDUC 6610 - LEARNING THEORIES AND TEACHING MODELS IN HIGHER EDUCATION (3)**

Study of the learning theories and the teaching models that guide the educational practice in diverse contexts of higher education. Educators become qualified in using pedagogical approaches that facilitate the development of significant learning experiences applicable to determined social and cultural contexts. Analysis of the implications of integrating technology and research as a mean to reflect on educational practices.

**EDUC 6615 - EDUCATIONAL TECHNOLOGY IN HIGHER EDUCATION**

Analysis of the uses of educational technology utilized in the teaching and administration of higher educational institutions in Latin America and the Caribbean. Study of the applications and equipment most used for integrating technology in higher education. Planning, design and evaluation of technology use in higher education.

**EDUC 6620 - PLANNING AND EDUCATIONAL DESIGN IN HIGHER EDUCATION (3)**

Integration of knowledge and skills used to plan educational programs in higher education. Emphasis on the development of educational designs that promote

dynamic learning environments in response to the social, political and economic changes that contemporary higher educational institutions face in different contexts.

**EDUC 6850 - SEMINAR IN SPECIAL EDUCATION (3)**

Analysis of practices, current problems and modern trends on teaching exceptional students.

**EDUC 6861 - FIELD STUDY SEMINAR**

Student participation, either independently or as part of a team in a program of educational development or reform which is underway in the field and partially or wholly supervised by the University. Weekly or biweekly meetings with a seminar director and preparation of a report with particular emphasis on evaluation. Prerequisite: Authorization from the advisor.

**EDUC 6862 - FIELD STUDY SEMINAR (3)**

Student participation, either independently or as part of a team in a program of educational development or reform which is underway in the field and partially or wholly supervised by the University. Weekly or biweekly meetings with a seminar director and preparation of a report with particular emphasis on evaluation. Prerequisite: Authorization from the advisor.

**EDUC 6900 - THESIS SEMINAR (3)**

Identification of a research topic in the field of education; analysis of literature and development of the thesis proposal. Grade: P/NP.

**EDUC 6912 - PRACTICUM IN COUNSELING (2)**

Supervised practical experiences in school settings and other areas. Aimed at the integration and use of the theoretical knowledge, skills and attitudes of the profession. Requires the supervision of a licensed behavior professional. Involves 120 hours of supervised practice. Prerequisite: Have approved all specialization courses.

**EDUC 6914 - INTERNSHIP (3)**

Under the supervision of a faculty member, each student is assigned to a school director, superintendent of schools or an administrator of an educational organization. In this situation, the student obtains experience in administration and supervision, making a work plan for a year, a daily program, case reports; additionally, the student participates in actual organization and supervision and carries on research, thus developing competence and leadership. Prerequisite: authorization from the advisor.



**EDUC 6915 - INTERNSHIP IN MANAGEMENT AND EDUCATIONAL LEADERSHIP (3)**

Supervised practice in management related tasks. This will be performed under the supervision of a faculty member and will consist of a minimum of 135 hours of managerial experiences. Includes periodic meetings and seminars with the faculty member.

**EDUC 6917 - INTERNSHIP IN HIGHER EDUCATION (3)**

Student placement in academic, administrative and student affairs scenarios at the higher education level, under the guardianship of a higher education administrator and the supervision of a faculty member. The student will be placed in a position that will allow the application of the program's acquired competencies. The internship requires a minimum of 130 hours. Prerequisite: a minimum of 18 credits approved in the program with a grade point average of 3.00 or more.

**EDUC 6918 - INTERNSHIP IN COUNSELING I (3)**

Supervised practice of counseling services. Includes discussion of cases and situations encountered in the school setting or other related scenarios. Requires 300 hours of supervised practice.

Prerequisite: EDUC 6912.

**EDUC 6919 - INTERNSHIP IN COUNSELING II (5)**

Supervised practice in counseling and consultation of children, adolescents, family and school staff in various scenarios. Emphasis on the development of professional skills related to the coordination of services with the respective communities. Integration of the ethical and legal aspects of the profession. Requires 300 hours of supervised practice.

Prerequisite: EDUC 6918.

**EDUC 6923 - INTERNSHIP IN ADMINISTRATION AND SUPERVISION OF OCCUPATIONAL PROGRAMS (3)**

Internship in educational settings under the supervision of a faculty member from the Education Program. Students will acquire experience in the administration and supervision of vocational and technical schools by preparing a yearly work plan, a daily schedule and case reports. Students will be assigned to a school director, a school superintendent or an administrator of an educational organization. A minimum of eight hours of practice per week is required. Includes periodic meetings and seminars

with the faculty supervisor.

**EDUC 6931 - RESEARCH OR APPLICATION PROJECT IN THE AREA OF SPECIALIZATION I (3)**

Analysis of the theoretical, historical, ethical, moral and political bases of the field of the scientific and educational research. Analysis of the design for a research or application project in the field of the selected specialization. The course will be governed by the guide: General Considerations for the Elaboration of Research or Application Projects. An oral and written presentation of the project. Grade: P/NP.

**EDUC 6932 - RESEARCH OR APPLICATION PROJECT IN THE AREA OF SPECIALIZATION II (3)**

Academic experience directed to the development of a research or application project of the specialization under the supervision of a professor. Emphasis on the findings, conclusions and recommendations of the research or application project developed in EDUC 6931. Defense of the research or application project in the specialization area. The course will be governed by the guide: General Considerations for the Elaboration of Research or Application Projects. Grade: P/NP.

Prerequisite: EDUC 6931.

**EDUC 6933 - CONTINUATION OF THE PREPARATION OF THE RESEARCH OR APPLICATION PROJECT (3)**

The course will provide for the completion of the Prerequisites of course EDUC 6932, when the student receives the grade of NP.

Prerequisite: EDUC 6932.

**EDUC 697D - INTEGRATION SEMINAR: EDUCATIONAL MANAGEMENT AND LEADERSHIP (3)**

This course is for meeting the Prerequisites of Comprehensive Examinations and Other Options for masters' programs.

**EDUC 6990 - THESIS (3)**

Research project on a problem that will add information to existing knowledge in the area of education. This project requires the use of statistical methods to analyze gathered data. Prerequisite: authorization from the advisor. Grade: P/NP.

**EDUC 7000 - Educational Research Writing (3)**

Application of academic writing and bibliographic research skills. Use of the editorial style of the American Psychological Association (APA).

**EDUC 7003 - FORMATION AND DEVELOPMENT OF EDUCATIONAL THOUGHT IN PUERTO RICO (3)**

Analysis of the formation and evolution of the educational thought that has guided education in Puerto Rico from the nineteenth century to the present.

**EDUC 7010 - SOCIO-SCIENTIFIC CONCEPTS OF EDUCATION (3)**

Analysis of the relationship that exists between scientific strategies, theories and models and their application in identifying solutions for the educational problems society faces today.

**EDUC 7020 - CULTURE, EDUCATION AND PHILOSOPHY (3)**

Analysis of anthropological and philosophical theories that give direction and illustrate the function and purposes of education in the transmission, preservation and change of culture and its elements within a local and global context.

**EDUC 7030 - ANALYSIS OF HUMAN BEHAVIOR (3)**

Analysis of the philosophical and psychological background of learning, personality and human development theories as instruments for understanding human behavior. Emphasis on the application and implication of the theories in the teaching and learning processes.

**EDUC 7040 - LOGIC AND LANGUAGE (3)**

Analysis of the foundations of the logical structure of discursive language and its relevance to understanding the process of communication in the dynamics of teaching. Emphasis on the practice of logical analysis to strengthen attitudes and critical thinking skills.

**EDUC 7050 - Statistics (3)**

Analysis and application of descriptive, inferential and non-parametric statistics in different types of computing systems and their application to scientific investigation.

**EDUC 7060 - Quantitative Research (3)**

Analysis and application of quantitative methods and techniques in educational research. Elaboration of a design

for quantitative research.

**EDUC 7070 - Qualitative Research (3)**

Analysis and application of the qualitative methods and techniques in educational research. Elaboration of a design of qualitative research.

**EDUC 7100 - FOUNDATIONS OF DESIGN OF TEACHING PROGRAMAS (3)**

Comparative analysis of the principles and historical, philosophical, psychological and social foundations that sustain the teaching programs in variable scenarios. Discussion of the implications of the diverse curricular approaches for the identification, selection and planning of educational activities.

**EDUC 7205 - HISTORICAL FOUNDATIONS OF HIGHER EDUCATION (3)**

Analysis of the historical development of the institutions of higher education in Europe, United States, Latin America and Puerto Rico up to the present. Discussion of the philosophical, social and psychological elements.

**EDUC 7500 - WORKSHOP ON COMPETENCY-BASED CURRICULUM DEVELOPMENT (3)**

Each student will undertake a project and present a curriculum based on the competencies developed.

**EDUC 7510 - COMPARATIVE EDUCATION (3)**

Comparative analysis of educational policies, models and practices of educational systems in different countries. Emphasis on the philosophical, sociological and psychological foundations of the process of internationalization in areas of organizational change, curricular innovation, professional development of educational and administrative personnel and student mobility.

**EDUC 7530 - EDUCATION FOR PEACE: THE INDIVIDUAL, SELF-MANAGEMENT AND SOCIAL DEVELOPMENT (3)**

Analysis of the role education holds for peace in contemporary societies and their educational systems. Emphasis on contemporary trends and future projections on massive communications and technologies to encourage and develop social and cultural equality.

**EDUC 7540 - EDUCATION AND ECONOMIC AND SOCIO-POLITICAL DEVELOPMENT IN PUERTO RICO (3)**

Analysis of economic and socio-political development in

Puerto Rico since the beginning of Spanish colonization. Emphasis on the changes that took place from the twentieth century to the present. Includes their implications for educational purposes, values and conditions of life in the Puerto Rican context.

**EDUC 7550 - ACADEMIC PLANNING SYSTEMS FOR POSTSECONDARY INSTITUTIONS (3)**

Study and analysis of academic planning systems according to the theories and models upon which they are based. Each student must make a comparative analysis of at least two planning systems for postsecondary educational Institutions.

**EDUC 7560 - INSTITUTIONAL RESEARCH (3)**

Study and analysis of theories and principles upon which institutional research is based. Emphasis on the development of a project of institutional research.

**EDUC 7570 - AUTHORITY AND POWER IN EDUCATIONAL ADMINISTRATION (3)**

Concepts of authority and power and implications for administration in exercising both. Analysis of the foundations from which authority and power spring and of the different kinds of authority and power that characterize educational institutions together with their corresponding implications.

**EDUC 7580 - COMPARATIVE ORGANIZATIONAL STRUCTURES IN EDUCATIONAL ADMINISTRATION (3)**

Diverse structures for organizing educational administration. Comparison in terms of the variables that condition them and their effects on administration.

**EDUC 7590 - WORK, MOTIVATION AND OCCUPATIONAL SATISFACTION IN EDUCATIONAL ADMINISTRATION (3)**

Analysis of occupational factors in educational administration and their relationship to the interest, availability, satisfaction and motivation of employees.

**EDUC 7600 - JOB OPENINGS IN EDUCATIONAL ADMINISTRATION (3)**

Existing and future job openings in educational administration. Analysis of the competencies needed to fill these jobs. Study of techniques and strategies to develop the competencies needed in the changing world within which educational administration functions.

**EDUC 7610 - FACULTY EVALUATION AND DEVELOPMENT (3)**

Principles, models and strategies upon which the establishment of faculty evaluation and developmental systems are based. Experience in the analysis of evaluation systems and developmental programs is offered.

**EDUC 7620 - EDUCATIONAL POLICY AND ALTERNATIVES FOR THE FUTURE (3)**

Philosophy of "futurism" and its application to the formulation of educational policy. Interdisciplinary approach to educational planning and program development from the "futuristic" point of view.

**EDUC 7630 - DESIGN OF EDUCATIONAL FACILITIES AND SYSTEMS (3)**

Design of educational systems that include the physical facilities needed for the achievement of goals. Needs, evaluation, individual participation, the development of long and short-range plans and educational specifications.

**EDUC 8100 - THEORETICAL PRINCIPLES FOR THE STUDY OF CURRICULUM AND TEACHING (3)**

Analysis of the economic, political and social forces that serve as a base for the historical evolution of the curriculum as a field of study and which sustain curricular changes. Comparison of the diverse theoretical perspectives that explain the relation between research curriculum, teaching and the research paradigms.

**EDUC 8103 - CONTEMPORARY THEORETICAL PERSPECTIVE FOR THE STUDY OF CURRICULUM AND TEACHING (3)**

Critical analysis of the theories and approaches that guide discussion of contemporary curriculum and their implications for the development of curricula, teaching programs and educational research.

**EDUC 8120 - THE SCIENCE OF "FUTURISM" AND EDUCATION (3)**

Review of "futurism" as an alternative in the search for solutions to problems posed by contemporary education. Implications for the design of educational programs, their implementation and evaluation.

**EDUC 8130 - LEARNING AND TEACHING (3)**

Analysis of the concept of learning, its principles and their relation with the processes of thought and teaching from different theoretical perspectives. Review of learning as a

contextual experience of transformation, construction and search FOR meaning. Discussion of research regarding the internal and external factors that affect the learning and teaching processes.

**EDUC 8135 - DEVELOPMENT OF TEACHING MODELS (3)**

Evaluation of the trends and research related to the creation of learning environments by means of the use of teaching models at different levels, contexts and scenarios. Requires the development of one's own teaching model.

**EDUC 8140 - READING AND WRITING AT COMPLEX LEVELS OF KNOWLEDGE (3)**

Analysis of social, linguistic, psychological and technological factors that condition the learning of reading and writing. Recent strategies and approaches to stimulate the student to understand and apply reading and writing processes at complex levels of knowledge. Development of taste in and appreciation for reading and writing as a means of personal enrichment.

**EDUC 8150 - CURRICULUM AT THE POSTSECONDARY LEVEL (3)**

Analysis of the theoretical approaches and the models for the planning and development of curricula at the post-secondary level. Research on controversies and contemporary matters related to the curricula and teaching in diverse types of programs and postsecondary institutions.

**EDUC 8151 - CHANGE AND CURRICULAR INNOVATION (3)**

Analysis of the theories and models of change and innovation related to curricular transformations, educational reforms and new pedagogies. Comparison of research on processes of change and educational innovations at different educational levels and countries. Design of an educational innovation project.

**EDUC 8152 - EDUCATIONAL POLICY AND CURRICULAR IMPLEMENTATION (3)**

Analysis of institutional educational policies that affect the practices of implementation of new curricula. Review of research related to the formulation of educational policies and curricular implementation.

**EDUC 8153 - NEUROSCIENCE APPLIED TO CURRICULUM AND TEACHING (3)**

Analysis of the theories and scientific research related to educational neuroscience and their implications for the

development of curricula and brain-appropriate environments of learning. Elaboration of a project based on research of educational neuroscience.

**EDUC 8154 - TECHNOLOGY, CURRICULUM AND TEACHING (3)**

Analysis of the subjects and the controversies related to education, integration and use of technology in the curriculum and their implications for learning. Research of the historical, social and scientific uses of technology in education from different perspectives and approaches.

**EDUC 8160 - DESIGNS OF CURRICULAR EVALUATION (3)**

Analysis of the theories, principles and practices of evaluation models and their application in diverse educational scenarios. Requires the design of a model of curricular evaluation.

**EDUC 8163 - CONSTRUCTION AND VALIDATION OF TESTS AND EVALUATION AND RESEARCH INSTRUMENTS (3)**

Analysis of diverse methods of evaluation and measurement applied to the field of education. Emphasis on effective development of scales, construction of questionnaires, administration of tests and systems of interpretation, as well as the validity and reliability of the instrument. Includes discussion of tests of diverse content, their use and application for the evaluation of capacities, attitudes and interests and the search for data and objective information.

**EDUC 8165 - MODELS FOR CURRICULAR DEVELOPMENT (3)**

Critical review of different curricular models from the analysis and evaluation of educational projects in diverse social and cultural contexts. Requires the construction of a model for curricular development.

**EDUC 8170 - FOUNDATIONS OF VIRTUAL TEACHING (3)**

Critical analysis of the principles and theories that serve as foundation for virtual education and the research of diverse scenarios and effective teaching techniques for the implementation of virtual offerings. Discussion of the technological resources, synchronous as well as asynchronous, used to promote learning in virtual environments.

**EDUC 8173 - MODELS OF INSTRUCTIONAL DESIGN FOR ONLINE COURSES (3)**

Review of the models of instructional design applicable to virtual education, with emphasis in online courses. Analysis of the systematic process of instructional specifications to promote quality of instruction. Evaluation of distribution systems for didactic materials and of the implementation of online courses.

**EDUC 8175 - CREATIVE THOUGHT IN EDUCATION (3)**

Analysis and integration of theories, models, approaches and research related to creative thought in aspects such as teaching, development of learning programs and curricular change. Includes the application of strategies, techniques and means to develop and strengthen creative thought, at the personal as well as the educational level.

**EDUC 8190 - DESIGN AND CONSTRUCTION OF EDUCATIONAL PROGRAMAS (3)**

Analysis of the principles and models that guide the design of educational programs. Design and construction of curricular projects to take care of specific needs.

Prerequisite: Have approved all the required courses of the specialization.

**EDUC 8200 - EARLY INTERVENTION WITH EXCEPTIONAL CHILDREN (3)**

Analysis of research and contemporary issues in the education of young children with handicapping conditions and their families. Curricula, methods, materials and intervention strategies.

**EDUC 8210 - CURRICULUM DEVELOPMENT IN SPECIAL EDUCATION (3)**

Basic elements in curriculum development in general education and specifically in special education. Identification and examination of the forces which shape curriculum theory and practice. Consideration of problems facing contemporary professionals who design and evaluate curriculum.

**EDUC 8215 - PUBLIC POLICY IN HIGHER EDUCATION (3)**

Analysis of the policies and processes of actions related to globalization of higher education. Discussion of the the external and internal environmental factors that affect public policies and university government.

**EDUC 8220 - INCLUSION OF CHILDREN WITH DISABILITIES (3)**

Current research and practice of inclusion. Issues related to public opinion on inclusion, misconceptions and the controversies surrounding this reform initiative.

**EDUC 8225 - LEGAL FOUNDATIONS OF HIGHER EDUCATION (3)**

Evaluation of the legal norms that govern higher education. Analysis of the local and federal laws, rules and legal doctrines as well as their implications in decision making in higher education.

**EDUC 8230 - STUDENT POPULATION IN HIGHER EDUCATION (3)**

Analysis of the recent research related to individual, institutional and social factors that affect the performance and retention of students at the post-secondary level. Emphasis on the study of the needs of the different student populations in the context of the diverse types of post-secondary institutions.

**EDUC 8240 - INSTITUTIONAL EVALUATION IN HIGHER EDUCATION (3)**

Analysis of the principles, models and theories of evaluation to determine the effectiveness in post-secondary institutions. Application of analytical technical aspects to measure the goals and objectives that are considered in the mission of the university and post-secondary systems, as well as in their plans and strategies.

**EDUC 8300 - COUNSELING AND CONSULTING PROGRAM DESIGN (3)**

Evaluation of programs in terms of goals, purposes, operation, congruencies and effectiveness. Analysis of the procedures for the organization and administration of counseling and consulting programs and customer services. Includes the theories of operational organization of programs and the coordination of services. Requires the preparation of a proposal for the creation of counseling or consulting program.

**EDUC 8320 - INTERACTION LABORATORY (3)**

Laboratory work to emphasize the establishment of effective interpersonal relationships, self-understanding, understanding the psycho dynamics of human conduct and the interpretation of tests, as well as preparation for establishing a counseling relationship. Didactic and experimental approaches and limited experience with clients. Topics include discussion of moral dilemmas, motivation, emotion and attitudes and their relationship to

personality development and character integration.

**EDUC 8330 - STRATEGIES, METHODS, AND TECHNIQUES IN INDIVIDUAL COUNSELING (3)**

Analysis and practice of interventions in the process of individual counseling from different approaches. Critical evaluation of research made in this area. Emphasis on preventive intervention and development, in addition to remediation. Includes practical experiences in the counseling process, in the development and administration of cases, taking into consideration the stages of human development and the ethical and legal aspects of education. Requires 40 hours of practical experience.

**EDUC 8350 - BEHAVIOR MODIFICATION AND ITS USE IN GUIDANCE (3)**

Study of the theory and application of processes of behavior modification in individual and group counseling. Approach is directed toward research done in the field, applied conduct, preparation of materials for guidance, assertiveness training, biofeedback, systematic desensitization and elimination of self-destructive habits.

**EDUC 8360 - MARRIAGE AND FAMILY COUNSELING (3)**

Analysis of theories and research dealing with marriage and the family; exploration of critical issues in strategies for intervention in regard to marriage and family problems and tensions.

**EDUC 8370 - AGE, SICKNESS AND DEATH: ACCEPTANCE COUNSELING (3)**

Discussion and analysis of problems, crises and themes in human development that offer multidimensional perspectives of the process of counseling mature adults, sick people and individuals in the terminal phases of life, using technical, biological, social, cognitive and emotional frameworks. Emphasis on therapeutic research that helps adults accept the realities of life.

**EDUC 8380 - COUNSELING FOR THE INTEGRAL DEVELOPMENT OF THE EXCEPTIONAL INDIVIDUAL (3)**

Analysis of the biological, psychological and social needs of the exceptional population. Includes the current trends, approaches and intervention modalities in counseling for that population. Emphasis on the application and implication of the most adequate counseling theories to enable positive changes in the quality of life of people with handicaps, to facilitate their normalization process within our socio-cultural context. Requires practical experience.

**EDUC 8390 - GROUP COUNSELING SEMINAR (3)**

Selection and use of group counseling theories in the assisting process with groups of special populations. Emphasis on the application of counseling strategies and techniques to facilitate the solution of human development problems. Requires 30 hours of lecture and 40 hours of practical experience.

**EDUC 8400 - WOMEN COUNSELING SEMINAR (3)**

Study and analysis of the circumstances that affect the life of contemporary women; design and application techniques and strategies to develop the talent, capacity and personality of women and enable them to participate as equals in society. Discussion of situations such as rape, single mothers, discrimination in employment, inequality of opportunities, divorce, separation and family planning. Includes limited experiences with clients and research in different aspects of this topic.

**EDUC 8410 - SEMINAR OF TRENDS AND CONTROVERSIAL MATTERS IN COUNSELING (3)**

Critical review of the trends and of controversial, ethical and legal matters, in the counseling field. The seminar offers students the opportunity to enrich their attitudes, knowledge and experiences by means of readings, analysis and discussion of topics of interest, relevant to the counseling profession.

**EDUC 8430 - SPIRITUALITY IN COUNSELING (3)**

Review of the concept of spirituality and its difference with religion, philosophy, values and the concept of well-being. Emphasis on the importance and relation of spirituality with counseling. Includes the historical, theoretical and philosophical foundations to integrate spirituality in counseling.

**EDUC 8440 - ADVANCED SEMINAR IN LIFE AND CAREER PLANNING (3)**

Analysis and application of the theories and models that prepare support professionals to attend to the needs of adult clients when confronting changes/transitions and adjustments in their career and in their developmental challenges. Emphasis on the competences for intervention with the supervisor/manager as facilitator for the development of careers of those supervised and as a manager of development and succession plans in an organization and in the planning for retirement.

**EDUC 8460 - COUNSELING FOR CHILDREN AND ADOLESCENTS (3)**

Analysis of the strategies for the counseling of children

and adolescents from the perspective of development, prevention and remediation. Emphasis on the research and application of counseling approaches and models to the children and adolescent population. Requires 30 hours of practical experiences in scenarios that offer counseling to children and adolescents.

**EDUC 8490 - FAMILY VIOLENCE: THEORY AND INTERVENTION (3)**

Review of the macro systemic factors associated with family violence in the context of the cultural phenomenon of the Puerto Rican society. Analysis of the research and theories of social violence. Includes the studies of gender as a framework for the conceptualization and interventions in counseling, among others. Emphasis on relevant ethical and legal aspects.

Prerequisite: EDUC 8360.

**EDUC 8500 - MODELS, NORMATIVE AND DESCRIPTIVE THEORIES IN EDUCATIONAL MANAGEMENT AND LEADERSHIP (3)**

Analysis of theories, principles and models that support management of educational institutions. Comparison of normative and descriptive theories, and their implications in the effectiveness of the educational manager and other leaders.

**EDUC 8505 - INFORMATION PROCESSING IN EDUCATIONAL MANAGEMENT (3)**

Critical analysis of the theories and practices applied to the dynamic of information processing for problem solving in educational management.

**EDUC 8515 - EDUCATIONAL MANAGEMENT AND LEADERSHIP SEMINAR (3)**

Critical analysis of contemporary literature and research in the educational management and leadership field.

**EDUC 8520 - HUMAN RESOURCES MANAGEMENT IN EDUCATIONAL INSTITUTIONS (3)**

Analysis of theories, principles, techniques and practices in the management of personnel in the educational scenario. Discussion of human conduct, the legal and labor foundations and their repercussions in organizational effectiveness.

**EDUC 8530 - LEADERSHIP IN EDUCATIONAL MANAGEMENT (3)**

Critical analysis of the principles and theories that serve as

the basis for effective educational leadership. Discussion of the psychological, philosophical and sociological aspects that orient the conduct of the contemporary educational leader.

**EDUC 8540 - LABOR RELATIONS IN EDUCATIONAL MANAGEMENT (3)**

Analysis of legal and labor foundations: their repercussions in educational management. Emphasis on the knowledge and administration of collective bargaining.

**EDUC 8545 - PLANNING OF THE EDUCATIONAL BUDGET (3)**

Analysis of the basic foundations that control the preparation of a budget. Emphasis on the relations and functions of the budget and its implications in educational management.

**EDUC 8550 - CONTEMPORARY PROBLEMS IN EDUCATIONAL MANAGEMENT SEMINAR (3)**

Critical analysis of contemporary managerial problems in educational institutions.

**EDUC 8560 - EVALUATIVE PROCESS IN MANAGEMENT AND INSTRUCTIONAL LEADERSHIP (3)**

Analysis of the theories, principles and models of evaluation. Application of technical, analytical and statistical aspects for the interpretation of the evaluative process and their effects in determining the efficiency and effectiveness of management.

**EDUC 8565 - INDUCTION IN EDUCATIONAL MANAGEMENT AND LEADERSHIP SEMINAR (3)**

Analysis of real situations by visits and observations in the educational scenario. Includes the study of managerial principles and strategies that offer imaginative and creative solutions to the educational problems of these scenarios.

**EDUC 8570 - CONTEMPORARY AND OPERATIONAL APPROACHES OF EDUCATIONAL MANAGEMENT (3)**

Analysis of new approaches in educational management. Creation of novel and viable strategies for application to current educational scenarios.

**EDUC 8575 - PUBLIC POLICY IN EDUCATIONAL MANAGEMENT AND LEADERSHIP (3)**

Analysis of the formulation of public policy in the educational context. Emphasis on the structures of governance, the composition and interests of the

educational communities, the participation of the public in general and the current political and contextual topics. Study of the main theories, models and approaches that determine who obtains what, when and how in the different educational scenarios.

**EDUC 8645 - TEACHING METHODOLOGIES AND STRATEGIES FOR STUDENTS WITH SPECIAL NEEDS (3)**

Evaluation of the different teaching strategies for students with special needs from the perspective of educational neuroscience.

Prerequisite: EDUC 8153.

**EDUC 8650 - SEMINAR: SPECIAL EDUCATION PROBLEMS IN ADMINISTRATIVE PROCESSES (3)**

Critical evaluation of problems in the organization and administration of special education programs. Alternatives for improving administrative processes in these programs. Analysis and interpretation of readings in special education administration and supervision, with emphasis on the results of scientific research.

**EDUC 8653 - ASSESSMENT AND EVALUATION IN SPECIAL EDUCATION AND TRANSITION SERVICES (3)**

Analysis and application of the assessment and evaluation process in Special Education and transition services. Study and interpretation of methods and assessment procedures used for decision making, planning of individualized services, and placement of students with disabilities. Application through field study in available special education and transition services programs.

Prerequisite: EDUC 7050.

**EDUC 8655 - CURRICULAR ADAPTATION FOR TEACHING STUDENTS WITH SPECIAL NEEDS (3)**

Analysis of the school curriculum and the necessary conditions for adaptation and teaching-learning of students with special needs.

Prerequisite: EDUC 8103, EDUC 8645 y EDUC 8653.

**EDUC 8660 - THE EVALUATION PROCESS IN ADMINISTRATION AND SUPERVISION OF SPECIAL EDUCATION (3)**

Study of models, theories and principles of evaluation. Application of proper technical, analytical and statistical aspects for the interpretation of the evaluation process and its effects in the determination of efficiency and

effectiveness in special education administration and supervision.

**EDUC 8665 - PROCEDURES IN SPECIAL EDUCATION AND TRANSITION SERVICES (3)**

Examination of the transition processes to which students with special needs are exposed. Planning, design and implementation of transition services in different government agencies and private institutions with an educational and vocational focus.

**EDUC 8670 - ORGANIZATION AND ADMINISTRATION OF SPECIAL EDUCATION PROGRAMS (3)**

Survey of topics that directly affect the quality of the organization and administration of programs for students with disabilities.

**EDUC 8680 - TECHNOLOGICAL ASSISTANCE APPLIED TO SPECIAL EDUCATION AND VOCATIONAL REHABILITATION (3)**

Analysis of the processes of offering services of technological assistance for people with handicaps. Integration of general knowledge on reactive equipment and services of technological assistance according to the handicap categories. Consideration of the impact of federal and state regulations on technological aid in Special Education and Vocational Rehabilitation Programs.

**EDUC 8690 - ASSESSMENT IN SPECIAL EDUCATION AND TRANSITION SERVICES (3)**

Evaluation of the assessment process in Special Education and transition services. Integration of assessment methods and procedures used for decision making, planning of individualized services and placement of the handicapped student. Diagnosis of needs and application of services through case studies in available special education and transition service programs.

**EDUC 8700 - METHODS OF EDUCATIONAL PLANNING AND EVALUATION (3)**

Principles, theories and strategies that underlie educational planning and evaluation, practice in gathering, processing and analyzing educational information. Conceptualization and formulation of designs for educational planning and evaluation.

**EDUC 8710 - SIMULATION AND FORMULATION OF EDUCATIONAL POLICIES (3)**

Theories, models and principles of simulation. Analysis and application of simulation techniques in the formulation



of educational policies.

**EDUC 8730 - QUANTITATIVE METHODS IN EDUCATIONAL PLANNING AND EVALUATION (3)**

Development and analysis of models for planning and evaluation. Study of technical, analytical and statistical aspects of educational experimentation.

**EDUC 8740 - ANALYSIS OF READINGS AND RESEARCH IN PLANNING AND EVALUATION (3)**

Critical analysis of advanced, specialized readings and of recent research in educational planning and evaluation.

**EDUC 8900 - TECHNOLOGICAL RESOURCES IN THE TEACHING OF ENGLISH AS A SECOND LANGUAGE (3)**

Development and use of audiovisual materials; use of the language laboratory; television, radio and movies in TESL.

**EDUC 8910 - INTERNSHIP (3)**

Integration of the knowledge, skills and attitudes in work scenarios such as organizations, corporations, institutions, and government or private agencies under the supervision of a licensed professional advisor in the specialization. Emphasis on the role as consultant, with the professionals of the center as well as with community clients. Includes intensive experiences in the conceptualization of cases and intervention with individual and group counseling at the personal, family and occupational level. Requires a minimum of 300 hours.

**EDUC 8915 - SEMINAR IN SPECIAL EDUCATION AND TRANSITION SERVICES (3)**

Analysis of real-world situations through visits and observations in different work scenarios. Application of the models and processes, according to the most recent best practices, for the improvement of identified needs.

Prerequisite: Have approved all specialization courses.

**EDUC 8920 - DEVELOPMENT AND EVALUATION OF TEACHING METHODS IN TESL (3)**

Theories of language acquisition (first and second) theories and methods of teaching; design of evaluation instruments; formative and summative evaluation; curriculum development.

**EDUC 8960 - RESEARCH SEMINAR (3)**

Development of a research proposal that includes the first three chapters of the doctoral dissertation. This document

may be used as the final proposal of the dissertation.

Prerequisites: have approved all the core and specialization courses.

**EDUC 8991 - DISSERTATION I (3)**

Review of the dissertation proposal. Requires the defense and approval of the dissertation proposal by the Doctoral Dissertation Committee. The proposal can be presented before the Institutional Review Board or (IRB) to be approved, if necessary. Once such approval is received, the student can begin the work of data summary. Grade: DP/P/NP

Prerequisite: EDUC 8960.

**EDUC 8992 - DISSERTATION II (3)**

Search, organization, analysis of data and writing of the Doctoral Dissertation. Includes the oral defense of the dissertation and the approval of the final document by the Dissertation Committee and the Defense Committee. Grade: DP/P/NP.

Prerequisite: EDUC 8991 and have received the approval of the Institutional Review Board or (IRB) if necessary.

## ELEN - Electrical Engineering

**ELEN 6000 - NUMERICAL METHODS FOR ELECTRICAL ENGINEERS (3)**

Application of numerical and analytical methods to solve electrical engineering problems that cannot be solved by exact methods. Emphasis in the use of computer tools to solve linear and non-linear equations, differential and ordinary equations, integration, numerical differentiation and optimization techniques.

**ELEN 6010 - ADVANCED LINEAR SYSTEMS (3)**

Application of linear operators and state variables for the solution of problems. Modeling of dynamic system by means of its impulse response. Set the controllability and observability of dynamic equations. Implementation of feedback systems and evaluation of its effects on the system stability.

**ELEN 6100 - ADVANCED CONTROL ENGINEERING DESIGN (3)**

Analysis of mathematical models of advanced control systems. Advanced design of control systems using multiple analytical techniques. Comparison of the behavior of the proportional, integral and derivative controllers (PID) in the transient and permanent states. Emphasis in the use of computer tools in the analysis of control systems

models.

**ELEN 6110 - DISCRETE TIME SYSTEMS AND COMPUTER CONTROL (3)**

Analysis of mathematical models of advanced control systems. Advanced design of control systems using multiple analytical techniques. Comparison of the behavior of the proportional, integral and derivative controllers (PID) in the transient and permanent states. Emphasis in the use of computer tools in the analysis of control systems models.

**ELEN 6120 - SYSTEM MODELING, IDENTIFICATION AND SIMULATION (3)**

Determination of the state variables to model dynamic systems. Interpretation and development of the electrical, mechanical, hydraulic and thermal models of systems by means of computerized simulation.

**ELEN 6130 - ROBUST CONTROL SYSTEMS (3)**

Identification of the cases of robust control and design of their controller. Investigation of robust stabilization and proportional, integral and derivative discrete control (PID). Formulation of robust control applications. Development and evaluation of robust model control systems by means of the computer.

**ELEN 6140 - MULTIVARIABLE CONTROL SYSTEMS (3)**

Evaluation of multi-variate control systems. System analysis of one input-one output (SISO) and those of multiple inputs-multiple outputs (MIMO). Design of multi-variable input and output controllers by means of the computer.

**ELEN 6150 - ADAPTIVE CONTROL**

Interpretation of the reference models of adaptive systems. Modeling of the self-regulators and their effect on the stability, convergence and robustness of the system. Analysis of the adaptive observers and the different types. Design of adaptive control systems by means of the computer.

**ELEN 6160 - INTELLIGENT CONTROL SYSTEMS (3)**

Analysis of the methods to design controllers using diffuse models. Interpretation of adaptive stable compensation, the neuronal control, the estimation and control of discrete systems in non-linear time. Evaluation of diffuse and adaptive neuronal control for intelligent navigation of robots. Design of intelligent control systems by means of

the computer.

**ELEN 6170 - CONTROL SYSTEM OPTIMIZATION (3)**

Interpretation of detection problem and the linear quadratic regulator (RCL). Analysis of the optimal control for polynomial systems and the feedback output. Distinction of the robustness and the techniques of the multivariable frequency domain. Evaluation of the dynamic estimation of filters. Design of optimal control systems by means of the computer.

**ELEN 6180 - UNMANNED AIRCRAFT SYSTEMS (3)**

Investigation of Unmanned Aircraft Systems (UAS) sensors. Distinction of the thrust, mission, control of vehicles in the air, and recognition/monitoring. Interpretation of communication links, navigation, the landing and takeoff. Analysis of the control systems on land. Modeling of UAS components by means of the computer.

**ELEN 6300 - ADVANCED POWER SYSTEMS ANALYSIS (3)**

Advanced analysis and simulation methods for symmetrical components and faults, power flow, transmission lines, admittance and impedance models of power systems. Modeling of transformer and synchronous machines. Evaluation of economic operation and stability of power systems. Emphasis in the use of computational tools to provide practical insights.

**ELEN 6310 - COMPUTER MODELING OF POWER SYSTEMS (3)**

Modeling and computer methods applied to power systems. Analysis of linear and non-linear power systems using full or sparse matrix formulations, network topology, load flow, stability and state estimation. Time-domain simulation methods for transient analysis.

**ELEN 6320 - ADVANCED POWER ELECTRONICS (3)**

Analysis and design of electrical energy processing circuits. Classify and synthesize switching power converters technologies. Study of harmonics effects, pulse-width modulation, feedback and nonlinear control, magnetic components and power semiconductors.

**ELEN 6330 - DESIGN AND MODELING OF POWER DISTRIBUTION SYSTEMS (3)**

Modeling, analysis and design of power distribution systems. Modeling of load characteristics, unbalanced

three-phase overhead and underground distribution lines and distribution transformers. Modeling of devices such as regulators and capacitors to mitigate voltage regulation problems and power losses. Design and analysis of primary distribution system including automation, reliability and power flow. Emphasis in the use of computational tools for the modeling of distribution systems.

Prerequisite: ELEN 6300.

### **ELEN 6340 - TRANSIENTS POWER SYSTEM (3)**

Analysis and prediction of transient behaviors in power systems. Implementation of analytical methods for switching and lightning surges, short circuits, over voltages during faults and nonlinear phenomena. Emphasis in computer modeling and simulation.

### **ELEN 6350 - ADVANCED ELECTRIC MACHINE AND DRIVES (3)**

Analysis of rotating and linear machines electro mechanics. Modeling of mechanical loads, machine dynamics and electric drives systems. Emphasis on digital simulation of machines and electric drives systems. Applications on renewable energy and electric propulsion systems.

### **ELEN 6360 - POWER QUALITY IN POWER SYSTEMS (3)**

Analysis of power systems under non sinusoidal conditions. Analysis of power fluctuations, flicker and voltage interruptions. Design of protection systems to limit transient events such as harmonics, over voltage and voltage drops. Evaluation of industry standards on power quality. Emphasis in modeling and simulation.

### **ELEN 6370 - POWER SYSTEMS PROTECTION (3)**

Analysis of electrical system failures and the use of relays and switches in the protection of power systems. Design of protection systems and grounding systems. Study of symmetrical components and their application in fault currents.

### **ELEN 6380 - DISTRIBUTED POWER GENERATION (3)**

Examine renewable energy technologies and their capacity to generate electric energy. Determine interconnection Prerequisites of renewable energy systems into the power grid. Identify benefits and limitations of distributed power generation. Classify and model small generating systems such as fuel cells, solar cells, micro-turbines, wind and gas turbines. Analyze fault conditions, reactive power support and power quality issues.

### **ELEN 6390 - SMART GRID DESIGN AND OPERATION (3)**

Evaluation of smart grid and emerging technologies. Analysis of smart grid operation and components, including distributed energy sources and distribution feeder components. Analysis of communication infrastructures and cyber security for smart grid operation. Advanced metering infrastructure and advanced control methods evaluation. Demand response and demand management. Distribution feeder analysis. Impact of smart grid components on distribution network operation. Smart grid reliability evaluation.

### **ELEN 6400 - POWER SYSTEMS STABILITY AND CONTROL (3)**

Analysis of the dynamic behavior of power systems. Modeling of synchronous machine behavior. Examine overall system behavior via small signal and transient stability functions. Evaluation of methods to improve voltage stability and control of active and reactive power.

### **ELEN 6970 - ADVANCED TOPICS IN ELECTRICAL ENGINEERING (3)**

Critical analysis of current topics to the area in electrical engineering. Prerequisite: Authorization of the department or advisor.

### **ELEN 6991 - PROJECT IN ELECTRICAL ENGINEERING I (1)**

Development and presentation of a proposal for a project in electrical engineering. This proposal must have the approval of the advisor of the project. In addition, it is required that the students present their project topic to the evaluation committee and their peers. Grade: P/NP.

Prerequisite: Authorization of the chair of the department or advisor of the project.

### **ELEN 6992 - PROJECT IN ELECTRICAL ENGINEERING II (2)**

Development and presentation of the project proposed in ELEN 6991. Grade:P/NP/PP

## **ENGL - English**

**ENGL \_\_\_\_ - English - Students must choose a course in the area of literature in accord with their interests. (3)**

Students must choose a course in the area of literature in accord with their interests.

**ENGL \_\_\_\_\_ - Special Topics (3)**

Special Topics in English.

**ENGL 5030 - PRINCIPLES OF LINGUISTICS (3)**

Analysis of the fundamental concepts and descriptive techniques of linguistic subdisciplines: phonetics, phonology, morphology, syntax, and semantics. Application of the principles and characteristics of human language.

**ENGL 5040 - ENGLISH PHONOLOGY (3)**

Analysis of the phonological system of English. Evaluation of aspects of pronunciation in English teaching and learning of English students (ELLS) at all levels. Be able to recognize the linguistic transfer between Spanish and English.

**ENGL 5050 - SYNTAX AND MORPHOLOGY OF ENGLISH (3)**

Analysis of the grammatical structures of contemporary varieties of English. Exploration of semantic functions that are reflected in syntax and morphology. Analysis of the typical learning patterns of children and adults who are learning English (ELLS) and whose mother tongue is Spanish.

**ENGL 5110 - TEACHING OF LITERATURE IN ELLS CLASS (3)**

Global vision of the principles of teaching literature to achieve the enjoyment and understanding of English. Emphasis on the curricular selection of appropriate literature, according to academic level, literary criticism and theory and the various techniques to interact with literature.

**ENGL 5210 - DRAMATIC LITERATURE (3)**

Analysis of the dramatic literature representative of the main categories of their genre and of various literary periods. Use of drama to enrich English teaching by developing oral and listening skills in English learners (ELLS).

**ENGL 5220 - ACADEMIC WRITING (3)**

Development of advanced writing and composition skills at the graduate level. Emphasis on conventions and academic-professional registration.

**ENGL 5230 - LITERATURE FOR YOUNG READERS (3)**

Development and use of instructional strategies for

teaching literature to young readers studying English (ELLS). Exploration of the literary foundations necessary for instruction; study of the available materials and the criteria for their selection.

**ENGL 5240 - TEACHING WRITING IN THE CLASSROOM TO STUDENTS OF ENGLISH (ELLS) (3)**

Analysis of theories and methods for teaching writing and its practical application to develop the writing of EELs at all levels. It includes the global vision of various types of writing contexts. Learning methods to provide effective feedback to students about their writing.

**ENGL 5290 - PSYCHOLINGUISTICS (3)**

Analysis of the psychological aspects of linguistic knowledge that are triggered in the brain. Exploring the development of language in children and adults, the perception of language and its production, the reading process, comprehension and memory. Discussion of publications on investigations of modern techniques related to the study of the bilingual brain.

**ENGL 5320 - SOCIOLINGUISTICS (3)**

Analysis of the social use of language. It includes the following topics: pragmatics, oral language structure, sociocultural differences in communicative strategies and linguistic forms; Multilingualism and its role in the language in building and maintaining social relationships. Emphasis on the role and use of English in Puerto Rico, at all levels especially in the context of English learners (ELLS)

**ENGL 5330 - ACQUISITION AND LEARNING OF A FIRST AND A SECOND LANGUAGES (3)**

Analysis of theories and the description of the process of acquiring a first and a second language. Emphasis on the following aspects: morphosemantic, lexical-semantic, phonological, and para-linguistic systems. Its implications for teaching English to ELL students at all levels are included.

**ENGL 6090 - READING IN A SECOND LANGUAGE (3)**

Analysis of the process that serves as the basis for developing reading in a second language or in a foreign language at all levels. It includes sicolinguistic and sociolinguistic perspectives.

**ENGL 6100 - THEORIES AND PRINCIPLES OF TESOL (3)**

Analysis of the theoretical foundations of TESOL. Exploring effective traditional methods and innovative trends within a variety of contexts. Application of the principles of language learning to English learners (ELLs) of all levels in light of recent findings.

**ENGL 6113 - MATERIALS AND TECHNIQUES FOR TEACHING ENGLISH TO STUDENTS (ELLS) (3)**

Evaluation, adaptation and preparation of techniques used to improve the communicative competency of English learners at all levels. Instruction in language arts in the content areas, the development of skills, practice in oral communication, and the use of technological resources is included.

**ENGL 6130 - BILINGUAL EDUCATION FUNDAMENTALS (3)**

Analysis of the principles, curriculum development and fundamentals of bilingual education in Puerto Rico and the United States.

**ENGL 6150 - TRANSLATION (3)**

Analysis of the linguistic resources used in effective translations. Includes translation practice in a diversity of specific areas, primarily from Spanish to English. Application of translation theories to the practice process.

**ENGL 6170 - ASSESSMENT AND EVALUATION OF LINGUISTIC ABILITIES (3)**

Analysis of the instruments and techniques used to measure English language proficiency in students (ELLs) at all levels. Assessment and study of linguistic ability; of measurement theories and analysis of the effect of exams in the teaching-learning process.

**ENGL 6180 - USE OF TECHNOLOGY IN TESOL (3)**

Preparation and adaptation of educational materials using computer programs and Web pages; evaluation of electronic educational materials for use in computers, tablets and smartphones. Integration of technology in the curriculum and in the evaluation of learning.

**ENGL 6310 - CONTEMPORARY LITERATURE (3)**

Analysis of texts and criticisms of the representative literature of the post-World War II period (1945 to the present). Application of literary theories to assigned readings.

**ENGL 6350 - REPRESENTATIVE WORKS OF ENGLISH LITERATURE (3)**

Analysis of representative works of English Literature and their location within the literary movements to which they belong. Interpretative analysis of techniques, styles and subjects. Application of the literary theories to the selected readings.

**ENGL 6530 - TESOL RESEARCH (3)**

Analysis of the basic research methods in the field of TESOL. Design of a proposal for an original research project or a literature review.

**ENGL 6600 - SUPERVISION IN TESOL (3)**

Analysis of the theory, methods and techniques in TESOL. Application of methods and techniques to measure the effectiveness of teaching and to evaluate teachers. Analysis of the theory and principles of supervision in TESOL.

**ENGL 6610 - CURRICULUM DEVELOPMENT IN TESOL (3)**

Analysis of the curriculum design theory and its application in TESOL programs at all levels.

**ENGL 6904 - APPLIED LINGUISTIC IN THE TEACHING OF ENGLISH AS A SECOND LANGUAGE (3)**

Analysis of the applications of the disciplines of linguistics, psycholinguistics and sociolinguistics in the process of teaching a first and second language. The course includes the study of contributions these fields have made to the understanding of how language functions in the classroom setting and how language develops in children. Emphasis on the study of the non-English speaker's linguistic behavior. Development of a curricular segment. Course designed for students in the Master of Education in Curriculum and Teaching of English as a Second Language.

**ENGL 6905 - A SECOND LANGUAGE ACQUISITION AND SOCIOCULTURAL ANALYSIS (3)**

Application of principles and trends of contrastive linguistics and socio-cultural analysis to the understanding and improvement of the teaching of English in non-native speaking areas. Development of a curricular segment. Course designed for students in the Master of Education in Curriculum and Teaching of English as a Second Language.

**ENGL 6906 - FUNDAMENTALS OF TEACHING OF ENGLISH AS A SECOND LANGUAGE: THEORY, PRACTICE AND ASSESSMENT (3)**

Application of linguistics, psychology and anthropology to the teaching of English as a second language. Exploration of how to design traditional evaluation tools and assessment that yield information on student progress to parents, administrators and the community. Development of a curricular segment. Course designed for students in the Master of Education in Curriculum and Teaching of English as a Second Language.

**ENGL 6907 - ADVANCED RESEARCH AND TECHNIQUES IN READING INSTRUCTION AND ASSESSMENT (3)**

Study of current research, methods and materials of reading instruction. Diagnosis of reading difficulties and remedial treatment techniques in working with non-English speaking children and adults. Emphasis on the student population whose first language is not English. Development of a curricular segment. Course designed for students in the Master of Education in Curriculum and Teaching of English as a Second Language.

**ENGL 6908 - ADVANCED RESEARCH AND TECHNIQUES IN WRITING INSTRUCTION AND ASSESSMENT (3)**

Study of current research, methods and materials of writing instruction. Diagnosis of writing difficulties and remedial treatment techniques in working with non-English speaking children and adults. Emphasis on the student population whose first language is not English. Development of a curricular segment. Course designed for students in the Master of Education in Curriculum and Teaching of English as a Second Language.

**ENGL 6909 - LITERARY CRITIQUE: ANALYSIS, TECHNIQUES AND ASSESSMENT (3)**

Intensive study of assessment techniques in the analysis of literary genres. Development of a curricular segment. Course designed for students in the Master of Education in Curriculum and Teaching of English as a Second Language.

**ENGL 6970 - INTEGRATION SEMINAR CAPSTONE (3)**

Integration of linguistic, literary and pedagogical knowledge and skills acquired in the courses that make up the Master in TESOL. Emphasis on the application of research on current real-world issues related to this field.

**ENGL 6992 - A RESEARCH PROJECT IN MA-TESL (3)**

Research and writing project that contributes to the accumulation of knowledge in TESOL. Students will have a consecutive academic year to complete their research project. They will receive a P/NP/PP rating (Students who do not get a P grade will enroll in the course again in the next semester)

**EVSC - Environmental Sciences****EVSC 597\_ - SPECIAL TOPICS IN ENVIRONMENTAL SCIENCE (3)**

Critical analysis of current relevant topics in the area of environmental science. Prerequisite: Authorization of the department.

**EVSC 5000 - STATISTICS (3)**

Study of probability and statistics, and their application processes in the organization, analysis and interpretation of data. Use of parametric and non-parametric tests in hypothesis tests; linear regression and correlation. Data analysis techniques using examples from environmental science.

**EVSC 5010 - ENVIRONMENTAL CHEMISTRY (3)**

Application of chemical concepts to evaluate and correct environmental problems related to the management, control and preservation of water, air and soil. Evaluation of technologies and chemical production that affect the environment or that are used for environmental restoration.

**EVSC 5020 - BIOSTATISTICS (3)**

Application of descriptive and inferential statistical processes to the organization, analysis and interpretation of data related to health and environment.

**EVSC 5030 - ENVIRONMENTAL HEALTH (3)**

Environmental health problems and ways to solve them, rationally and adequately by using the biological, physical and social components of the external ecological universe. Application of scientific knowledge in the control and adjustment of external factors that promote the health and well-being of the human race.

**EVSC 5040 - URBAN ECOLOGY (3)**

Relationship between the technological equilibrium and urban ecology. Emphasis will be placed on the human impact created in satisfying human needs without jeopardizing the natural resources of the environment.

**EVSC 5050 - ENVIRONMENTAL PROBLEMS IN PUERTO RICO (3)**

Origins and phases of environmental problems in Puerto Rico within a scientific, social and ethical context and rational ways to solve them adequately. The biotic components that govern the environmental network in Puerto Rico, their relation to urban development and the application of scientific knowledge to their reconciliation and control.

**EVSC 5100 - BIOCHEMISTRY (3)**

The chemical study of the live material constituents including carbohydrates, lipids, proteins, nucleic acids, vitamins and minerals. The relationship of these constituents with life processes and environmental contamination will be studied.

**EVSC 5105 - GEOGRAPHIC INFORMATION SYSTEMS AND APPLICATIONS IN ENVIRONMENTAL SCIENCES (3)**

Analysis of the particular properties of spatial data, structures and accesses to existing spatial data by means of advanced applications of Geographic Information Systems in environmental sciences. Application of Geographic Information Systems in making maps and in investigation and analysis of space environmental information. Requires 45 hours of lecture-lab.

**EVSC 5110 - ECOLOGICAL ENVIRONMENT (3)**

Analysis of the characteristics of the ecological network, natural selection, the ecological niche and succession. Vision of the human being as a species and its impact on the environment. Relation between the technological balance and the urban ecology.

**EVSC 5165 - Environmental Instrumentation (3)**

Evaluation of the foundations, characteristics and applications of the typical instrumentation used for the quantitative analysis of environmental samples. Includes methods of treatment of the samples, calibration and validation. Requires 45 hours of conference / laboratory

**EVSC 5180 - LIMNOLOGY (3)**

Study of different bodies of water, the live ecology of rivers, lakes and marine environments. Identification of changes in bodies of water caused by contamination and biotic and abiotic effects in the ecosystem.

**EVSC 5200 - ENVIRONMENTAL BIOLOGY (3)**

Aspects related to the contamination of water and land due

to poor management of solid waste. Included are sources, environmental destiny, transformers and biological effect of contaminants in aquatic organisms and humans. Discussion of techniques for sampling and evaluating the effects of contamination.

**EVSC 5220 - ENVIRONMENTAL MICROBIOLOGY (3)**

Principles and application of ecology, the physiology and the kinetics of microbiological growth in the solution of the environmental problems.

**EVSC 5255 - WATER ANALYSIS AND CONTAMINATION (3)**

Analysis of the facets that dominate the water cycles and the human intervention in the contamination of the resource. Includes rivers, currents, lakes and the littoral as environmental systems and the characteristics that control them. Application of mathematical models to evaluate currents and estuaries.

**EVSC 5275 - ENVIRONMENTAL TOXICOLOGY (3)**

Analysis and application of toxic agents according to their chemical characteristics. Includes the branches of toxicology and their relation to environmental health.

**EVSC 5285 - PUERTO RICAN POLICY REGULATIONS (3)**

Evaluation of the laws and regulations that apply to the management of environmental problems and the legal limitations related to environmental issues. Includes general principles that govern public policy, planning and environmental management.

**EVSC 5310 - WATER TREATMENT: OPERATION OF PHYSICAL AND CHEMICAL UNITS (3)**

Principles of the operation of units with chemical and physical processes for the treatment of wastewater. Emphasis on the evaluation of the processes to attain safe drinking water, and quality plant effluent.

**EVSC 5330 - WATER TREATMENT: BIOLOGICAL OPERATION UNITS (3)**

Application of biology in the treatment of contaminated water. Study of the relationship between biological treatment and the effectiveness of water treatment units.

**EVSC 5510 - RISK ASSESSMENT (3)**

The relationship between the exposure to contaminants and health risks. Concepts of toxicology and the movement of contaminants throughout the ecosystem will be discussed.

### **EVSC 5515 - Disposal of Contaminants (3)**

Physical and chemical mechanisms that define the disposal of contaminants. Discussion of the theoretical background on which existing models of the movement of contaminants is based.

### **EVSC 6101 - Research Methods Applied to Environmental Science I (3)**

Analysis of research methodologies in Environmental Sciences. Includes critical evaluation of literature and contemporary scientific research. The student must select the subject of a preliminary proposal related to the environment.

### **EVSC 6102 - Research Methods Applied to Environmental Sciences II (3)**

Design and planning of a scientific research thesis related to the environment. Selection of the research methodology, collection and analysis of scientific information and writing of a proposal. The student organizes the Thesis Committee, writes the proposal and defends it before his committee. The student submits to the Department the proposal approved and signed by the Thesis Committee. Grade: P / NP

Prerequisite: EVSC 6101 and authorization of the Department's chair. .

### **EVSC 699A - THESIS (3)**

Qualitative or quantitative scientific research that adds to the knowledge in a study related to the environment, under the supervision of a Thesis Committee. Development of the thesis based on the proposal written in EVSC 6102. Once the research is finished, the student writes and defends his thesis before his committee, in a formal oral presentation. The student submits the thesis approved and signed by the Thesis Committee to the Department. If the research work is not completed, the student will enroll, as many times as necessary, in the Continuation of Thesis course EVSC 699\_. Grade: TP/P/NP

Prerequisite: EVSC 6102 and authorization of the Thesis director.

### **EVSC 699\_ - Continuation of Thesis (3)**

Continuación de la investigación científica desarrollada en EVSC 699A. Una vez finalizada la investigación, el estudiante redacta y defiende su tesis ante su comité, en una presentación formal oral. El estudiante entrega al Departamento la tesis aprobada y firmada por el Comité de Tesis. El estudiante se matriculará, cuantas veces sea

necesario, en EVSC 699\_ hasta terminar su investigación. Grade: TP/P/NP

Prerequisite: EVSC 699A and authorization of the Thesis Director.

## **FACO - Family Counseling**

### **FACO 6020 - ETHICAL AND LEGAL ISSUES OF FAMILY COUNSELING (3)**

Development of the necessary skills to handle situations involving ethical and/or legal aspects in the exercise of the Family Counseling profession. Emphasis on Puerto Rico laws that affect the services provided by the professional counselor and the ethics that apply to them. Application of codes of ethics of the professional associations and the examiners of Professional Counselors of Puerto Rico in scenarios in which the professional counselor works.

### **FACO 6025 - HUMAN SEXUALITY (3)**

Scientific analysis of human sexuality as a fundamental element in the development of the human being. Includes the historical review of sexuality with its bio-psychosocial and spiritual approach. Review of the attitudes, the beliefs and the feelings related to human sexuality. Development of effective strategies of counseling for managing conflicts, dysfunctions and concerns related to sexuality in the Puerto Rican cultural context.

### **FACO 6030 - CONFLICT MANAGEMENT, CRISES AND LOSSES IN THE FAMILY (3)**

Review of the concept "conflicts" from the point of view of the family system and the healthful management of these as part of the therapeutic process. Analysis of family counseling in cases of crisis and losses from the bio-psychosocial and spiritual perspective. Includes the thanatological perspective in the integration of multidisciplinary efforts to cope with the critical experience of loss and death as a process of change. Application of theoretical frameworks, techniques, and ethical-legal issues that tend to strengthen humanistic and spiritual awareness of respect for human dignity.

### **FACO 6040 - FAMILY COUNSELING IN ADDICTION AND ABUSE CASES (3)**

Review of the strategies used for the prevention and treatment of addictions and abuse with a panoramic view of the interactions of family dynamics. Analysis of the basic concepts of the theory of family systems for their application and the use of motivational interviews as an effective tool in the therapeutic process, and the risk factors and protective factors in cases of addictions and



abuse. Includes demonstration sessions of family counseling and visits to observe organizations/centers in which family counseling/therapy is applied.

### **FACO 6050 - CASE MANAGEMENT IN FAMILY COUNSELING (3)**

Analysis and application of therapeutic interventions to family or couple situations. Emphasis on the compilation of information, analysis and use of the screening process, assessment, treatment plans, documentation, referrals and evaluation. Includes the ethical-legal issues that are relevant to interventions.

## **FINA - Finance**

### **FINA 6310 - INTERNATIONAL FINANCIAL ADMINISTRATION (3)**

Analysis of advanced concepts in managerial finance in international commerce from a managerial and corporate perspective. Examples of ethical and moral principles when administering financial resources. Comprehensive analysis of the international financial environment, exchange rates, risk management in international investments, financial institutions, policies and problems. Review of the different capital structures in an international environment.

### **FINA 6420 - INTERNATIONAL FINANCIAL MARKETS (3)**

Discussion of the operation of capital markets and money, cash flow accounts, risk, nature and structure of interest rates in global markets. Analysis of financial intermediaries from an international perspective, the role of multinational companies and the international bank. Formulation of the economic reasons for the growth of International Financial Markets and the regulatory problems in the International Bank.

### **FINA 6430 - INTERNATIONAL ANALYSIS OF INVESTMENTS PORTFOLIO (3)**

Analysis of the main indices of international capital, the emergent markets, risk management in the exchange rates and the detailed study of the concept of diversification in international investments. Comparison of multinational corporate shares and the evaluation of local and foreign profits, the anticipated yields and the risk in the investment portfolio in international markets.

### **FINA 7101 - CORPORATE FINANCE I (3)**

Evaluation of the theories and models of corporate finance and their application to financial policies. Includes the

structure of capital, dividends, options and derivatives and corporate reconstructions.

### **FINA 7102 - CORPORATE FINANCE II (3)**

Evaluation of the theoretical and empirical aspects of corporate finance. Includes the theory of agency, signals, incomplete contracts, effects of incomplete information, the control and the corporate administration and the compensations of executives.

Prerequisite: FINA 7101.

### **FINA 7200 - STATISTICS FOR FINANCE I (3)**

Analysis of the statistical inferences and mathematical models in financial research and practice. Includes sampling, hypothesis and construction of financial models.

### **FINA 7201 - FINANCIAL MATHEMATICS (3)**

Analysis of the statistical inferences and mathematical models in research and in financial practice. Includes sampling, hypothesis and construction of financial models applied to credits, bonds, derivatives and options.

### **FINA 897\_ - SEMINAR IN SPECIFIC TOPICS IN FINANCE (3)**

Discussion of a special topic in finance. Grade: P/NP.

Prerequisite: FINA 7101.

### **FINA 8000 - SEMINAR IN CORPORATIVE FINANCE (3)**

Evaluation of the theories and their applications to practices related to a specific topic of corporate finance in agreement with the interests of the students. Grade: P/NP.

Prerequisite: FINA 7101.

### **FINA 8100 - SEMINAR IN INVESTMENTS (3)**

Evaluation of different types from investments and administration of investment portfolios. Analysis of the processes included in the determination of the optimal investment portfolio and how to measure its performance.

Prerequisite: FINA 7102, 7201.

### **FINA 8300 - SEMINAR IN RESEARCH PROJECT (3)**

Application of statistical and econometric concepts to a specific research topic. Includes the construction of a research project in the area of finance. Grade: P/NP.

Prerequisite: FINA 7200.

**FINA 8500 - SEMINAR IN FINANCIAL STRATEGIES (3)**

Evaluation of the theories and their application to the practices related to a specific topic of financial strategies in agreement with the students' research interest. Grade: P/NP.

Prerequisite: FINA 7101.

**FINA 8550 - EPISTEMOLOGY APPLIED TO FINANCES (3)**

Evaluation of epistemologic aspects in the context of research in finances. Includes the standards based on formal logic and routine, the models of logical positivism of explanation and prediction, the problems of empirical studies, and the presumptions of realistic research in the philosophy of science. Grade: P/NP.

Prerequisite: FINA 7101.

**FINA 8991 - DOCTORAL DISSERTATION I (3)**

Definition of the topic of the student's doctoral dissertation. Evaluation of the research methodology, and the review of literature, under the supervision of the Doctoral Committee.

**FINA 8992 - DOCTORAL DISSERTATION II (3)**

Collection and analysis of data corresponding to the student's research area, under the supervision of the Doctoral Committee.

**FINA 8993 - CONTINUATION OF DOCTORAL DISSERTATION (3)**

Continuation of data analysis and final writing of the dissertation in the student's research area, under the supervision of the Doctoral Committee.

## **GERO - Gerontology**

**GERO 5010 - EPIDEMIOLOGY (3)**

Discussion of the basic principles of epidemiology. Description of epidemiological methods and their application with emphasis on the study of the elderly person.

**GERO 5020 - BIOSTATISTICS (3)**

Application of descriptive and inferential statistics in the interpretation of data related to the population of elderly people. Use of statistical methods in the research process.

**GERO 5110 - PRINCIPLES AND FUNDAMENTALS OF GERONTOLOGY (3)**

Synthesis of the concepts that are applied in the practice of gerontology. Conceptualization of the aging process from a holistic and integral perspective. Integration of ethical, legal and cultural aspects.

**GERO 5120 - THEORETICAL MODELS IN GERONTOLOGY (3)**

Contrast of theories and models used in the study of gerontology. Emphasis on the relationship between the biological, social and emotional processes of aging from a theoretical perspective; as well as its effect on life expectancy.

Corequisite: GERO 5110.

**GERO 6120 - PHYSIOLOGICAL ASPECTS (3)**

Analysis of the physical changes of the elderly population. Examination of the principles that govern the aging process, the effect of the process on organs, tissues and the functional repercussions on the aged person.

Prerequisite: GERO 5110 and 5120. Corequisite: GERO 6130.

**GERO 6130 - ENVIRONMENT AND ADVANCED AGE (3)**

Analysis of the effect of the structured environment, stratification by age and socializing events in the elderly person. Evaluation of the effect of the family during this stage, housing modalities and adapted recreation. Other aspects are included such as the process of detachment, the affection of family losses, illness, agony and death.

**GERO 6140 - ASSESSMENT IN ADVANCED AGE PEOPLE/ASSESSMENT IN ADVANCED AGE PEOPLE (3)**

Analysis of the physiological alterations and the most common health disorders during old age. It includes the psychosocial aspect and the nutritional one. Discussion of the interaction between drugs and the necessary fundamental care. Effects of lifestyles during old age. Discussion of the effect of disease prevention, the promotion of health, the restoration of basic functions and their consequence in postponing a state of greater vulnerability.

Prerequisite: GERO 6120.

**GERO 6210 - METHODOLOGY OF RESEARCH IN GERONTOLOGY (3)**

Application of the research process in gerontology. Examination of the concepts of samples, measurements, reliability, validity, data collection, descriptive and inferential statistics. Identification of the designs and research methodology. Drafting of research proposal related to the area of gerontology.

Prerequisite: GERO 5020.

**GERO 6220 - ADMINISTRATION IN GERONTOLOGY (3)**

Analysis of the aspects related to the administration in gerontology. Discussion of the theories, methods and techniques related to the administrative function in gerontology. It includes the consideration of economic, domestic and multidisciplinary contexts.

**GERO 6230 - MODELS OF ATTENTION IN GERONTOLOGY (3)**

Discussion of current public policy and global trends in care models for the elderly population. Analysis of the implementation of programs that promote the development and access to services for the elderly. Emphasis on the creation of care models that contribute to the integration of resources and services.

Prerequisite: GERO 6120, 6130 and 6140.

**GERO 6910 - PRACTICE IN GERONTOLOGY (3)**

Practice experience in gerontology scenarios where a service project for elderly people will be developed. It is required to complete 135 hours of practice in the academic term.

Corequisite: GERO 6970.

**GERO 6970 - INTEGRATING SEMINAR (3)**

Integration of the knowledge acquired through the courses. Emphasis on the analysis of cases and research on current issues related to the field of study. Grade: P/NP.

Prerequisite: All previous courses.

**GLLO - Global Logistics****GLLO 6100 - INTRODUCTION TO GLOBAL LOGISTICS (3)**

Analysis of the fundamental principles of logistics, transportation and distribution in the global economy

environment. Comparison between the local and regional business value chains, and the value chains of international and globalized companies. Description of the functions of the different components of a value chain in an environment within globalized logistics. Assessment of global logistics as a strategy of sustained competitiveness.

**GLLO 6150 - MARINE LOGISTICS (3)**

Analysis of the dynamics of maritime transportation and its relevance to global logistics. Explanation of the main functions of maritime logistics and its role in international trade. Evaluation of the benefits of freight transportation in economic development and the behavior of global markets. Exploration of international trends to optimize transportation and global distribution processes.

**GLLO 6200 - TECHNOLOGY FOR GLOBAL LOGISTICS (3)**

Application of the fundamental technological principles as support for the processes of logistics, transportation and distribution in the environment of the global economy. Comparison of the technological tools of the local and regional business value chains with those of the value chains of international and globalized companies. Evaluation of the functions of the different components of a value chain and how their administration may be optimized with the implementation of technological tools.

**GLLO 6250 - MANAGEMENT OF INTERNATIONAL DISTRIBUTION CHANNELS (3)**

Analysis of the concepts, fundamentals, processes and policies inherent in the selection and management of international distribution channels. Discussion of an integral vision, design, and the dynamics of a distribution chain in the economic, political, socio-cultural and technological areas in the international environment.

**GLLO 6300 - SECURITY IN THE GLOBAL VALUE CHAIN (3)**

Study of the foundations of global logistic security. Analysis of the fundamental principles of security in the value chain related to: regulations, implementation models, technology and evaluation criteria. Comparison of the aspects of security of the local business value chains with those of the international and globalized companies.

**GLLO 6400 - ADVANCED GLOBAL LOGISTICS (3)**

Study of advanced topics of global logistics. Emphasis on the application of metrics to logistic systems of transportation and distribution in the environment of the global economy. Analysis of the functions of the different

components of a value chain in an environment globalized within globalized logistics.

**GLLO 6970 - INTEGRATIVE SEMINAR IN DISTRIBUTION AND GLOBAL LOGISTICS (3)**

Integration of the competencies required in the degree through the discussion of readings of interdisciplinary, research, study and comparative analysis of business cases in the field of logistics and global distribution.

**GLLO 6971 - SPECIAL PROJECT IN DISTRIBUTION AND GLOBAL LOGISTICS (3)**

Research, study, analysis, design and development of a project of application in the field of distribution and global logistics through simulation platforms. Analysis, application and integration of principles, concepts, situations, and major problems with distribution and international logistics. You must submit a written thesis and a simulation. Grade: P/PP/NP.

Prerequisite: Have approved the core and specialization courses of the program.

## **GOVE - Government and Public Policy**

**GOVE 597\_ - SPECIAL TOPICS (3)**

Discussion and analysis of special current issues relevant to the study of government and public policies.

Prerequisite: Authorization of the chair of the Department.

**GOVE 5010 - POLITICAL THEORY AND PUBLIC ORGANIZATION (3)**

Examination of classic and modern authors of political theory and public organization. Evaluation of the concepts of authority, legitimacy, freedom, autonomy of the will, democracy, justice, right and dignity to frame government management at the intersection of society, the State, communities and individuals.

**GOVE 5020 - PUBLIC ADMINISTRATION AND POLITICAL MANAGEMENT (3)**

Analysis of the development of public administration and its impact on political processes. Identification of the most relevant challenges facing public management.

**GOVE 5030 - ANALYSIS OF PUBLIC POLICY (3)**

Analysis of public policies in the field of social organization. Discussion of the rational instruments for the evaluation of said policies from a procedural perspective.

**GOVE 5040 - ADMINISTRATIVE LAW (3)**

Analysis of the doctrines of Administrative Law and their relevance in Government Management. Study of the Uniform Administrative Procedure Law and the most relevant jurisprudence of this branch of law. Discussion of the theory of the delegation of administrative powers by the Legislative Assembly to the agencies, due process of law, the power of regulation, investigation and adjudication.

**GOVE 5050 - INNOVATION IN PUBLIC MANAGEMENT (3)**

Examination of the conceptual and analytical aspects necessary to understand the need, complexity and nature of the innovation and knowledge generation process in public organizations. Techniques and tools necessary to develop a climate of creativity and innovation in the public management reform agenda.

**GOVE 5060 - ETHICS AND PUBLIC INTEGRITY (3)**

Analysis of the elements that frame governmental ethics. Evaluation of legal instruments that make possible the control of unethical behavior. Description of the laws and regulations that apply to public officials, private persons and businesses. Discussion of case studies and situations related to the defense of governmental ethics.

**GOVE 5070 - SOCIAL RESEARCH METHODS IN PUBLIC ADMINISTRATION (3)**

Conceptualization and development of theories, processes, techniques, and research designs. Use of work tools as research design, review of effective literature, both quantitative and qualitative methodology, data collection techniques, data analysis, and interpretation and presentation of findings. Emphasis is placed on research ethics and critical thinking is promoted.

**GOVE 6010 - GOVERNMENT, GOVERNANCE AND GOVERNABILITY SYSTEM (3)**

Study of the dynamics of government systems and the capacity to produce social development. Emphasis on the model of democratic governance in terms of its form and its application in governance.

**GOVE 6030 - DECENTRALIZATION, AUTONOMY AND LOCAL DEVELOPMENT (3)**

Review of the performance and structure of the municipal government. Analysis of its components and their relationship with citizens, the central government, and its implications for local development.

### **GOVE 6040 - SOCIAL PROBLEMS, TRANSFORMATION AND PUBLIC ADMINISTRATION (3)**

Analysis of contemporary social problems and their relationship with public administration. A conceptual guideline is made from which the student is oriented towards the identification, interpretation and explanation of social phenomena. The social, political, economic, cultural, and environmental transformation is discussed from the framework of the reality of Puerto Rico. The role of public administration and the influential factors in such transformation are deepened.

### **GOVE 6910 - INTERNSHIP (3)**

Learning experience in real scenarios where the student can put into practice the theoretical concepts learned in the classroom.

### **GOVE 6990 - RESEARCH PROJECT (3)**

Analysis and application of instruments and techniques to evaluate, investigate, integrate and promote innovation and change in the organizational and institutional environment. Requires submission of a research project that studies and analyzes specific problems in the public sphere. To enroll in this course, the student must have passed all specialization courses. Grade: P/NP/PP.

## **HIST - History**

### **HIST 5000 - HISTORY OF THE ABORIGINAL CULTURES OF THE AMERICAS (3)**

Historical study of the human presence in the Americas. This course will cover the different ethnic groups, their adaptation to the environment, social organization, material culture, geographic distribution and outside influences from the humanistic viewpoint using available documentation for reference.

### **HIST 5005 - HISTORY OF PUERTO RICO 1800 - 1898 (3)**

Study of the changes that occurred in the politics, economy, and society of 19th century Puerto Rico. This course will study the main events that brought changes in the political, social and economic life of the island. Special attention will be given to the Passbook Law, the Royal Economic Society of Friends of the Nation, the Lares Rebellion, the abolition of slavery, and the rise of political parties.

### **HIST 5010 - INTERNATIONAL RELATIONS BETWEEN THE UNITED STATES AND PUERTO RICO, 19TH. - 21ST. CENTURIES (3)**

An analysis of the economic and political relations between the United States and Puerto Rico from the 19th century to the present. Special attention will be given to national and global commercial agreements.

### **HIST 5015 - COLONIAL INSTITUTIONS IN THE AMERICAS (3)**

A study of the causes and consequences of slavery in the Americas and the different living conditions slaves experienced. This course provides the opportunity to study and analyze the reasons and causes for slavery in the Americas. It will analyze the slave trade and the economic and spiritual aspects of the institution of slavery.

### **HIST 5020 - SLAVERY IN THE AMERICAS (3)**

A study of the causes and consequences of slavery in the Americas and the different living conditions slaves experienced. This course provides the opportunity to study and analyze the reasons and causes for slavery in the Americas. It will analyze the slave trade and the economic and spiritual aspects of the institution of slavery.

### **HIST 6000 - COLONIZATION, SOCIETY AND CULTURE OF THE SPANISH ANTILLES 16TH – 18TH CENTURIES (3)**

Analysis of colonial life comparing Cuba, Hispaniola and Puerto Rico from the beginning of Spanish colonization. The study will be placed in the context of the political, administrative, and institutional organization of the Spanish Empire. This course examines, from a critical point of view, the settlement and distribution of the Spanish territories in the 16th - 18th centuries. The study will focus on Puerto Rico but will make comparisons with the other Antilles.

### **HIST 6005 - PUERTO RICAN HISTORIOGRAPHY (3)**

Analysis of the development of Puerto Rican historical writing from 1508 to the present. The course will be divided into two parts: 1) writers of chronicles and 2) historians.

### **HIST 6010 - METHODOLOGIES FOR HISTORICAL RESEARCH (3)**

Study of methods in developing a research project in history. Discussion of specifics in how to carry out research.

**HIST 6020 - HISTORIOGRAPHY OF THE AMERICAS (3)**

Critical analysis of historical writings of the Americas from the 15th century to the present. Both chroniclers and historians will be studied.

**HIST 6904 - ANALYSIS AND DEVELOPMENT OF HISTORICAL THOUGHT I (3)**

Study of the most outstanding problems of history from antiquity to the Middle Ages. Emphasis on the development of methods, techniques and approaches used by historians, as well as the relation of these processes to the formation of historical thought. Development of a curricular segment. Course designed for students in the Master of Education in Curriculum and Teaching of History.

**HIST 6905 - ANALYSIS AND DEVELOPMENT OF HISTORICAL THOUGHT II (3)**

Study of the most outstanding problems of history from the Middle Ages to the present. Emphasis on the development of methods, techniques and approaches used by historians, as well as the relation of these processes to the formation of historical thought. Development of a curricular segment. Course designed for students in the Master of Education in Curriculum and Teaching of History.

**HIST 6906 - HISTORICAL CONTEXT OF THE WESTERN WORLD (3)**

Analysis and interpretation of historical development of the Western World through the study of different historiographical sources. Emphasis on the most significant institutions, movements and trends of a social, political, economic and cultural nature that have contributed to the evolution of the present day world. Development of a curricular segment. Course designed for students in the Master of Education in Curriculum and Teaching of History.

**HIST 6907 - HISTORICAL CONTEXT OF CONTEMPORARY PUERTO RICO (3)**

Analysis and interpretation of the historical development of contemporary Puerto Rico. Emphasis on the most significant economic and social problems within the framework of the political context of the twentieth century. Development of a curricular segment. Course designed for students in the Master of Education in Curriculum and Teaching of History.

**HIST 6908 - HISTORICAL CONTEXT OF THE UNITED STATES (3)**

Analysis and interpretation s of economic, social, political and cultural development of the United States through the study of historical document and historiographic sources. Emphasis on the impact of the United States as a great power in its relation with the rest of the world. Development of a curricular segment. Course designed for students in the Master of Education in Curriculum and Teaching of History.

**HIST 6909 - HISTORICAL CONTEXT OF LATIN AMERICA (3)**

Comparative analysis of the historical processes in the different Latin America countries, including Brazil. Study of the construction and development of the Latin American nations since the wars of independence to the present. Emphasis on the unity, diversity and development of Latin American societies. Course designed for students in the Master of Education in Curriculum and Teaching of History.

**HIST 6980 - THESIS PROPOSAL (3)**

Discussion of the theory, historiography and method related to the topic and problem of the research study. Elaboration and writing of the thesis proposal. Grade: P/NP.

Prerequisite: Have approved 21 credits of the Program, including courses HIST 6005 and HIST 6020.

**HIST 6990 - THESIS (3)**

Design, planning and development of a research project related to the history of the Americas. A variety of methodologies in historical research will be used. The student may register as many times as necessary in this course to complete the thesis. Grade: P/NP.

Prerequisite: Authorization of the department chair or the academic advisor.

**HIST 7000 - POPULAR CULTURE AND NATIONALISM IN LATIN AMERICA (3)**

This course examines race, class and ethnicity in Latin America and how they have significantly influenced national identity, with emphasis on Brazil, Cuba and Peru. Analysis on the cultural contributions of these countries to the rest of the Americas in music, the arts and literature.

**HIST 7005 - ISLAMIC SOCIETIES IN THE AMERICAS DURING THE 20TH CENTURY (3)**

Analysis of the religious aspects, ethnic relations, the development of social institutions and the relations between government and religion. Review of the contributions of societies, ethnic groups, social classes, political systems, the government and religious beliefs have influenced the history of the Americas.

**HIST 7010 - RUSSIA AND THE AMERICAS (3)**

Analysis of the influence of Russia and the Soviet Union in the Americas from the beginning of the contemporary epoch to the present. Historical review of political, ideological, economic and military manifestations that typify the projection of the international power of the Russian-Soviet state.

**HIST 7015 - THE UNITED STATES IN LATIN AMERICA: 20TH CENTURY (3)**

Critical analysis of the foreign policy of the United States and its relation with the Latin American region.

**HIST 7020 - TOPICS IN HISTORY OF THE AMERICAS I (3)**

Historical review from the native cultures to the conclusion of the different processes of independence. Analysis from the most recent historiography on historical topics of the Americas of that period.

**HIST 7021 - TOPICS IN HISTORY OF THE AMERICAS III (3)**

Historical study of topics of the Americas from the native cultures to the conclusion of the different processes of independence. Emphasis on century XVII.

**HIST 7022 - TOPICS IN HISTORY OF THE AMERICAS IV (3)**

Historical study of topics of the Americas from the native cultures to the conclusion of the different processes of independence. Emphasis on century XVIII.

**HIST 7030 - TOPICS IN HISTORY OF THE AMERICAS II (3)**

Historical review from the conclusion of the different processes of independence to the present. Analysis from the most recent historiography on the historical topics of the Americas of that period.

**HIST 7031 - TOPICS IN HISTORY OF THE AMERICAS V (3)**

Historical study of topics of the Americas from the conclusion of the different processes of independence to the present. Emphasis on century XIX.

**HIST 7032 - TOPICS IN HISTORY OF THE AMERICAS VI (3)**

Historical study of topics of the Americas from the conclusion of the different processes of independence to the present. Emphasis on century XX.

**HIST 7040 - TOPICS IN THE HISTORY OF PUERTO RICO I (3)**

Historical review from 1898 to the present. Analysis of the different approaches of the great historical topics of Puerto Rico during this period from the most recent historiography and through a compared methodology.

**HIST 7041 - TOPICS IN THE HISTORY OF PUERTO RICO II (3)**

Study of topics of the history of Puerto Rico from 1898 to the present. Emphasis on the pre muñocista period.

**HIST 7042 - TOPICS IN THE HISTORY OF PUERTO RICO III (3)**

Study of topics of the history of Puerto Rico from 1898 to the present. Emphasis on the muñocista era and the two-party period.

**HIST 7050 - HISTORICAL RESEARCH IN PUERTO RICO (3)**

Historical Research in Puerto Rico

**HIST 7060 - PALEOGRAPHY IN AMERICA (3)**

Paleography in America.

**HIST 7070 - CRITICAL HISTORIOGRAPHY (3)**

Critical Historiography.

**HIST 7080 - PLASTIC ARTS AS A MANIFESTATION IN HISTORY (3)**

Plastic Arts as a Manifestation in History.

**HIST 7090 - ORAL HISTORY (3)**

Oral History.

**HIST 7110 - HISTORY OF CUBA AND THE CARIBBEAN (3)**

History of Cuba and the Caribbean.

**HIST 7120 - PUERTO RICAN HISTORIOGRAPHY (3)**

Puerto Rican Historiography.

**HIST 7130 - HISTORY FROM INDIA IN THE TIME OF THE CONQUEST (3)**

History from India in the Time of the Conquest.

**HIST 7140 - BIOARCHAEOLOGY AS A SOURCE FOR HISTORICAL RESEARCH (3)**

Bioarchaeology as a Source for Historical Research.

**HIST 7150 - HISTORIOGRAPHY OF THE CONQUEST (3)**

Historiography of the Conquest.

**HIST 8970 - HISTORICAL RESEARCH METHODOLOGY (3)**

Application of research and writing skills needed to prepare a historical research project. The student will apply and integrate knowledge acquired from primary and secondary historical sources. Requires having completed 24 specialization credits.

**HIST 8980 - THE DOCTORAL DISSERTATION PROPOSAL (3)**

Planning, design, preparation, development and defense of the dissertation research proposal in History and the historiography articles. Development of the study problem related to the dissertation proposal, identification of the topics and the secondary bibliography that will be analyzed to write up two historiography papers. The student will register as many times as necessary to complete both Prerequisites. Grade: P/NP.

Prerequisite: HIST 8970.

**HIST 8990 - DISSERTATION (3)**

Preparation, presentation and defense of the doctoral dissertation. This course completes the work for the degree in Doctors in Philosophy in History. The student may register as many times as necessary for the completion of the dissertation. Grade: P/DP.

Prerequisite: HIST 8980.

**HPER-Health-Physical-Education-and-Recreation**

**HPER 5000 - SELECTED BIBLIOGRAPHY IN PHYSICAL EDUCATION (3)**

Analysis of fundamental topics in the physical education field using current techniques and research methods. Learning experiences in the traditional classroom and the virtual learning modalities are integrated. Requires the development of a research project or topic related to the sub specialization area.

**HPER 5010 - PHILOSOPHY OF PHYSICAL EDUCATION (3)**

Philosophies of physical education through various ages. Modern philosophies of physical education in implementing Puerto Rico's philosophy of education. Prerequisite for all other graduate courses in health and physical education.

**HPER 5020 - PROBLEMS AND ISSUES IN PHYSICAL EDUCATION (3)**

Study of the problems and issues that physical education faces today: facilities, equipment, professional preparation, philosophy, objectives, budget and supervision. Identification and discussion of controversial issues.

Prerequisite: HPER 5010.

**HPER 5030 - CONSTRUCTION AND MAINTENANCE OF PHYSICAL EDUCATION FACILITIES (3)**

Principles, design, planning; and construction of physical education and recreational facilities with emphasis on tropical areas, both indoor and out. Maintenance problems identified and discussed.

Prerequisite: HPER 5010.

**HPER 5040 - CURRICULUM DEVELOPMENT IN PHYSICAL EDUCATION (3)**

Integration of the principles and practices in the development of curriculum in physical education at all levels. Analysis of applicable approaches, models and designs of curricular development in physical education.

**HPER 5050 - EVALUATION, ASSESSMENT AND MEASUREMENT IN PHYSICAL EDUCATION (3)**

Application of the concepts and techniques of evaluation, assessment and measurement in physical education. Analysis of the processes of planning, preparation,



administration, correction and interpretation of evaluation instruments in relation to the goals and objectives of the physical education program. Use of statistical measurements in the interpretation of results. Includes practical experience and time in computer laboratories.

### **HPER 5070 - MODELS AND STYLES OF TEACHING PHYSICAL EDUCATION (3)**

Discussion of approaches in the creation of learning environments appropriate for students and the educational objectives. Analysis of the fundamental principles of teaching styles applied to the physical education discipline. Includes experimentation with the styles.

### **HPER 5300 - SPORTS PSYCHOLOGY (3)**

Analysis of emotional and psychological problems related to physical activity and sports. Discussion of research related to motivation, attitudes and emotional problems that form part of sports performance. Application of intervention strategies and technological modalities to modify behavior.

### **HPER 6010 - SUPERVISION IN PHYSICAL EDUCATION (3)**

Analysis of models, systems, modalities, approaches and instrumentation for the development of supervision in the educational environment. Implementation of supervision styles in a cycle of support visits to teachers. Integration of technology in the supervision processes.

### **HPER 6020 - RECREATION IN PUERTO RICO (3)**

History, principles, objectives, programs, leadership facilities and equipment, finances and evaluation of public and private recreation in Puerto Rico. The future of recreation.

Prerequisite: HPER 5010.

### **HPER 6030 - PREVENTION AND REHABILITATION OF ATHLETIC INJURIES (3)**

Analysis of the fundamental principles for the prevention, treatment and rehabilitation of muscular skeletal injuries associated with the practice of physical activity, exercise and sports. Emphasis on the epidemiology of the injuries and pathophysiology, types of injuries of the trunk and the upper and lower extremities. Discussion of the basic concepts in the rehabilitation of injuries, including the role of physical therapy and athletic training in this process. Requires passing training in Cardiovascular Resuscitation.

### **HPER 6040 - SOCIOLOGY OF PHYSICAL ACTIVITY AND SPORTS (3)**

Sports and physical activity as a social institution and how this affects the dynamics of other social institutions.

Prerequisite: HPER 5010.

### **HPER 6070 - ADAPTED PHYSICAL EDUCATION (3)**

Adaptations of physical education with emphasis on individualized perceptual motor skills. Organization and management of physical education and recreational programs for mentally and/or physically handicapped individuals.

Prerequisite: HPER 5010.

### **HPER 6100 - TRAINING THEORY AND METHODOLOGY (3)**

Application of advanced principles of training to improve the athlete's performance. Discussion of biomedical, psychological, social, nutritional and physical aspects of the trained person. Includes development of force, flexibility, speed and other physical aspects. Analysis of factors for technical preparation and other aspects of individual and team training that benefit the future trainer.

### **HPER 6110 - PHYSIOLOGY OF EXERCISE (3)**

Consideration of the effect of physical activity, sports and vigorous exercise on the functions of the human body. Critical analysis of the results of scientific research in the responses and adaptations of bioenergetics, neuromuscular, pulmonary, circulatory and endocrine functions as a result of physical activity, exercise and sports training. Discussion of the different variables that affect physical and sports performance. Includes practical experience.

### **HPER 6220 - ANATOMY AND KINESIOLOGY (3)**

Study of muscles, tendons, ligaments and bones and their function in human movement. Includes the biomechanical aspects of movement. Includes practical experience.

Prerequisite: HPER 5010.

### **HPER 6330 - PREVENTION AND REHABILITATION OF CARDIOVASCULAR PROBLEMS (3)**

Instruments and methods necessary for detecting cardiac abnormalities through the use of the electrocardiogram (EKG) and other laboratory equipment. Prescription of the appropriate amount of exercise in rehabilitation programs.

Includes practical experience.

Prerequisite: HPER 5010.

### **HPER 6440 - MOTOR LEARNING AND CONTROL (3)**

Analysis of the phenomenon of human movement in the scenario of physical activity and the areas that include motor conduct. Discussion of the different theoretical perspectives explaining learning and motor performance. Application of instruments, techniques and strategies to maximize motor learning.

### **HPER 6550 - HEALTH, NUTRITION AND PHYSICAL WELL-BEING (3)**

Preventive techniques for the most common health problems. Includes procedures, nutritional evaluation, special diets and prescription of exercise. Practical experience in the design and application of sports medicine programs.

Prerequisite: HPER 5010.

### **HPER 6660 - BIOMECHANICS (3)**

Skills in handling laboratory instruments used in the mechanical analysis of human movement, especially in the area of physical education and sports. Application of physical laws and mathematical principles to interpret displacement, speed and direction. Computer use for cinematographic analysis. Includes laboratory experience.

Prerequisite: HPER 5010, 6220.

### **HPER 6910 - PRACTICUM (3)**

Practical experience under the supervision of a faculty member. In this practice, students will develop competencies related to their specialization. Students may be assigned to education or commercial institutions, clinics, laboratories or agencies that offer services related to physical education and related fields.

### **HPER 6970 - SEMINAR (3)**

Students are to assist coordinators of physical education or recreation leaders in various municipalities. This assistantship serves as laboratory experience in observing and evaluating the various phases of the Program. Observations and evaluations to be discussed during the Seminar. 1) Students are assigned to visit recreational resources in various parts of the Island and required to explore areas that could be developed for recreational purposes and to study present recreational facilities that could be improved and expanded. 2) Students may select a

research project in an area of individual need and interest. The project may be related to a problem or a situation observed during their visits to schools or recreation areas. 3) Students who have not had any experience in teaching or recreation leadership are required to spend from one-third to one-half of their time in each course in teaching or working as recreation leaders and the rest of the time in assisting in various programs such as intramural, interscholastic competition, field trip and summer camps.

Prerequisite: HPER 5010.

### **HPER 6973 - SEMINAR (3)**

Students are to assist coordinators of physical education or recreation leaders in various municipalities. This assistantship serves as laboratory experience in observing and evaluating the various phases of the Program. Observations and evaluations to be discussed during the Seminar. 1) Students are assigned to visit recreational resources in various parts of the Island and required to explore areas that could be developed for recreational purposes and to study present recreational facilities that could be improved and expanded. 2) Students may select a research project in an area of individual need and interest. The project may be related to a problem or a situation observed during their visits to schools or recreation areas. 3) Students who have not had any experience in teaching or recreation leadership are required to spend from one-third to one-half of their time in each course in teaching or working as recreation leaders and the rest of the time in assisting in various programs such as intramural, interscholastic competition, field trip and summer camps.

Prerequisite: HPER 5010.

## **HURS - Human Resources**

### **HURS 7000 - HUMAN RESOURCES MANAGEMENT (3)**

Critical analysis of the principles and practices in recruitment, selection, development, compensation and effective use in human resources in modern business. Human resources planning in business. Study of management Prerequisites, change in private and non-profit organizations.

### **HURS 8010 - COMPARATIVE ADMINISTRATION (3)**

Analysis of cultural norms and values in different periods, particularly in Latin America and the Caribbean. Evaluation of the implications of cultural differences in managerial decision making. Analysis of critical factors in

the formulation of corporative strategy in different countries.

### **HURS 8020 - LABOR LEGISLATION (3)**

Critical examination of current and proposed legislation, including the federal and Puerto Rican labor laws.

### **HURS 8040 - INITIATION OF COOPERATION BETWEEN MANAGEMENT AND WORKERS (3)**

Review of theories, principles and concepts on which initiatives are established such as Quality Work Life (QWL), Quality Circles (QC), and the Employees Shared Ownership Policy (ESOP), among others, in union and non-union environments.

### **HURS 8050 - LABOR NEGOTIATIONS (3)**

Analysis of the function of the negotiator in labor disputes with labor relations system. Evaluation of bargaining agencies and negotiation in the public and private sector.

### **HURS 8060 - HIGH-TECHNOLOGY MANAGEMENT (3)**

Critical analysis of the existing tools to implement and use high technology to ensure high profit in long term investment, thus achieving a competitive advantage.

### **HURS 8070 - HUMAN RESOURCES PLANNING, RECRUITMENT AND SELECTION (3)**

Analysis of the concepts and techniques of human resources planning, recruitment and selection. Review of the scientific, legal and administrative aspects related to planning, recruitment and selection of human resources according to the organization's needs.

### **HURS 8075 - COMPENSATION ADMINISTRATION (3)**

Critical analysis of the managerial aspects of motivation and compensation principles. Comparison of the practices to administer, operate, research and design an effective compensation program. Includes research of selected topics in compensation administration.

### **HURS 8085 - HUMAN RESOURCES DEVELOPMENT (3)**

Critical analysis of the human resource development processes identified in theory, research, and the learning experiences of employees, as developed by the organization.

### **HURS 8090 - MANAGEMENT OF CHANGE (3)**

Analysis of the Prerequisites for generating and

administering change in organizations. Development of research on subjects related to change management. Critical analysis of the theory of decisions and strategies in a global environment that is in continuous change.

### **HURS 8100 - DISCRIMINATION IN EMPLOYMENT (3)**

Analysis of Title VII of the Federal Civil Rights Law as well as other similar local and federal statutes related to employment discrimination. Study of the theories of discrimination and the available procedures and remedies under said laws. Examination of the principles of legal interpretation and research methods in the area. Includes research of topics related to discrimination in employment.

### **HURS 8946 - SEMINAR OF SPECIAL TOPICS IN HUMAN RESOURCES (3)**

Review of the current problems related to the field of human resources and the management of problems confronted on a daily basis by company management.

## **IBAD - International Business Administration**

### **IBAD 5100 - RESEARCH IN THE INTERNATIONAL ENVIRONMENT (3)**

Discussion of research designs for the solution of business problems in the international field. Differentiation of methodologies and types of statistical and qualitative analysis of information. Description of writing style guides in research and publication in academic and professional sources. Integration of international ethical and legal principles that govern the investigation.

### **IBAD 5110 - INTERNATIONAL STRATEGIC ADMINISTRATION (3)**

Discussion of the challenges and opportunities presented to the manager in an international business environment. Illustration of the study of multinational companies, markets in North America, Europe and Asia, international politics, economic integration, culture, ethics in business, exchange and international finance. Review of global strategic planning, organization, production and marketing strategies. Demonstration of concepts of political risk strategies, negotiations, corporate and national competitiveness.

### **IBAD 5210 - INTERNATIONAL INFORMATION SYSTEMS (3)**

Explanation of the role of information systems in companies with international presence. Discussion of the

elements of research, decision-making and maintenance of information systems. Analysis of current trends in the use of systems and in on-line businesses with an emphasis on ethical, legal and security principles.

**IBAD 5220 - INTERNATIONAL BUSINESS MARKETING (3)**

Analysis of the cultural environment that affects marketing and international distribution. Evaluation of growth opportunities in markets and emerging countries. Development of strategies that encourage entry and permanence in the markets.

**IBAD 5320 - GLOBAL BUSINESS ENVIRONMENT (3)**

Comparison of local and foreign perspectives that form the context for business in a diverse and interdependent world. Application of the concepts of socio-cultural diversity, ethical, political, legal, regulatory, national environment and the impact of demographic diversity on organizations. Review of markets, economies and consumer behavior in different countries.

**IBAD 5340 - MANAGERIAL ECONOMICS IN INTERNATIONAL BUSINESSES ENVIRONMENT (3)**

Discussion of the macroeconomic principles essential for the development of businesses and companies in the international arena. Study of business trends from the perspective of theories, economic and socio-cultural diversity. Exploration of globalization from the social, economic, political, legal and ethical aspects.

**IBAD 5410 - INTERNATIONAL DISTRIBUTION (3)**

Study of the concepts of foreign cargo transportation, international transportation and cargo storage. Explanation of the analysis of documentation related to international distribution and the various distribution and export channels.

**IBAD 6971 - SPECIAL PROJECT IN INTERNATIONAL BUSINESS ADMINISTRATION (3)**

Discussion of the planning, strategies and development of a special project in the field of the specialization selected in International Business Administration. Integrative analysis of ideas, concepts, situations and main problems related to international trade. Evaluation of the experience in the area of specialization where the student integrates and implants theoretical foundations acquired through his academic training. Development of a functional project or

a research project. Oral and written presentation of the research work. This project must be focused on an international level.

Prerequisite: Have approved all other core and specialization courses.

## INBS - International Business

**INBS 5000 - INTERCULTURAL NEGOTIATION AND COMMUNICATION IN INTERNATIONAL BUSINESS (3)**

Analysis of the importance of communication in the different cultures and its influence in business relations; the development and application of communication strategies in international and multicultural business relations; the study of the implications of these international business relations.

**INBS 5005 - RESEARCH METHODOLOGY PRINCIPLES APPLIED TO INTERNATIONAL BUSINESS (2)**

Development of research competencies for the study of the international businesses. Analysis of the international sociocultural implications that affect this discipline. Grade P/NP.

**INBS 5020 - INTERNATIONAL MACROECONOMICS (3)**

Review of the essential elements of the macroeconomic theoretical frame that explain the determinants of the international movements of capital, imbalances in commercial exchange and the nominal and real exchange rates. Discussion of the stable economic policy from a global perspective and its controversies.

**INBS 6000 - INTERNATIONAL BUSINESS MANAGEMENT (3)**

Ample study and exploration of problems and essential elements in the development and management of international business. Overview of the activities that take place in a globalized, dynamic, complex, and highly competitive environment.

**INBS 6010 - INTERNATIONAL BUSINESS LAW (3)**

Basic legal aspects of international business and finance. The laws and regulations that rule the functions and operation of business at an international level.

**INBS 6020 - INTERNATIONAL ECONOMIC POLICY (3)**

Evaluation of the economic policies originating in international institutions, which affect national economies. Analysis of aspects, such as international commerce and exchange and their impact on economic growth and strategies for competitiveness. Includes the analysis of decisions and strategies related to a globalized environment and one of constant change.

**INBS 6070 - GLOBALIZATION: FOUNDATIONS OF CONTEMPORARY INTERNATIONAL BUSINESS RELATIONS (3)**

Evaluation of the development of globalization in an interdisciplinary context. Critical analysis of the consequences of contemporary globalization.

**INBS 6080 - INTERNATIONAL RELATIONS AND CONTEMPORARY AFFAIRS OF ECONOMY AND INTERNATIONAL BUSINESS (3)**

Analysis of the classic and contemporary arguments of the Theory of International Relations. Discussion of international policies and their effects on international commerce.

**INBS 6090 - INTERNATIONAL ORGANIZATIONS AND INTERNATIONAL CIVIL SOCIETY: THEIR INFLUENCE IN INTERNATIONAL RELATIONS AND BUSINESS (3)**

Analysis of the historical development, the importance and influence of the different types of non-state actors in the interaction of international relations. Review of the influence of civil society in international relations, its effects and interaction in international business.

**INBS 6210 - RESEARCH METHODOLOGY IN INTERNATIONAL BUSINESS (3)**

Development of research projects with emphasis on the applicable methodologies in the context of the international business.

Prerequisite: Have completed 36 credits of the specialization with a minimum average of 3.00.

**INBS 6310 - INTERNATIONAL HUMANITARIAN ACTIONS: PHILANTHROPY AND BUSINESS OPPORTUNITIES (3)**

Review of the role of humanitarian affairs in international policy from the perspective outlined by the United Nations Organization (UN) for the post-9/11 world. Evaluation of ethical matters: contemporary philanthropy and the

benefits for "business opportunities". Critical analysis of the intrinsic problems of the diverse actors implied in humanitarian aid.

**INBS 6905 - INTERNATIONAL INTERNSHIP (3)**

Educational experience abroad in areas related to international business. To enroll in this course, students must have the approval of the Chair of the Campus Department. Grade P/NP.

**INBS 6910 - PROFESSIONAL PRACTICE (3)**

Integrated professional experience in work scenarios in companies with an international emphasis. This will be carried out under the supervision of a faculty member and will consist of a minimum of eight (8) hours weekly for a minimum of 135 hours per academic term. Grade: P/NP.

Prerequisite: Have completed a minimum of 36 credits, of which 24 must be in the specialization with a minimum academic grade point index of 3.0. .

**INBS 6970 - SEMINAR: BUSINESS ENVIRONMENT AND ADMINISTRATIVE PRACTICES OF THE CARIBBEAN AND LATIN AMERICA (3)**

Analysis of the most significant geographical, political, and economical aspects of the Caribbean and Latin American regions and their application to pertinent administrative functions. Study of the current international treaties.

**INBS 6990 - CONSULTING/RESEARCH PROJECT (3)**

Development of a research or consulting project on international business and other topics related to the study program. Grade P/NP.

Prerequisite: INBS 6210.

**INBU - Interregional and International Business****INBU 7100 - INTERNATIONAL AND GLOBAL BUSINESSES POLICY AND STRATEGY (3)**

Formulation of the company's policy and strategy in an international context. Simulations of intercultural negotiations. Includes the development of an international strategy for a local company.

**INBU 7120 - GLOBAL MARKETING (3)**

Analysis of marketing and the global and international implications with emphasis on Latin American and

Caribbean companies. Review of marketing theory and practice across national and global borders, marketing and marketing research within different foreign environments. Analysis of the external and internal variables in the international environment and the development of marketing strategies by international companies.

**INBU 7130 - MULTINATIONAL AND GLOBAL MANAGEMENT AND STRATEGY (3)**

Formulation of multinational companies' strategies and policy. Critical analysis of strategic managerial alternatives within the global context of business operations in a political, economic and cultural environment. Simulation of intercultural negotiations. Includes the development of international strategy for local companies.

**INBU 7140 - COMMUNICATION AND INTERCULTURAL NEGOTIATION IN INTERNATIONAL BUSINESS (3)**

Analysis of the impact of communication on different cultures for commercial purposes. Application of communication skills in multicultural commercial scenarios. Comparison of the implications of intercultural negotiations in domestic and international multicultural companies.

**INBU 8170 - INTERNATIONAL FINANCE (3)**

Analysis of the international financial environment. Review of financial risk inherent to international businesses. Description of problems when implementing corporate financial principles in other countries and of the financial aspects of the relationship between main and subsidiary company.

**INBU 8210 - THEORY OF INTERNATIONAL BUSINESS (3)**

Critical analysis of the classical and modern theories of international business and the implications of business policies derived from the different theories. Consideration of the importance of international business for developing countries and the development of competitiveness strategies. Review of monetary aspects of international commerce, such as the problems and policies of adjustments in the balance of payments.

**INBU 8946 - SEMINAR OF SPECIAL TOPICS IN INTERREGIONAL OR INTERNATIONAL BUSINESS (3)**

Review of current problems related with interregional and international business and with the handling of problems

confronted daily by company management.

## INSE - Information Security

**INSE 5101 - Fundamentals of Security in Networks I (3)**

Review of practices for the detection and prevention of intrusions from the outside-inside of an information system. Description of the last generation techniques and tools used to diminish the vulnerability of information systems. Requires additional time in a virtual laboratory.

**INSE 5102 - Fundamentals of Security in Networks II (3)**

Analysis of the vulnerability of digital electronic systems and the security measures and standards. Development of efficient and proactive defense structures. Requires additional time in a virtual laboratory.

Prerequisite: INSE 5101.

**INSE 5130 - Cyber Fraud (3)**

Analysis of different types of cyber fraud. Examination of different types of scams including identity theft and how to prevent them. Evaluation of different strategies to detect fraud. Application of technological tools for fraud detection.

**INSE 5140 - Security in E-Commerce (3)**

Analysis of the authentication, authorization and verification of violations (impossibility of negation) of users in e-commerce. Review of the attacks of hackers in systems with different safety measures. Classification of commercial transactions and their security aspects, such as the legal and social aspects that apply to e-commerce.

**INSE 5201 - Forensic Informatics I (3)**

General review and application of the tools and the necessary bases in the world of Forensic Science Informatics. Discussion and research of cybernetic crimes. Identification of the possible failures of security, their origin and the evidence of vulnerability at the security levels. Requires additional time in a virtual laboratory.

**INSE 5202 - Forensic Informatics II (3)**

Review of evidences of attacks to the Web. Analysis of emails, of movable devices and the strategies for the handling and presentation of evidence. Evaluation of the legal aspects and the future trends of Forensic Science Informatics. Requires additional time in a virtual laboratory.

Prerequisite: INSE 5201.

### **INSE 5400 - Security in Networks of Voice on Internet (VOIP) (3)**

Analysis of the foundations related to the use of the Internet Protocol (IP) for making voice calls, emails, instantaneous messages and Web pages through computers or cellular telephones. Review of the technologies that make up VoIP, which transmits voice and other multimedia data through the Web. Evaluations of the threats, the risks and the security of the VoIP technologies. Requires additional time in a virtual laboratory.

### **INSE 5600 - Security in Databases (3)**

Analysis of measures and levels of security applied to the relational databases in client/server environments, as well as privacy rights. Evaluation of the different types of vulnerability, the risks and the safety measures in data bases.

Prerequisite: INSE 5101.

### **INSE 6100 - Incident Management (3)**

Detection and analysis of intrusions to an information system, from the point of view of a hacker. Design and implementation of a prevention plan to avoid future intrusions. Configuration of a System of Detection Intrusion (SDI). Recovery and documentation of a system affected by intrusions. Requires additional time in a virtual laboratory.

Prerequisite: INSE 5101, 5201.

### **INSE 6120 - Risk Analysis (3)**

Analysis of risk and the planning of policies related to security in networks. Review of different levels of risk of the quality of the systems, and the quantitative and qualitative analysis that measure their risk. Evaluation of plans of contingency in the attacks or situations that breach or alter the security of the networks or the systems. Includes cybernetic crimes, their forensic research and their relation with hackers.

Prerequisite: INSE 5101.

### **INSE 6130 - Research Methodology (3)**

Analysis of different methodologies of quantitative and qualitative research. Includes the review of the fundamental concepts of research applied to the systems security market.

### **INSE 6200 - Auditing of Information Systems (3)**

Evaluation of auditing systems processes that include situations of disaster and their recovery. Identification and correction of the diverse vulnerabilities that could appear in an exhaustive investigation of communications network, workstations or servers.

Prerequisite: INSE 5102, 5202.

### **INSE 6400 - Special Topics in Security (3)**

Discussion of topics related to the field of information security in diverse scenarios.

Prerequisite: INSE 5202, 6100.

### **INSE 6980 - Development of a Security Project (3)**

Development of a strategic security plan for the analysis of vulnerable situations in a company's network. Elaboration of a practical or theoretical project. Previous authorization of the professor and the Coordinator of the Program is required. Grade: P/NP.

Prerequisite: INSE 5102, 5202, 6100, 6120 and INSE 6130.

## **ISCF - Information Security in Computer Forensics**

### **ISCF 5010 - NETWORK SECURITY DESIGN, IMPLEMENTATION AND ASSESSMENT (3)**

Analysis of the fundamentals of network security. Emphasis on the design, implementation and assessment of plans that guarantee information security. Analysis of exposure, vulnerability and risk management in companies and countermeasures to mitigate them. Study of new trends in security and their importance to prevent disasters.

### **ISCF 5020 - PRINCIPLES OF SECURITY AND PRIVACY IN INFORMATION (3)**

Analysis of the different types of security with an emphasis on physical, computer and network security. Identification of common threats and attacks to information systems including unintentional damage, identity theft, malicious software, junk mail (spam), and the defensive measures used to protect against them.

### **ISCF 5030 - LEGAL AND ETHICAL ASPECTS OF FORENSIC COMPUTERS (3)**

Examination of legal and ethical concepts in the context of computer forensics. Application of federal and state rules of evidence and procedural rules in the investigation of

computer crimes. Emphasis on the application of ethical and legal principles in the collection of evidence, testimonies and in the writing of computer forensics.

**ISCF 5040 - DISASTER RECOVERY PLANS IN INFORMATION TECHNOLOGIES (3)**

Analysis of risks in organizations. Application of methodologies in the design and development of a computer disaster recovery plan. Evaluation of the impact of said plan to guarantee the continuity of operations.

**ISCF 5050 - COMPUTER NETWORKS AUDIT (3)**

Analysis of the fundamentals of audit and control of information technology (IT). Evaluation of the rules that govern information technology systems and their application.

**ISCF 5060 - FORENSIC INVESTIGATION (3)**

Analysis of the tools, techniques and procedures of forensic investigation. Evaluation of security incidents in organizations.

## **LARE - Labor Relations**

**LARE 5001 - RESEARCH METHODS IN LABOR RELATIONS (3)**

Analysis and application of research methods and techniques in the field of labor relations. Application of the scientific method in labor problem solving. Review of the quantitative and qualitative methodologies.

**LARE 5010 - LABOR RELATIONS AND COLLECTIVE BARGAINING LEGISLATION (3)**

Examination of the legislation that impacts collective bargaining processes and the construction of relationships of trust. Historical analysis of union management in society and understanding of collective bargaining strategies in daily business labor management. Application of alternative strategies, theories, models, tactics and processes of collective bargaining.

**LARE 5020 - ORGANIZATIONAL THEORETICAL FOUNDATIONS (3)**

Understanding of the theoretical and organizational foundations that arise from labor relations within the global environment. Examination of how the organization creates competitive advantage and prescribes creative solutions that are tailored to its specific circumstances, opportunities, strengths, weaknesses, and business strategies.

**LARE 5200 - LABOR STATISTICS (3)**

Application of the concepts of descriptive and inferential statistics in the analysis of the factors affecting the evaluations of labor relations practices.

**LARE 5300 - LABOR ECONOMY (3)**

Analysis of the economic problems of the labor market, the population and the labor force in a global economy. Review of the economic aspects of the development of human resources, compensation, income distribution, and related public policies. In addition, the economic effects of labor relations, collective bargaining and labor unions, on wages, employment, the cycle, and economic growth are evaluated.

**LARE 5400 - LABOR LAW AND LABOR RELATIONS (3)**

Examination of the laws and principles that regulate the rights and obligations of employers, employees and unions in their relationship with administration and labor management.

**LARE 5410 - HISTORY AND PHILOSOPHY OF LABOR MOVEMENTS (3)**

Current theories in labor relations and their principal institutions; history of labor movements in the United States, Puerto Rico and other countries; the development of labor organizations and their strategies over the years.

**LARE 5420 - LABOR RELATIONS IN THE PUBLIC SECTOR (3)**

Review of the historical development of labor relations in the public sector. Analysis of the legislation of labor relations and its effect on groups protected by the constitution and its limitations. Evaluation of the situation of the municipalities, public corporations, the central government, and special agencies, within the general framework of labor relations in the United States and other countries.

**LARE 6410 - COMPARATIVE LABOR RELATIONS (3)**

Examination of labor relations in the industrial context and business systems impacted by the labor market with its diverse cultures, labor standards and regulations of employment relations in different countries.

**LARE 6430 - NEW ORGANIZATIONAL WORK PATTERNS (3)**

Review of the traditional and nontraditional alternatives for



organizing work in private companies as well as in public ones, and their relation with the new personal values of the employees.

### **LARE 6440 - RESOLUTION OF CONFLICTS IN THE WORKPLACE (3)**

Application of conflict theories in employment. Review and critical analysis of dispute resolution techniques in union and non-union workplaces. Analysis of resources in the administration of alternative methods for the resolution of labor disputes. Evaluation of the different jurisdictional resources of alternative and development methods to investigate complaints, apply due process, critically evaluate the merit of controversies between the parties, participation in hearings and preparation of reports.

### **LARE 6450 - JOB DISCRIMINATION (3)**

Analysis of legislation, the constitutional aspects and jurisprudence related to the prohibition of discrimination in workplaces. Discussion of the aspects regarding the nature, importance and characteristics of protections against job discrimination. Review of the duties, obligations, practices, measures and rights of employers and employees in the prevention and attention given to situations related to job discrimination.

### **LARE 6975 - INTEGRATING SEMINAR IN LABOR RELATIONS (3)**

Evaluation of complex cases, situations and investigations for the integration of the knowledge that may permit the explanation and display of leadership skills in the labor scenario. Grade: P/NP.

Prerequisite: Have approved all to the core courses and of the specialization.

## **LIDE - Leadership and Instruction in Online Education**

### **LIDE 7005 - Online Teaching and Learning (3)**

Integration of theories for the understanding of the online teaching and learning process. Application of didactic and interaction models for virtual environments.

### **LIDE 7030 - Instructional Technology in Online Education (3)**

Evaluation of new technologies and their contribution to the online teaching and learning process. Analysis of the instructional technology evaluation process and its impact on online education. Application of various technologies to address different learning styles and management and

online instruction.

### **LIDE 7080 - Leadership in Online Education (3)**

Evaluation of the entrepreneur leader's ability to adapt to change as a result of the demands of the current era. Application of effective leadership strategies for innovation of the management and administration of online education programs.

### **LIDE 7090 - Planning and Management of Online Education Programs (3)**

Analysis of the organization, realization and administration of the online education program. Emphasis on the strategic and operational planning of online programs. Proposal of strategies for the administration, evaluation and supervision for the management of online education.

### **LIDE 7060 - Instructional Design for Virtual Environments (3)**

Application of instructional design models for the creation of virtual learning environments. Use of technology platforms for online teaching or training.

### **LIDE 8010 - Evaluation of Online Programs (3)**

Evaluation of the administration of the online education program. Application of the components of an evaluation model for decision making.

### **LIDE 8991 - Dissertation I (3)**

Writing the first three chapters of a research proposal in the leadership and instruction major in online education. Defense and approval of the proposal before the Doctoral Dissertation Committee. Grade: P/DP/NP.

Prerequisite: LIDE 8970.

### **LIDE 8902 - Dissertation II (3)**

Review of the research proposal in the leadership and instruction major in online education. The presentation of the proposal and the investigation instruments require approval of the Institutional Review Board (Institutional Review Board or IRB). Upon approval the administration of the instrument and the collection of the data will begin. This course includes dissertation and the approval of the final document by the Dissertation Committee. Grade: P/DP/NP.

Prerequisite: LIDE 8991.

### **LIDE 8970 - Research Seminar (3)**

Application of theories, research methods, principles and

instruments in the preparation of a research proposal. Development of the style, form and content of the proposal and the dissertation. Requirement: Have approved all core and specialization courses.

## LING - Linguistics

### **LING 5200 - NEW TRENDS IN LINGUISTICS (3)**

Analysis of the theoretical postulates and the work methodology of the main linguistic schools of Europe and the United States beginning with Ferdinand de Saussure.

### **LING 5210 - HISTORY OF THE SPANISH LANGUAGE (3)**

Historical and analytical study of the Spanish language from Latin to the present with emphasis on the most decisive stages of its development. Phonetic, morphological and lexical comparisons of Spanish with other Romance languages.

### **LING 5240 - ADVANCED GRAMMAR (3)**

Systematic study of the grammatical structures of the Spanish language in light of new linguistic trends and their application to the teaching of Spanish as the vernacular.

### **LING 5250 - LINGUISTICS APPLIED TO THE TEACHING OF SPANISH (3)**

Analysis of the theoretical frameworks of current linguistics and their application to the teaching of Spanish as the mother tongue. Discussion of the findings of recent research with special emphasis on studies on Puerto Rican Spanish.

## LISC - Library and Information Sciences

### **LISC 5000 - LIBRARY FUNDAMENTALS AND INFORMATION SCIENCES (3)**

Theoretical and philosophical backgrounds of Library Information Sciences. Purpose, function and services offered by each type of library and documentation and information centers in modern society, especially in the Puerto Rican society. The profession, its terminology, literature, associations and professional education.

### **LISC 5180 - COMPUTER APPLICATIONS IN THE LIBRARY (3)**

General view of the varied uses of the computer in different library functions. Study of the planning, evaluation and implementation of computerized library

systems.

### **LISC 5200 - INFORMATION SERVICES AND DOCUMENTATION (3)**

Assessment, selection and use of bibliographic reference sources. Includes techniques and information search analyses and studies of reference policies and services. Also included are mechanized systems of documentation and information. Emphasis on the role of the library as an information center.

### **LISC 5250 - DOCUMENTATION AND DATABASE FOR THE HUMANITIES (1)**

Analysis and evaluation of manual and computerized documentation resources in the humanities. Study of the interaction process in computerized databases in the humanities. Includes supervised practice at the DIALOG service terminals for which an additional fee is charged.

Prerequisite: LISC 5180.

### **LISC 5260 - DOCUMENTATION AND DATABASE FOR THE BEHAVIORAL SCIENCES (1)**

Analysis and evaluation of manual and computerized documentation resources in the Behavioral Sciences. Study of the interaction process in computerized databases in the field of the Behavioral Sciences. Includes supervised practice at DIALOG service terminals for which an additional fee is charged.

Prerequisite: LISC 5180.

### **LISC 5270 - DOCUMENTATION AND DATA BASE FOR THE NATURAL SCIENCES (1)**

Analysis and evaluation of manual and computerized documentation resources in the natural sciences. Study of the interaction process in computerized databases in the natural sciences. Includes supervised practice at DIALOG service terminals for which an additional fee is charged.

Prerequisite: LISC 5180.

### **LISC 5300 - CATALOGING AND BIBLIOGRAPHIC DESCRIPTIONS (3)**

Theory and practice in the techniques of bibliographic description of printed and non-printed materials. Emphasis on the uses of AACR2 (Anglo-American Cataloging Rules 2) and MARC (Machine Readable Cataloging). Analysis of the different types of catalog forms.

**LISC 5350 - SUBJECT CLASSIFICATION AND INDEXING (3)**

Different methods used in classification by subject. Theory and methods of establishing subject headings. Principles and practices in indexing.

**LISC 5370 - SPECIAL PROBLEMS IN DESCRIPTIVE CATALOGING (3)**

Analysis and development of cataloging technique and norms, and of the description of printed and non-printed materials. Emphasis on the cataloging of special collections such as musical scores, audiovisual materials, microforms, etc. Includes computerized cataloging procedures.

Prerequisite: LISC 5350.

**LISC 5390 - THE CONTROL AND HANDLING OF SERIAL PUBLICATIONS (3)**

General view of serial publications, their creation, format, handling and use; selection, content and bibliographic control; policies, administration and cooperative programs. Includes magazines, newspapers, yearbooks, society bulletins and serial publications of government agencies.

**LISC 5450 - COLLECTION, ACQUISITION, DEVELOPMENT AND EVALUATION (3)**

Study and analysis of the different professional techniques and skills required for the evaluation, selection, acquisition and preservation of printed and non-printed educational resources.

**LISC 6150 - ADMINISTRATION OF SCHOOL LIBRARIES (3)**

Detailed study of the school library and of the librarian's role in this environment. Includes and analyzes the educational trends, the role of the librarian in the teaching learning process and in promoting the use of the library.

**LISC 6160 - PUBLIC LIBRARIES (3)**

Historical, legal, economic and administrative factors that affect the planning organization and development of public libraries and public library systems. Theoretical and practical concepts related to public libraries as informative, educational, recreational, cultural and social service institutions.

Prerequisite: LISC 5000.

**LISC 6161 - LIBRARIES AND SPECIALIZED INFORMATION CENTERS (3)**

Various types of libraries, systems of information and related specialized organizations; their historical development, their management, resources, functions and services, problems related to the operation of libraries and information centers that serve particular clients.

Prerequisite: LISC 5000.

**LISC 6250 - RESEARCH METHODS APPLIED TO LIBRARY AND INFORMATION SERVICES (3)**

Current situation of the library as an institution and of the Library Information Sciences as a discipline. Development of scientific research skills applied to the Library and Information Sciences.

**LISC 6350 - EDUCATIONAL TECHNOLOGY: USE, PRODUCTION AND EVALUATION (3)**

General view of the field of educational technology. Emphasis on the evaluation, selection, acquisition and use of commercially produced materials and equipment. Introduction to the techniques of local production. Includes organization and management of non-printed material collections and examines their various forms.

**LISC 6460 - DEVELOPMENT OF COLLECTIONS AND SERVICES FOR CHILDREN, YOUNG PEOPLE AND ADULTS (3)**

Historical background of universal children and young people's literature and the study of the sources and guidelines for its evaluation and selection. Analysis of the diversification of both printed and non-printed materials. Includes the principles of child, youth and adult psychology and their application to library services.

Prerequisite: LISC 5450.

**LISC 6710 - SERVICES IN ACADEMIC LIBRARIES AND DOCUMENTATION CENTERS (3)**

Trends, innovations, goals, policies and services of the academic library. Administrative theories and processes applied to the library and information and documentation service agencies. Includes administrative relations, coordination, personnel, finances, evaluation, planning, organization, decision-making and other problems.

**LISC 6750 - BIBLIOGRAPHIC INSTRUCTION (3)**

Planning and development of programs for the use of library resources. Analysis of specific methodologies and the procedures for their appraisal. Includes the financing,

promotion, maintenance and development of programs.

### **LISC 6910 - INTERNSHIP IN LIBRARIES (3)**

Supervised practice in a library. Students will develop competence and leadership through direct participation in public and technical services, orientation activities and seminars; and preparation of case reports, work plans and research. Admission to internship is requested in writing from the Program Chair.

## **MATH - Mathematics**

### **MATH 5100 - INTERMEDIATE CALCULUS (3)**

Application of differential equations. Analysis of indeterminate limits, improper integrals and power series. Examination of differential and integral calculus of multivariate functions with applications to the optimization of functions and multiple integrals. Review of line integrals and flow lines of vector fields, the divergence and rotational of a field and its role in the theorems of Green, Stokes and Gauss. Determination of potential fields and their applications to physics and engineering. Use of software for symbolic and numerical computations.

### **MATH 5200 - COMPUTATIONAL MATHEMATICS (3)**

Solution of problems in the areas of calculus, algebra and geometry, linear algebra and mathematical models, by means of mathematical computer languages. Introduction and computational implementation of several applications such as optimization, areas and volumes, handling of lists, dynamic systems, finance mathematics, and diverse types of graphs and visualization. Introduction to numerical analysis methods and their implementation in computational algebraic languages.

### **MATH 5400 - PROBABILITY (3)**

Review of permutations, combinations and partitions. The Binomial theorem. Discrete probability. General, conditional and independent probability. Discrete and continuous random variables. Expected value and moment generating functions. United and conditional distributions and conditional expected value. Random variable functions including the method of accumulative distribution function and the transformation method. Order statistics.

### **MATH 5500 - ADVANCED DISCRETE MATHEMATICS (3)**

Analysis of discrete mathematical algorithms and their programming, considering the types of data and data

structures. Review and application of the theory of sets and the graph theory. Applications of combinatorial analysis: counting techniques and recurrence relations. Use of computerized algebraic systems.

### **MATH 5700 - FUNDAMENTALS OF ABSTRACT MATHEMATICS (3)**

Logic, demonstration methods, theory of sets, permutations and combinations, relations, including equivalence and partial order relations, ordered bodies and their axioms, functions binary operations divisibility, cardinality, the Cantor Theorem.  $\mathbb{R}$  topology, open and closed sets and accumulation points.

### **MATH 5800 - TOPICS IN ABSTRACT ALGEBRA (3)**

Review of the internal structure of groups, groups construction, linear representations and classification by isomorphisms. Analysis of rings according to divisibility, fields and their extensions, modules, and vector spaces. Examination of Boolean algebras and reticles and applications of algebra to coding and cryptography. Use of computerized algebraic systems.

### **MATH 5900 - MATHEMATICAL LOGIC AND APPLICATIONS (3)**

Study of syntax and semantics in first order languages. Analysis of the theorems of Completeness, of Löwenheim-Skolem, of Compactness and the limitations of the formal method. Introduction to the theory of computability by means of Turing machines. Analysis of the theory of numbers and recursive functions, including the theorem of Rice and that of Recursion. Introduction to the complexity theory.

### **MATH 6100 - INTRODUCTION TO REAL ANALYSIS (3)**

Research of the concepts and operations of real analysis. It includes the topology of real numbers and metric spaces, the analysis of the convergence of sequences and infinite series, continuity and derivative of functions, the integral and its relation to derivatives, measurements and generalized functions, function spaces, and differential operators. Techniques for solving partial differential equations are introduced. Use of software for symbolic and numerical calculation.

### **MATH 6150 - MATHEMATICAL MODELS OF PHYSICAL SCIENCES (3)**

Analysis of mathematical models of the physical sciences. Includes the classification of models according to their mathematical base, approximation, transformation and

symmetry of models, models of dynamic systems such as linear and non-linear, fluids, heat propagation, waves, and quantum systems. Computer modeling.

Prerequisite: MATH 5100.

### **MATH 6151 - MATHEMATICAL MODELS OF BIOLOGICAL SCIENCES (3)**

Analysis of mathematical models of the biological sciences. Includes growth models of a population; multiple species in ecological relationships; the spread of diseases; tissue growth and morphological development. Balance points, limit cycles, attractor sets, and asymptotic behavior are analyzed. Computer modeling.

Prerequisite: MATH 5100.

### **MATH 6200 - GRAPHS AND APPLICATIONS (3)**

Analysis of the theory of graphs, their algebraic representation and special types including directed graphs. Analysis of the problems of graphs route, planarity, parity and coloration. Study of trees, special types and applications. Introduction to the theory of matrixes.

Prerequisite: MATH 5500.

### **MATH 6300 - ACTUARIAL MATHEMATICS AND RISK THEORY (3)**

Study of insurance economy, models of individual risk, and survival distributions. Evaluation of insurances and life annuities, the net premiums, the several lives functions and multiple decreasing models. Fundamentals of the evaluation theory of pension plans.

Prerequisite: MATH 5400.

### **MATH 6350 - MATHEMATICAL METHODS IN RESEARCH (3)**

Study of mathematical methods to determine optimal solutions under restrictions of optimization problems of industry and the economy. Topics of linear programming, the simplex method, flows in networks, non-linear programming, dynamic programming, project management and analysis of decisions are dealt with.

Prerequisite: MATH 5200.

### **MATH 6400 - ADVANCED MATHEMATICAL STATISTICS (3)**

Study of classic statistics of a variable and the estimation of parameters. Analysis of linear statistical models and safe predictions. Study of the robust statistics concept. Fundamentals of non-linear statistical models; analysis of

multiple variables and time series. Use of computer programs for statistics and statistical programming languages.

Prerequisite: MATH 5400.

### **MATH 6420 - DATA ANALYSIS (3)**

Application of science data techniques for the visualization and analysis of numerical and categorical variables. Analysis of data distribution and exceptional data detection. Formulation and use of statistical models for mass data digitization. Application of data classification models. Analysis of data in text format. Use of specific application programs.

Prerequisite: MATH 6400.

### **MATH 6450 - STATISTICS REGRESSION MODELS (3)**

Analysis of simple linear and multivariate regression models, and non-linear models. Selection and evaluation of regression coefficients. Application of logistic regression and mixed models. Use of specific application programs.

Prerequisite: MATH 6400.

### **MATH 6470 - TIME SERIES (3)**

Analysis of seasonal and non-seasonal type time series. Examination of trends, serial correlations and heteroskedasticity. Application of time series models to estimate trends, seasonal trends and integrated processes, and the ARMA/ARIMA models. Use of specific application programs.

Prerequisite: MATH 6400.

### **MATH 6600 - ECONOMETRICS AND FINANCE MODELS (3)**

Analysis of yields and valuation methods for capital assets. Analysis of multifactor models for inter-temporary balance, options and derivatives, fixed income assets and term assets.

Prerequisite: MATH 5100.

### **MATH 6800 - CRYPTOGRAPHY (3)**

Study of basic cryptographic methods based on properties of numbers and group theory. Introduction to the keys of public encryption and advanced cryptographic techniques based on algebraic geometry.

Prerequisite: MATH 5500, 5800.

**MATH 6810 - INFORMATION THEORY AND CODIFICATION (3)**

Theory of codification, efficient codification, codification without noise and codification theorems. Introduction and applications of linear codes; codes in finite fields and cyclical codes.

Prerequisite: MATH 5500, 5800.

**MATH 6900 - CREATIVE PROJECT (3)**

Development of a special project on a problem or application area of the specialization in which students took their elective courses, under the direction of a Program professor. The course requires oral and written presentations. Student will register in this course as often as necessary until finishing their research. Grade: P/NP.

Prerequisite: 24 approved credits.

**MATH 6904 - ADVANCED ALGEBRA (3)**

Study of the following topics of theory of numbers: whole numbers prime numbers and the fundamental theorem of Arithmetic. Maximum common divisor and minimum common multiple. The algorithm of Euclides. Numerical congruencies. Groups, rings and fields. Real and complex numbers. Polynomials. Vectorial spaces: vector and matrices. Boolean algebra. Development of a curricular segment. Course designed for students in the Master of Education in Curriculum and Teaching of Mathematics.

**MATH 6905 - MODERN GEOMETRY (3)**

Modern approaches of geometry. Foundations and development of several geometries. Development of a curricular segment. Course designed for students in the Master of Education in Curriculum and Teaching of Mathematics.

**MATH 6906 - REAL NUMBER ANALYSIS (3)**

Study of the real numbers system; functions and limits; elements of the set theory; numerical successions and series; continuity; derivatives and the integral of Riemann; integral functions, fundamental theorem of calculus, theorems of average value and the change of variables. Infinite convergences series, absolute and conditional convergence. Development of a curricular segment. Course designed for students in the Master of Education in Curriculum and Teaching in Mathematics.

**MATH 6907 - PROBABILITY AND STATISTICS (3)**

Modern approach to probability and statistics. Study of the following topics: sets and probability; random variables

and probability distributions. Sampling theory is included; estimation theory, tests of hypothesis and meaning; regression and correlation and analysis of variance. Development of a curricular segment. Course designed for students in the Master of Education in Curriculum and Teaching in Mathematics.

**MATH 6908 - DISCRETE MATHEMATICS (3)**

Study of the following topics: set theory and Venn diagrams. Counting methods: inclusion-exclusion principle, addition and multiplication rules, exchanges and combinations. Relations and functions. Graph theory. Development of a curricular segment. Course designed for students in the Master of Education in Curriculum and Teaching of Mathematics.

**MATH 6909 - PROBLEM SOLVING (3)**

Evaluation of a variety of strategies and techniques for solving mathematical problems. The problems will emphasize the numbering and operational areas, algebra, geometry, measurement and statistics and probability. Development of a curricular segment. Course designed for students in the Master of Education in Curriculum and Teaching in Mathematics.

**MATH 6910 - HISTORY OF MATHEMATICS (3)**

Historical development of the main ideas in mathematics. Contribution of renowned mathematicians. Analysis of classic mathematicians. Development of a curricular segment. Course designed for students in the Master of Education in Curriculum and Teaching in Mathematics.

**MATH 6911 - ANALYTICAL GEOMETRY (3)**

Study of rectangular coordinates, graphic equations in two and three variables, flat curves of superior order, transformations of coordinates, polar, tangent and normal coordinates, the plane, the straight line and surfaces in space.

**MATH 797 - MATHEMATICAL EDUCATION RESEARCH TOPICS (3)**

Analysis and research in an area of mathematical education of interest to the student under the supervision of a teacher.

**MATH 7110 - TEACHING AND LEARNING IN MATHEMATICS (3)**

Analysis of teaching models and learning styles of mathematics for different educational levels. It includes theories of neuropsychology, pedagogy and mathematical heuristic methods, such as the solution of verbal problems, mathematics as experimental science and constructivism

applied to mathematics. Analysis of the ethical and democratic aspects of the teacher-student relationship. Models are developed for teaching and learning mathematics.

### **MATH 7210 - MATHEMATICAL COMPUTATION AND ITS TEACHING (3)**

Analysis, practice and evaluation of symbolic and numerical computing systems for modeling mathematical problems. Emphasis on the research of recent developments in computational mathematics. It includes the practice of programmed mathematicians, its most efficient implementation in the different mathematics subjects and the strategies of use at school and university level.

### **MATH 7220 - ADVANCED ALGEBRA (3)**

Analysis of advanced developments in the area of algebra and its applications; of the category theory and universal algebra approach. Emphasis on the theory of continuous groups, the representation of groups as transformations in linear spaces, measures in continuous groups and the algebras associated with groups. It includes topics on the use of algebraic computing systems.

### **MATH 7310 - MODERN GEOMETRIES (3)**

Analysis and discussion of modern developments in the area of geometry. Emphasis on the evaluation and comparison of axiomatizations of classical geometry and non-Euclidean geometries. Research of geometric objects such as polygons, polyhedra, polytopes, graphs and their applications, such as code theory, optimization, computer graphics and physics. It includes the practice and evaluation of systems programmed for geometry.

### **MATH 7410 - LOGIC AND MATHEMATICAL LANGUAGE (3)**

Analysis and investigation of mathematical logic issues. It includes areas such as demonstration theory, logical language theory, computability theory, and logic in computer science. Practice and evaluation of logical programming systems and applications to computer science and artificial intelligence.

### **MATH 7510 - PROBABILITY AND STOCHASTIC PROCESSES (3)**

Analysis and application of advanced topics in the area of probability and stochastic processes. It includes joint probabilities of random variables, conditional hope for random variables, the theory of discrete and continuous stochastic processes, the Brownian process model and the

principles of stochastic calculation. Practice and evaluation of simulation systems of stochastic processes.

### **MATH 7610 - ANALYSIS OF REAL AND COMPLEX VARIABLE FUNCTIONS (3)**

Analysis and investigation of modern approaches to mathematical analysis. It includes topics of real and complex analysis, the theory of measurement, the theory of derivation and complex derivation, the theory of analytical functions and the approximation of functions by series of powers. Study of the extensions of the analysis to differential or analytical varieties.

### **MATH 8320 - ADVANCED GEOMETRY (3)**

Development research in the area of intersection of geometry, analysis and algebra. It includes the evaluation and comparison of objects of differential geometry and algebraic geometry, such as curves, surfaces, differential varieties and fiber spaces. Analysis of local geometry structures such as metrics, curvature tensor, connections and differential forms. Study of applications in natural sciences, operations research and computer science.

### **MATH 8420 - MATHEMATICAL LOGIC MODELS (3)**

Research of the fundamentals of mathematics, the theory of mathematical logic models and non-traditional logic. It includes issues of set theory, completeness and satisfiability of axiomatic systems, model building, non-standard analysis and fuzzy logic. Evaluation of related computer systems.

### **MATH 8520 - ADVANCED METHODS OF MATHEMATICAL STATISTICS (3)**

Analysis and application of advanced methods in the area of mathematical statistics. It includes issues of simple regression, multiple regression, non-linear regressions, modern regression, algebraic and differential techniques, time series statistics, econometrics methods and Bayesian methods.

Prerequisite: EDUC 7050.

### **MATH 8620 - FUNCTIONAL ANALYSIS AND ITS APPLICATIONS (3)**

Research of Hilbert and Banach function spaces, dual spaces and distribution spaces. Analysis of the operators on functions, spaces of linear operators and their applications, such as spectral theory,  $C^*$ -algebras, non-commutative analysis and theory of partial differential equations.

**MATH \_\_\_\_ - Special Topics (3)**

Special Topics in Mathematics

**MECN - Mechanical Engineering****MECN 5970 - ADVANCED TOPICS IN MECHANICAL ENGINEERING (3)**

Selection of topics in accord with the student's interest and the availability of the resource.

**MECN 6010 - ADVANCED MATHEMATICS FOR ENGINEERS (3)**

Study of advanced mathematical techniques to solve complex problems applied to engineering and physics. Formulation of the differential equations that describe an engineering problem and application of mathematical methods to find its analytical solution.

**MECN 6020 - ADVANCED THERMODYNAMICS (3)**

Study of Thermodynamics applied to power and refrigeration cycles. Application of the First and Second law of thermodynamics. Entropy analysis to understand the irreversibilities associated with power generation and refrigeration cycles and the concepts of energy.

**MECN 6030 - ADVANCED SOLID MECHANICS (3)**

Advanced studies in the mechanics of materials include analysis and design of components under external loads, elasticity, and concentration. Study of failures related to plasticity, fracture, fatigue, yield, creep, and corrosion.

**MECN 6040 - COMPUTATIONAL MODELING FOR ENGINEERING (3)**

Development of numerical methods for the solution of partial differential equations applied to engineering problems. Discussion of finite difference methods for parabolic and hyperbolic problems. Discussion of the finite elements method. Requires the development of a project using computational tools.

**MECN 6110 - RENEWABLE ENERGY (3)**

Study and analysis of the principal characteristics of renewable energy sources. Analysis of the technical, economic and environmental viability of different renewable energy sources.

**MECN 6120 - ENERGY MANAGEMENT (3)**

Study of energy management related to energy purchasing, energy accounting and the electricity rates structures. Analysis of electrical and mechanical energy systems.

Application of economic and life cycle cost analysis. Discussion and application of energy efficiency codes and standards in residential, commercial and industrial buildings and facilities.

**MECN 6130 - SUSTAINABLE BUILDINGS (3)**

Study and analysis of energy currents that interact in buildings. Application of passive and active techniques to reduce power consumption of buildings and the efficient installation of air conditioning systems. Calculation of thermal loads for the design of the system. Computer simulation of buildings to optimize the system.

**MECN 6140 - FUEL CELLS (3)**

Study of the functioning principles of fuel cells from the electrochemical, thermodynamic and transport processes perspective. Emphasis on ion exchange membrane fuel cells and their variants. Analysis of their technical, economic and environmental viability. Requires the development of an energy system project using fuel cells.

**MECN 6150 - ADVANCED POWER GENERATION (3)**

Thermodynamic analysis of modern power generation technologies. Study of the "Rankine" cycles of fossil and nuclear fuel, gas turbine power plants, combined power plants, and generation of distributed power.

**MECN 6210 - INTEGRATION OF ENGINEERING SYSTEMS (3)**

Study of methods and tools used by systems engineers in the aerospace industry. Conversion of function and needs to a system or product. Study of the methodology of decision making, alternate design, integration of human factors, reliability, maintenance, viability, and safety in product design.

**MECN 6220 - ADVANCED AEROSPACE STRUCTURES (3)**

Study and discussion of exact and approximate methods for analysis and design of aerospace structures. Determination of stresses, strain, constitutive equations, and problem solving with boundary conditions and 2-D elasticity.

**MECN 6230 - AEROSPACE DYNAMICS (3)**

Formulation of motion equations in problems of systems with multiple rigid bodies. Applications of dynamics to aerospace vehicles. Modeling of the general motion of rigid bodies systems. Linearization of motion equations for stability and modal analysis.



**MECN 6240 - AEROSPACE MATERIALS (3)**

Study of conventional and nonconventional materials used in the aerospace industry. Analysis of the production, structure, properties, function, and use of advanced materials for aerospace applications.

**MECN 6250 - COMPUTATIONAL FLUID DYNAMICS (3)**

Solution of fluid flow problems with CFD techniques. Discussion of compressible and incompressible flows governed by Navier-Stokes equations. Model Equations and Classification of PDEs; Finite Difference Methods; Semi-Discrete Approach. Reduction of PDEs to ODEs. Theory and Numerical fluid flow modeling with commercially available software. Requires the development of a project using computational tools.

**MECN 6260 - ADVANCED MECHANICAL VIBRATION (3)**

Study and analysis of free and forced vibrations of systems with one or multiple degrees of freedom and continuous systems that include elements such as strings, rods and beams. Analysis of natural frequencies and vibration modes. Solution of motion equations by modal analysis and numerical methods.

**MECN 6300 - ADVANCED CONTROL SYSTEMS (3)**

Analysis of methods for the design of linear control systems using compensation techniques for one and two degrees of freedom. Design of modern control systems using state space techniques, pole placement, "Ackermann" Equation, estimation, robust control and H<sub>∞</sub>. Emphasis on the design of digital control systems. Analysis of optimal control design of nonlinear control.

**MECN 6510 - LIGHTING SYSTEMS DESIGN (3)**

Study of the concepts of illumination, vision, color and electric lighting sources from the perspective of applied engineering. Discussion and application of methods to calculate illumination values. Lighting systems design of interior and exterior applications using computational tools. Use of codes and standards for a sustainable design.

**MECN 6981 - PROJECT I (1)**

Development and presentation of a project proposal. This proposal must have the approval of the project adviser. Grade: P/NP.

Prerequisite: Authorization of the chair of the department or the project adviser.

**MECN 6982 - PROJECT II (2)**

Development and presentation of the project proposed in MECN 6981. Grade: P/NP/TP.

Prerequisite: MECN 6981.

**MECN 6991 - THESIS I (1)**

Development and presentation of a scientific research proposal. Requires the approval of the thesis adviser. Grade: P/NP.

Prerequisite: Authorization of the chair of the department or the thesis adviser.

**MECN 6992 - THESIS II (2)**

Development of the scientific research work proposed in MECN 6991. Grade: P/NP.

Prerequisite: MECN 6991.

**MECN 6993 - THESIS III (3)**

Completion and presentation of the scientific research work developed in MECN 6992. Grade: P/NP/TP.

Prerequisite: MECN 6992.

**MKTG - Marketing****MKTG 6410 - INTEGRATED COMMUNICATION IN INTERNATIONAL MARKETING (3)**

Review of the different tools of the integrated advertisement and marketing blend, consumer satisfaction at the global level and improvement of the company's profits. Distinction between paid advertisements, non-paid publicity, personal sales, promotional sales, sponsorship, direct marketing, public relations and communication using Internet. Analysis of the development of advertisement activities with focus on international marketing using diverse tools.

**MKTG 6420 - STRATEGIC PLANNING OF INTERNATIONAL MARKETING (3)**

Identification of the concepts and techniques for planning and selection of marketing strategies for multinational organizations. Application of the fundamentals of managerial marketing in the global environment. Discussion of the use and implementation of strategic planning to develop long-lasting competitive advantages at the local and international levels.

### **MKTG 6430 - CONSUMING BEHAVIOR AT THE INTERNATIONAL LEVEL (3)**

Review of the different theories explaining consuming behavior. Study of the cognitive bases and consumers' purchasing behavior, their preferences and decision-making processes. Review of the behavioral concepts as seen through the analysis of how the consumer at the international level acquires and uses information for decision making.

### **MKTG 6440 - ELECTRONIC MARKETING (3)**

Analysis of the development of new business models that promote the maximization of consumer value and the profits of the multinational company. Application of marketing strategies using electronic tools. Discussion of marketing through Internet, wireless communication, advertising by location, design of Web pages and other innovating technologies.

## **MOMI - Molecular Microbiology**

### **MOMI 5101 - BIOCHEMISTRY OF BIOMOLECULES I (3)**

Evaluation of the structure, function, metabolism, thermodynamics, expression and interactions of nucleic acids. Emphasis on DNA biochemistry in prokaryotic systems.

### **MOMI 5102 - BIOCHEMISTRY OF BIOMOLECULES II (3)**

Analysis of the biosynthesis and metabolism of carbohydrates, lipids and proteins. Evaluation of protein purification methods as tools in the development of research.

Prerequisite: MOMI 5101.

### **MOMI 5110 - MICROBIAL GENETICS (2)**

Analysis of the mechanisms of exchange of genetic material between bacteria and the control of gene expression. Emphasis on the use of plasmids, transposition elements and bacteriophages as genetic tools.

### **MOMI 5130 - BIOSECURITY (1)**

Analysis of health and safety regulations promulgated by FDA, OSHA, CDC, NIH and other related entities. Recognition, evaluation and control of risks related to the procedures and facilities in which microbiological tests and recombinant DNA are carried out.

### **MOMI 5210 - MICROBIAL PHYSIOLOGY AND METABOLISM (3)**

Evaluation of the relationship between microbial structure and function with emphasis on intermediary metabolism. Integration of physiological mechanisms. It includes cell division and growth, the response to stressors, and regulation.

### **MOMI 5300 - MICROBIAL ECOLOGY (2)**

Analysis of microbial diversity at the genetic, physiological, phylogenetic and functional levels. Application of the concepts of classical ecology to populations and microbial communities with emphasis on the evolutionary bases of biodiversity.

### **MOMI 5310 - MICROBIAL-HOST INTERACTIONS (3)**

Analysis of cellular and molecular mechanisms that characterize commensal and parasitic relationships between microbe and host. Emphasis on the immune response of the host against infectious agents and how it is modulated by the components of the normal microbiota and other mechanisms involved in commensal symbiotic relationships.

### **MOMI 5320 - PROGRAMMING AND DATA MINING (3)**

Application of open source platforms (pipeline) for the analysis and mining of data in biological sequences. Emphasis on the analysis of DNA, RNA and protein sequences using computational tools such as Python, UNIX and R, among others. Requires 45 hours of conference-laboratory.

### **MOMI 6300 - OMICS APPROACHES IN MICROBIOLOGY (2)**

Analysis of omics disciplines in the field of microbiology. Emphasis on biotechnological applications, the use of bioinformatics and the application of automated techniques for the analysis and interpretation of a large volume of data and its contribution to the study of cellular function and microbial systems.

### **MOMI 6310 - SEMINAR IN MOLECULAR MICROBIOLOGY (1)**

Critical analysis of refereed or scholarly literature relevant to molecular microbiology. Application of the scientific methodology for the oral and written presentation of a topic selected by the student in molecular microbiology.

**MOMI 6320 - MICROBIAL GENOMICS (3)**

Analysis of molecular organization, information and genomic products. Emphasis on sequencing, assembly and annotation. Description of genes in genomes and metagenomes of clinical and environmental origin. It requires 30 hours of conference-laboratory.

**MOMI 6331 - RECOMBINANT DNA TECHNIQUES**

Application of the concepts of recombinant DNA technology to the cloning and expression of genes as diagnostic tools. It requires 30 hours of lecture and 45 hours of closed laboratory.

**MOMI 6332 - MOLECULAR DIAGNOSTIC TECHNIQUES IN MICROBIOLOGY (3)**

Application of molecular techniques in the detection, identification and characterization of microbial pathogens of clinical forensic importance. Evaluation of the automation processes of molecular techniques. It requires 30 hours of lecture and 45 hours of closed laboratory.

**MOMI 6400 - DATA ANALYSIS AND BIOINFORMATICS (2)**

Application of bioinformatics and biostatistics to the analysis of a high volume of experimental data in microbiological investigations. Emphasis on solving practical problems through the use of open source programs. It requires 30 hours of conference-laboratory.

**MOMI 6410 - MOLECULAR PHYLOGENETIC (3)**

Application of phylogenetic methods to infer evolutionary relationships between genes or organisms. Construction of phylogenetic trees using molecular data. It requires 45 hours of conference-laboratory.

**MOMI 6500 - MOLECULAR DIAGNOSIS (3)**

Evaluation of the use of biological markers and the evaluation of methods for the molecular diagnosis of infectious diseases. Identification of the ethical and legal aspects of the privacy of genetic information.

**MOMI 6989 - RESEARCH PROJECT (3)**

Selection and development of a research topic relevant to molecular microbiology. The students will demonstrate their capacity for interpretation and integration of theoretical concepts related to bioinformatics and molecular diagnosis. The student will enroll as many times as necessary in a consecutive academic year to complete the project. Grade: P/PP/NP.

**MOMI 6991 - THESIS (2)**

Planning, design and preparation of the research proposal of the thesis on a topic relevant to molecular microbiology. Approval of the proposal by the thesis committee. The student will enroll as many times as necessary. Grade: P/TP/NP.

**MOMI 6992 - THESIS CONTINUATION (2)**

Development of research, collection and analysis of results. Drafting of thesis and then its defense before the thesis committee. The results of the research are expected to be publishable. The student will enroll as many times as necessary. Prerequisite: MOMI 6991. Grade: P/TP/NP.

**MUED - Music Education****MUED 5050 - THE TEACHING OF INSTRUMENTS (2)**

Appropriate study of methods, concepts, materials and repertoire for teaching the student's principal instrument. Includes a project in teaching the instrument. Topics related to teaching strategies and particular learning characteristics of students who are at diverse performance levels are discussed.

**MUED 5060 - THE TEACHING OF VOCAL AND CHORAL MUSIC (2)**

Appropriate study of methods, concepts, materials and repertoire for teaching vocal and choral music. The different physiological, psychological and acoustic voice problems are identified. Includes a project in teaching voice. Topics related to teaching strategies and particular learning characteristics of students who are at diverse performance levels are discussed.

**MUED 5100 - RESEARCH TECHNIQUES IN MUSIC EDUCATION (3)**

The study of research as a discipline within the field of Musical Sciences. Examination of different perspectives or methodologies and evaluation of sources. Design of information collection tools, writing of annotated bibliographies, review of literature and preparation of research proposals.

**MUED 5101 - PHILOSOPHY OF MUSICAL EDUCATION (3)**

Study of the principal philosophical approaches to music education (Reimer, Elliot, Langer, among others) as a basis for the formulation of a philosophy for the Puerto Rican context.

**MUED 5102 - COMPARATIVE HISTORY OF MUSIC EDUCATION (3)**

Chronological study of Music Education. Analysis of the didactic approaches and the developmental stages of music education (revision, revolution and operative integration) during the twentieth century.

**MUED 5103 - SEMINAR OF MUSIC EDUCATION AT THE ELEMENTARY LEVEL (3)**

Critical analysis of teaching the elements of music (rhythm, melody, harmony, among others) and their application at the elementary level making practical use of established methodologies in the context of Puerto Rico's elementary schools.

**MUED 5104 - Critical analysis of teaching the elements of music (rhythm, melody, harmony, among others) and their application at the elementary level making practical use of established methodologies in the context of Puerto Rico's elementary schools. (3)**

Critical analysis of teaching the elements of music and their application at the secondary level, making practical use of the established methodologies and their application to the different instrumental-vocal groups, in the context of Puerto Rico's intermediate and high schools.

**MUED 5105 - MEASUREMENT, ASSESSMENT AND EVALUATION OF MUSIC LEARNING (3)**

Detailed study of evaluation techniques particular to music to be used in applied music, ensembles and in the classroom. Study of the use of evaluation and assessment modalities as the basis for decision making and their relation to musical behavior.

**MUED 5106 - TECHNOLOGY AND INSTRUCTIONAL DESIGN (3)**

Application of recent technology to music curriculum and its evaluation. Use of the computer and other electronic means with emphasis on the use of equipment, programs and equipment MIDI for digital recording. The appropriate use of technology in the classroom is explored and evaluated. Development of skills using several operating systems within the context of music education and their general applications. Requires 30 hours of lecture and 45 hours of lab during the academic term.

**MUED 5108 - FUNDAMENTALS OF MUSICAL PEDAGOGY (3)**

Discussion and analysis of the philosophical, sociological, methodological and technical foundations of music education. Application of these fundamentals to the

didactics of musical knowledge according to the primary, secondary and tertiary levels.

**MUED 5130 - PSYCHOLOGY OF LEARNING MUSIC (3)**

Historical perspective of the development of learning theories with specific application to music education. Student are provided knowledge to analyze the established learning theories and their recent trends in the field of education and music teaching.

**MUED 5160 - HISTORY AND PHILOSOPHY OF THE TEACHING OF MUSIC (3)**

Study and analysis of the historical, philosophical and psychological foundations of music education. The diverse approaches to musical and educational trends from which music education as we know it today and the new teaching modalities emerge are discussed and compared.

**MUED 5171 - DEVELOPMENT AND APPLICATION OF KNOWLEDGE IN MUSIC EDUCATION (4)**

Use and administration of bibliographical resources for strengthening the teaching-learning process through research. Emphasis on the application of scientific methods for the research pertinent to the discipline. Includes the preparation of a proposal.

**MUED 5191 - CURRICULUM DESIGN IN MUSIC (3)**

Analysis of the principles for curricular design and their application to the development of music programs. Includes recent topics and trends of music education. Discussion of methods, approaches and music education programs at different levels.

**MUED 5200 - MUSICAL ANALYSIS TECHNIQUES (3)**

Analysis of musical forms from a theoretical and practical perspective. Presentation of the components of integral formal musical analysis. Study of the different works of popular and classical music through the use of different analysis strategies.

**MUED 5201 - HISTORY OF PUERTO RICAN MUSIC (3)**

Critical study of the most relevant events in the history of music in Puerto Rico. Examination of the problem of primary and secondary sources in the areas of folk music, academic music and religious music. Analysis of this music based on autograph manuscripts and commercial or home recordings.

**MUED 5202 - MUSIC OF THE WORLD (3)**

Study of the diverse music of the different world cultures, both western and non-western, ethnic and classical. Emphasis on the unique character of music and its social role as a human activity.

**MUED 6000 - SPECIAL PROJECT (4)**

Research project or creative project on a topic of music education that enriches the student's knowledge while contributing to existing knowledge or to the development of materials in the area of the music teaching. Requires the supervision of a professor.

Prerequisite: MUED 5171.

**MUED 6690 - SEMINAR ON MUSIC EDUCATION PRACTICE PROBLEMS (3)**

Development of specific classroom skills as the scenario for teacher performance. Includes dealing with the time allotted for teaching, the use of comparative methodologies for short and long term curriculum design. In addition, the course will guide students to accumulate their daily work experiences with the goal of converting them into research material within a structured theoretical frame. Emphasis on the concept of the music teacher as an artist.

**MUED 6691 - THESIS SEMINAR (3)**

Identification of the subject for the Master in Music Education Thesis. Collection of bibliographical materials and other instruments specific to the specialization. Writing of the thesis proposal.

**MUED 6692 - THESIS IN MUSIC EDUCATION (3)**

Research project and writing on a subject that contributes to existing knowledge in the area of Music Education in Puerto Rico and Spanish America. Grade: P/NP.

**MUED 797\_ - SPECIAL TOPICS (3)**

Analysis of current issues in music education. Review of professional readings according to the needs and interests of the student.

**MUED 7015 - INSTRUMENT TEACHING MODELS (3)**

Evaluation of the methods and concepts, materials and repertoire for teaching the student's main instrument. Study of the historical aspects of the repertoire and its pedagogical applications. Includes music from Puerto Rico.

**MUED 7101 - FUNDAMENTALS AND PERSPECTIVES OF MUSICAL EDUCATION I (3)**

Analysis of the methods, techniques, teaching strategies, evaluation and assessment and their applicability to music education. Study of the trends and practices of the profession within a global context.

**MUED 7102 - FUNDAMENTALS AND PERSPECTIVES OF MUSICAL EDUCATION II (3)**

Analysis of the historical and philosophical aspects. Critical study of the fundamental concepts to strengthen the vision of the music education program.

**MUED 7210 - THEORETICAL AND CONCEPTUAL FOUNDATIONS OF MUSIC (3)**

Critical analysis of professional writings and publications. Emphasis on the application of bibliographic techniques and the argumentation of the validity of the research process on music.

**MUED 7321 - RESEARCH METHODS IN MUSIC I (3)**

Evaluation of quantitative methods and techniques in music research. Elaboration of a quantitative research design.

**MUED 7322 - RESEARCH METHODS IN MUSIC II (3)**

Evaluation of qualitative methods and techniques in music research. Preparation of a qualitative research design.

Prerequisite: MUED 7321.

**MUED 7430 - PSYCHOLOGICAL AND SOCIAL ASPECTS OF MUSIC (3)**

Analysis of the psychological and social principles that help to examine the musical experience, the social value of music and its importance as a cultural phenomenon.

**MUED 7440 - GLOBAL MODELS IN MUSICAL EDUCATION (3)**

Analysis of the methods and trends of music education within an international context. Comparison of contributions from Orff, Kodaly, Dalcroze, Suzuki, and other international educators.

**MUED 7540 - ADMINISTRATION AND SUPERVISION IN MUSIC (3)**

Analysis of the theories, processes and models of administration and supervision in music education at all

levels. Study of ethical and practical considerations for the advancement and development of educational goals, problem solving techniques, and the discussion of contemporary issues with their legal responsibilities.

**MUED 7650 - EMERGING TECHNOLOGIES IN MUSIC EDUCATION (3)**

Creation of interactive instructional resources for music teaching in person and remotely. Development of skills in the use of technological resources such as computer programs for audio and video editing. Course given in the conference-laboratory mode.

**MUED 8020 - DESIGN OF ONLINE COURSES IN MUSIC (3)**

Analysis of instructional design models applicable to the creation of materials for virtual teaching. Discussion of the technical and practical aspects in the use of technology.

**MUED 8960 - RESEARCH SEMINAR (3)**

Development of the first three chapters of a research proposal that could be used as the final proposal of the dissertation.

Prerequisite: Have approved the core and specialty Prerequisite.

**MUED 8991 - DISSERTATION I (3)**

Prepare the dissertation proposal. It requires the defense and approval of the dissertation proposal by the Doctoral Dissertation Committee. Grade: DP/P/NP.

Prerequisite: MUED 8960.

**MUED 8992 - DISSERTATION II (3)**

Writing of the dissertation. Requires approval of the proposal by the Institutional Review Board (IRB), if applicable. It includes the oral defense of the dissertation and the approval of the final document by the Dissertation Committee. Grade: DP/P/NP.

Prerequisite: MUED 8991.

## **MUSI - Music**

**MUSI 5000 - COMPENDIUM OF THEORY AND SIGHT READING (2)**

Analysis of theory and harmony concepts for the music teacher and the professional musician. Includes the study of sight reading methods and auditory training and the discussion of techniques pertinent to the teaching -learning of the theory.

**MUSI 5001 - ENSEMBLE (1)**

Study and preparation of a written repertoire for a diverse combination of instruments and/or voices. Requires 30 hours of practice during the academic term.

**MUSI 5002 - ENSEMBLE (1)**

Study and preparation of a written repertoire for a diverse combination of instruments and/or voices. Requires 30 hours of practice during the academic term.

**MUSI 5003 - ENSEMBLE (1)**

Study and preparation of a written repertoire for a diverse combination of instruments and/or voices. Requires 30 hours of practice during the academic term.

**MUSI 5004 - ENSEMBLE (1)**

Study and preparation of a written repertoire for a diverse combination of instruments and/or voices. Requires 30 hours of practice during the academic term.

**MUSI 5010 - COMPENDIUM OF HISTORY AND MUSICAL LITERATURE (2)**

Study of the periods of the history of music from the Middle Ages to the twentieth century with emphasis on the musical style of each period. Study of the styles and forms developed in each period emphasizing the most important composers of each period.

**MUSI 5017 - COMPLEMENTARY INSTRUMENT III (1)**

Experience with the performance of a secondary instrument under individualized supervision of a professor. Development of performance skills and teaching of the instrument that complement the educational task.

**MUSI 5018 - COMPLEMENTARY INSTRUMENT IV (1)**

Experience with the performance of a secondary instrument under individualized supervision of a professor. Continuation of the development of performance skills and teaching of the instrument that complement the educational task.

**MUSI 5020 - COMPARATIVE HISTORY OF MUSIC (3)**

Examination of the comparative history of music from an intercultural perspective. Comparative analysis of the genesis and development of musical practices in the societies of Europe and the Americas from the 5th century AD (476 AD) to the present.

**MUSI 5030 - THEORETICAL AND SOL-FA COMPENDIUM (3)**

Practice of the fundamental skills of music theory and sol-fa theory. Application of these to the reader and auditory analysis of music.

**MUSI 5040 - ADVANCED THEORY AND HARMONY (3)**

Examination of the theory and harmony of tonal, non-tonal and non-western music. Production of a musical analysis through texts, graphics and oral criticism.

**MUSI 5051 - INSTRUMENTAL LITERATURE (2)**

Analysis and evaluation of instrumental literature from the Renaissance to the present for teaching in different educational levels. The historical and structural aspects of the repertoire and their pedagogical qualities are evaluated. Includes music of Puerto Rico.

**MUSI 5061 - VOCAL AND CHORAL LITERATURE (2)**

Analysis and evaluation of vocal and choral literature from the Renaissance to the present for teaching in different educational levels. The historical and structural aspects of the repertoire and their pedagogical qualities are evaluated. Includes music of Puerto Rico.

**MUSI 5065 - POPULAR MUSIC (2)**

Study and appreciation of the styles and varieties of popular music from the nineteenth century to the present. Emphasis on the popular music of Puerto Rico, Latin America, the Caribbean and the United States. The factors influencing the development of each style are discussed and the diverse styles and subtypes are identified.

**MUSI 5080 - ORCHESTRATION AND ARRANGING BY COMPUTER (2)**

Application of advanced arranging and composition techniques using computer technology as the principal tool.

**MUSI 5120 - ORCHESTRATION (3)**

Discussion of the fundamentals of the different formats of orchestral and ensemble instrumentation. Application of fundamental knowledge of the musical sciences to the creation of original compositions, arrangements, adaptations and re-instrumentalization.

**MUSI 5185 - INTERPRETATION AND MUSICAL ANALYSIS (3)**

Integrated course in which musical structure as an instrument of analysis in musical interpretation is studied. Includes the study of the most recognized literature from the Renaissance to contemporary times, with emphasis on small musical forms.

**MUSI 5200 - ASSEMBLY (3)**

Assembly and execution of a repertoire belonging to different styles and musical traditions. Examination of the rehearsal techniques, repertoire selection, programs creation, and group management.

**MUSI 5255 - WORKSHOP IN APPLIED MUSIC I, II, III (1)**

Eight hours of individual training in performance or teaching the principal instrument during the academic term. Requires the supervision of a principal instrument professor.

**MUSI 5256 - WORKSHOP IN APPLIED MUSIC I, II, III (1)**

Eight hours of individual training in performance or teaching the principal instrument during the academic term. Requires the supervision of a principal instrument professor.

**MUSI 5257 - WORKSHOP IN APPLIED MUSIC I, II, III (1)**

Eight hours of individual training in performance or teaching the principal instrument during the academic term. Requires the supervision of a principal instrument professor.

**MUSI 5265 - CONDUCTING AND LITERATURE (3)**

Training and supervised practice in conducting ensembles. Analysis and practice of practice techniques and study of scores. Study of style, performing practices and examples of choral and instrumental literature for students at different levels of performance.

**MUSI 5701 - APPLIED MUSIC (3)**

Eight hours of individualized instruction during the academic term on the instrument. Emphasis on theoretical explanations and technical exercises. Includes the analysis and performance of advanced compositions of diverse musical styles. Requires a performance test before a jury at the end of the academic term. Prerequisite: an audition.







academic term on the instrument. Emphasis on theoretical explanations and technical exercises. Includes the analysis and performance of advanced compositions of diverse musical styles. Requires a performance test before a jury at the end of the academic term. Prerequisite: an audition.

**MUSI 5842 - APPLIED MUSIC (1)**

Eight hours of individualized instruction during the academic term on the instrument. Emphasis on theoretical explanations and technical exercises. Includes the analysis and performance of advanced compositions of diverse musical styles. Requires a performance test before a jury at the end of the academic term. Prerequisite: an audition.

**MUSI 5851 - APPLIED MUSIC (1)**

Eight hours of individualized instruction during the academic term on the instrument. Emphasis on theoretical explanations and technical exercises. Includes the analysis and performance of advanced compositions of diverse musical styles. Requires a performance test before a jury at the end of the academic term. Prerequisite: an audition.

**MUSI 5852 - APPLIED MUSIC (1)**

Eight hours of individualized instruction during the academic term on the instrument. Emphasis on theoretical explanations and technical exercises. Includes the analysis and performance of advanced compositions of diverse musical styles. Requires a performance test before a jury at the end of the academic term. Prerequisite: an audition.

**MUSI 5861 - APPLIED MUSIC (1)**

Eight hours of individualized instruction during the academic term on the instrument. Emphasis on theoretical explanations and technical exercises. Includes the analysis and performance of advanced compositions of diverse musical styles. Requires a performance test before a jury at the end of the academic term. Prerequisite: an audition.

**MUSI 5862 - APPLIED MUSIC (1)**

Eight hours of individualized instruction during the academic term on the instrument. Emphasis on theoretical explanations and technical exercises. Includes the analysis and performance of advanced compositions of diverse musical styles. Requires a performance test before a jury at the end of the academic term. Prerequisite: an audition.

**MUSI 5871 - APPLIED MUSIC (1)**

Eight hours of individualized instruction during the academic term on the instrument. Emphasis on theoretical explanations and technical exercises. Includes the analysis and performance of advanced compositions of diverse

musical styles. Requires a performance test before a jury at the end of the academic term. Prerequisite: an audition.

**MUSI 5872 - APPLIED MUSIC (1)**

Eight hours of individualized instruction during the academic term on the instrument. Emphasis on theoretical explanations and technical exercises. Includes the analysis and performance of advanced compositions of diverse musical styles. Requires a performance test before a jury at the end of the academic term. Prerequisite: an audition.

**MUSI 5881 - APPLIED MUSIC (1)**

Eight hours of individualized instruction during the academic term on the instrument. Emphasis on theoretical explanations and technical exercises. Includes the analysis and performance of advanced compositions of diverse musical styles. Requires a performance test before a jury at the end of the academic term. Prerequisite: an audition.

**MUSI 5882 - APPLIED MUSIC (1)**

Eight hours of individualized instruction during the academic term on the instrument. Emphasis on theoretical explanations and technical exercises. Includes the analysis and performance of advanced compositions of diverse musical styles. Requires a performance test before a jury at the end of the academic term. Prerequisite: an audition.

**MUSI 5891 - APPLIED MUSIC (1)**

Eight hours of individualized instruction during the academic term on the instrument. Emphasis on theoretical explanations and technical exercises. Includes the analysis and performance of advanced compositions of diverse musical styles. Requires a performance test before a jury at the end of the academic term. Prerequisite: an audition.

**MUSI 5892 - APPLIED MUSIC (1)**

Eight hours of individualized instruction during the academic term on the instrument. Emphasis on theoretical explanations and technical exercises. Includes the analysis and performance of advanced compositions of diverse musical styles. Requires a performance test before a jury at the end of the academic term. Prerequisite: an audition.

**MUSI 6301 - COMPOSITION I (3)**

Identification and discussion of the composition and musical arrangement. Design and construction of pieces for single instruments and small sets.

**MUSI 6302 - COMPOSITION II (3)**

Comparative examination of composition and arrangement techniques. Design and construction of pieces for sets of

irregular and standard composition.

Prerequisite: MUSI 6301.

**MUSI 6303 - COMPOSITION III (3)**

Critical analysis of composition and arrangement techniques. Design and construction of pieces for large scale musical ensembles.

Prerequisite: MUSI 6302.

**MUSI 6304 - COMPOSITION IV (3)**

Integrative synthesis of the techniques of composition and arrangement. Design and construction of pieces of varied styles and musical traditions.

Prerequisite: MUSI 6303.

**MUSI 6701 - APPLIED MUSIC (1)**

Eight hours of individualized instruction during the academic term on the instrument. Emphasis on theoretical explanations and technical exercises. Includes the analysis and performance of advanced compositions of diverse musical styles. Requires a performance test before a jury at the end of the academic term. Prerequisite: an audition.

**MUSI 6702 - APPLIED MUSIC (1)**

Eight hours of individualized instruction during the academic term on the instrument. Emphasis on theoretical explanations and technical exercises. Includes the analysis and performance of advanced compositions of diverse musical styles. Requires a performance test before a jury at the end of the academic term. Prerequisite: an audition.

**MUSI 6711 - APPLIED MUSIC (1)**

Eight hours of individualized instruction during the academic term on the instrument. Emphasis on theoretical explanations and technical exercises. Includes the analysis and performance of advanced compositions of diverse musical styles. Requires a performance test before a jury at the end of the academic term. Prerequisite: an audition.

**MUSI 6712 - APPLIED MUSIC (1)**

Eight hours of individualized instruction during the academic term on the instrument. Emphasis on theoretical explanations and technical exercises. Includes the analysis and performance of advanced compositions of diverse musical styles. Requires a performance test before a jury at the end of the academic term. Prerequisite: an audition.

**MUSI 6721 - APPLIED MUSIC (1)**

Eight hours of individualized instruction during the

academic term on the instrument. Emphasis on theoretical explanations and technical exercises. Includes the analysis and performance of advanced compositions of diverse musical styles. Requires a performance test before a jury at the end of the academic term. Prerequisite: an audition.

**MUSI 6722 - APPLIED MUSIC (1)**

Eight hours of individualized instruction during the academic term on the instrument. Emphasis on theoretical explanations and technical exercises. Includes the analysis and performance of advanced compositions of diverse musical styles. Requires a performance test before a jury at the end of the academic term. Prerequisite: an audition.

**MUSI 6731 - APPLIED MUSIC (1)**

Eight hours of individualized instruction during the academic term on the instrument. Emphasis on theoretical explanations and technical exercises. Includes the analysis and performance of advanced compositions of diverse musical styles. Requires a performance test before a jury at the end of the academic term. Prerequisite: an audition.

**MUSI 6732 - APPLIED MUSIC (1)**

Eight hours of individualized instruction during the academic term on the instrument. Emphasis on theoretical explanations and technical exercises. Includes the analysis and performance of advanced compositions of diverse musical styles. Requires a performance test before a jury at the end of the academic term. Prerequisite: an audition.

**MUSI 6741 - APPLIED MUSIC (1)**

Eight hours of individualized instruction during the academic term on the instrument. Emphasis on theoretical explanations and technical exercises. Includes the analysis and performance of advanced compositions of diverse musical styles. Requires a performance test before a jury at the end of the academic term. Prerequisite: an audition.

**MUSI 6742 - APPLIED MUSIC (1)**

Eight hours of individualized instruction during the academic term on the instrument. Emphasis on theoretical explanations and technical exercises. Includes the analysis and performance of advanced compositions of diverse musical styles. Requires a performance test before a jury at the end of the academic term. Prerequisite: an audition.

**MUSI 6751 - APPLIED MUSIC (1)**

Eight hours of individualized instruction during the academic term on the instrument. Emphasis on theoretical explanations and technical exercises. Includes the analysis and performance of advanced compositions of diverse





**MUSI 6891 - APPLIED MUSIC (1)**

Eight hours of individualized instruction during the academic term on the instrument. Emphasis on theoretical explanations and technical exercises. Includes the analysis and performance of advanced compositions of diverse musical styles. Requires a performance test before a jury at the end of the academic term. Prerequisite: an audition.

**MUSI 6892 - APPLIED MUSIC (1)**

Eight hours of individualized instruction during the academic term on the instrument. Emphasis on theoretical explanations and technical exercises. Includes the analysis and performance of advanced compositions of diverse musical styles. Requires a performance test before a jury at the end of the academic term. Prerequisite: an audition.

**MUSI 6990 - THESIS IN MUSIC (3)**

Selection of the topic for the thesis. Gathering information and bibliographical sources. Drafting and presentation of the thesis proposal. Includes the literature and sources review. Written presentation, approval and deposit of final degree work. The theme should contribute to the field of Music Education in Puerto Rico and in Latin America. The course will be repeated until the thesis is approved. Rating: P/TP/NP.

**MUSI 6992 - RECITAL CONFERENCE (3)**

Creative work that encompasses the design, preparation and presentation of a recital. Preparation and presentation of a recital conference proposal and literature review and sources. Writing of an explicative and analytical conference as a Prerequisite for the final degree work. Execution of the recital and its discussion should contribute to the field of music culture in Puerto Rico and in Latin America. The course must be repeated until the recital conference is presneted. Rating: P/PP/NP.

**MUSI 7010 - COMPOSERS AND THEIR SELECTED WORKS (3)**

Analysis of representative works and composers from various historical periods of the music of Puerto Rico and the world. Emphasis on historical aspects and their relationship with the musical production of each period.

**MUSI 7012 - MUSICAL PERFORMANCE (3)**

Practice of the execution of the main instrument. Revision of the repertoire, the design of syllabus, and the identification of technologies for teaching the instrument.

**MUSI 7025 - CHAMBER ASSEMBLY I, II (3)**

Repertoire performance for various combinations of instruments and voices. Analysis of the characteristics of musical performance within the style and historical period of the musical work. Evaluation of personal and ensemble musical performance.

**MUSI 7026 - CHAMBER ASSEMBLY I, II (3)**

Repertoire performance for various combinations of instruments and voices. Analysis of the characteristics of musical performance within the style and historical period of the musical work. Evaluation of personal and ensemble musical performance.

**MUSI 7030 - ADVANCED MUSICAL ANALYSIS (3)**

Analysis of the techniques and different styles of composition, applying traditional and contemporary analytical techniques through the study of scores.

**MUSI 7500 - ADVANCED DIRECTION (3)**

Application of advanced skills in instrumental and choral direction in repertoire for large ensembles and chamber. Evaluation of interpretive concepts in scores, the refinement of gestures and physical movements. Audition and teacher consent required.

**MUSI 8700 - COMPOSITION AND MUSICAL ARRANGEMENT (3)**

Creation of an original work for different instrumentation, combination of voices or electronic instruments. Transcription and orchestration of music originally written for various media.

**MUSI 8861 - INDIVIDUAL PROJECT I, II (3)**

Development of a topic pertinent to the area of music or music education selected in consultation with the professor.

**MUSI 8862 - INDIVIDUAL PROJECT I, II (3)**

Development of a topic pertinent to the area of music or music education selected in consultation with the professor.

**MUTE - Music Technology**

**MUTE 5261 - TECHNOLOGY APPLIED TO MUSIC EDUCATION (3)**

Application and evaluation of technology in the teaching of music. Includes the use of the computer and other electronic mediums, identification of reliable sources of

information, use of equipment MIDI and programs of digital recording.

## NEUR - Educational Neuroscience

### NEUR 5010 - EDUCATIONAL NEUROSCIENCE (3)

Critical analysis of the key variables of learning that have been documented by research in the neurosciences and their application to education. Emphasis on the findings regarding the relation among the neurosciences, neuropsychology, the learning processes and education.

### NEUR 5020 - NEURODEVELOPMENT (3)

Analysis of human neurodevelopment from the prenatal to the young-adult stage. Emphasis on the biophysical, brain and mental systems that prepare humans for complex learning tasks that characterize the entire life cycle. Practical experiences in the phenomenological analysis of the learner's behavior with real populations.

### NEUR 5030 - NEUROPSYCHOLOGY OF LEARNING (3)

Critical review of scientific studies on brain-learning relationships. Analysis of the implications of neuroscientific knowledge for teaching in the classroom setting and in other related service scenarios. This course requires 20 hours of observation in an educational setting or in services to patients or clients.

Prerequisite: NEUR 5010.

### NEUR 5040 - EDUCATIONAL PHYSIOLOGICAL PSYCHOLOGY (3)

Examination of the anatomical and physiological basis of behavior, and motor, sensory, affective and cognitive processes, and their effects on behavior and learning. Emphasis on the relationship of the central nervous system and the processing of emotions, motivations, and cognitions.

Prerequisite: NEUR 5010 or EDUC 6220.

### NEUR 6010 - NEURODEVELOPMENTAL DISORDERS (3)

Analysis of classification systems and diagnosis of neurodevelopmental disorders in children and adolescents. Emphasis on conditions that hinder the learning and performance of students in school and in other academic settings. Practical experience in the use of measures to differentiate and classify neurodevelopmental disorders in children and adolescents.

Prerequisite: NEUR 5020 and 5030.

### NEUR 6020 - NEUROLEARNING ASSESSMENT (3)

Analysis of common problems in assessment of classroom learning and the importance of the information generated for the intervention with students. Application of neurolearning assessment strategies with a variety of measures and quantitative and qualitative instruments.

Prerequisite: NEUR 6010.

### NEUR 6970 - INTEGRATION SEMINAR (3)

Study of general and specific topics related to the field of educational neuroscience and the integration of the knowledge developed throughout the program. Grade: P/NP.

Prerequisite: Have approved 18 credits of the specialization.

## NURS - Nursing

### NURS 5000 - Theoretical Foundations (3)

Analysis of philosophies, conceptual frameworks, models and theories that provide the foundations for the nursing profession. The relation between theory, research, practice, and philosophical, psychological and sociological foundations.

### NURS 5015 - Physiopathology in Nursing (3)

Application of physiopathology to recognize pathological alterations. Explanation of etiology, the population in risk and pathogenesis of selected acute and chronic diseases. Use of research findings and practice based on evidence of the study of acute and chronic diseases.

Corequisite: NURS 5000.

### NURS 5020 - Biostatistics (3)

Review and application of statistical methods in the research process in health sciences. Application of descriptive and inferential statistics in data interpretation. Use of the computer in the analysis of data.

### NURS 5040 - Advanced Health Assessment (2)

Discussion of the advanced health assessment of the client throughout the life cycle. Includes multidimensional and interactive factors that affect the answers of the client in the sociostructural, sociocultural and biopsychosocial context. Develops in the student knowledge of physical examination and pathophysiology that serve as the basis for advanced nursing practice in the different levels of

prevention. Information concerning the evaluation of health throughout the life cycle is analyzed critically.

Prerequisite: NURS 5015. Corequisite: NURS 6910.

### **NURS 6043 - Advanced Pharmacology (3)**

Analysis of the relation between drugs and the physiological response to acute and chronic health problems. Application of the principles of pharmacokinetics and pharmacodynamics. Identify the current adverse reactions and the potentials, as well as the interaction between drugs. Evaluation of the interaction between prescribed and non-prescribed drugs. Development of educational strategies for clients in order to promote their participation in their pharmacological care and to maximize the therapeutic answer.

### **NURS 6044 - Informatics in Nursing (3)**

Application of the use of informatics to support client care and provide leadership in health care or academic scenarios. Use of information sciences in the evaluation of health care programs, and in the improvement of quality, and decision making. Selection of technology and information systems for client care. Analysis of the ethical and legal aspects related to information sciences.

### **NURS 6045 - Qualitative Research in Nursing (3)**

Analysis of the foundations in the methodology of qualitative research. Discussion of the methods and qualitative designs. Critical evaluation of qualitative research articles in professional magazines. Preparation of a proposal of qualitative research.

### **NURS 6047 - Cultural Diversity in Nursing (3)**

Analysis of the social and cultural factors that affect health care in multiple contexts. Application of the concepts of promotion, maintenance and restoration of health. Includes the discussion of ethical, legal, communication, research and practice aspects, based on evidence to provide a culturally efficient care in harmony with cultural diversity. Valuation of the cultural diversity in the context of the benefit of health services for the achievement of the expected results. Field experiences are included.

### **NURS 6050 - Curriculum in Nursing (3)**

Analysis of the theories and principles in the development of educational programs. Emphasis on the development and application of the nursing curriculum, including different models, designs, contents, methods and strategies of teaching, and curriculum implementation and evaluation.

### **NURS 6060 - Evaluation in Education in Nursing (3)**

Application of theories, principles and evaluation models applied to nursing education. Development of evaluation and measurement instruments.

Corequisite: NURS 6050.

### **NURS 6070 - Administration in Nursing (3)**

Analysis of theories and principles in the administrative process. Examination of organizational theories and research on managerial and supervisory tasks. In-depth analysis of strategies for conflict management, problem solving, personnel management, public policies, finances, physical resources, and other related areas.

### **NURS 6080 - Evaluation in Administration in Nursing (3)**

Application of theories, principles, and evaluation models applied to administration in nursing. Development of an assessment and measurement instrument.

Corequisite: NURS 6070.

### **NURS 6090 - Research in Nursing (3)**

Development of a research proposal of a nursing problem identified by the student. The methodology and terminology of qualitative and quantitative research will be utilized. Written and oral presentation of the problem, review of literature, the conceptual framework and the methodology to be used during the investigation.

Prerequisite: NURS 5020.

### **NURS 6111 - Critical Care Nursing I (3)**

Examination of theoretical concepts and principles in critical care. Analysis of the nursing process and humanistic care considering cultural diversity and evidence-based practice. Identification of the roles and functions of the nursing professional in critical care units. Evaluation of ethical-legal concepts related to the care of clients at high risk of death. Analysis of immediate nursing care for the stabilization of cardiac, respiratory, renal and neurological functions in critical situations. Discussion of treatment modalities, including pharmacology, to treat health disorders. Examination of theories and educational strategies to carry out the teaching-learning process of the client and family in critical care.

Prerequisite: NURS 5000, 5015, 5020, 5040, 6910.

Corequisite: NURS 6916.



**NURS 6112 - Critical Care Nursing II (3)**

Analysis of biophysiological concepts of complex multisystemic problems: trauma, burns and collapse. Evaluation of endocrine, nutritional, gastrointestinal, hematological and sleep disorders and their effects on the psychosocial area. Integration of the nursing process and humanistic care in the critically ill client, taking into account cultural diversity and evidence-based practice. Discussion of treatment modalities, including pharmacology and pain management to treat health disorders. Analysis of research findings, administration and management of customer care in critical care settings.

Prerequisite: NURS 6111 and 6916. Corequisite: NURS 6917.

**NURS 6121 - Mental Health and Psychiatry (3)**

Study of mental disorders in adults and the integration of theories of personality development. Analysis of the nursing process from a holistic perspective, including cultural diversity, evidence-based practice, and ethical and legal aspects. Discussion of therapeutic modalities, including psychopharmaceuticals in the care of adult clients with mental disorders.

Prerequisite: NURS 5000, 5015, 5020, 5040 and 6910. Corequisite: NURS 6931.

**NURS 6122 - Mental Health and Psychiatry II (3)**

Study of mental disorders in children and adolescents. Integration of theories of personality development. Analysis of the nursing process from a holistic perspective, of cultural diversity and that includes evidence-based practice. Discussion of therapeutic modalities, including psychopharmaceuticals used to treat mental disorders in children and adolescents.

Prerequisite: NURS 6121 and 6931.

**NURS 6221 - Medical-Surgical Nursing I (3)**

Analysis of the pathophysiological responses of the disease process that affect adult functioning in alterations of the following systems: immune, integumentary, digestive and gastrointestinal, endocrine and metabolic, and renal. Examination of the nursing process taking into account cultural diversity and evidence-based practice. Analysis of ethical/legal aspects, critical thinking, problem solving and communication skills. Discussion of treatment modalities, including advanced pharmacology, to treat health disorders.

Prerequisite: NURS 5000, 5015, 5020, 5040, 6910.

Corequisite: NURS 6918.

**NURS 6222 - Medical-Surgical Nursing II (3)**

Analysis of the pathophysiological response of the illness process that affects the functioning of the adult with alterations of the following systems: neurological, musculoskeletal, cardiovascular, circulatory and hematological, respiratory and reproductive. Examination of the nursing process taking into account cultural diversity and evidence-based practice. Analysis of ethical/legal aspects, critical thinking, problem solving and communication skills. Discussion of treatment modalities, including advanced pharmacology, to treat health disorders.

Prerequisite: 5000, 5015, 5020, 5040, 6910, 6221 and 6918. Corequisite: NURS 6919.

**NURS 6311 - Maternal and Child Nursing I (3)**

Analysis of the historical, political, social, economic, ethical, technological and legal factors that influence on reproductive health. Differentiate of the physiological, biochemical and psychological answers during pregnancy, normal childbirth and high risk birth. The care of normal child birth and high risk birth is included during the early neonatal stage. Synthesis of research findings related to the care of the mother and newborn child. Application of the nursing process, ethical and legal aspects, critical thought, problem solving, communication skills, cultural diversity and the practice based on evidence.

Prerequisite: NURS 5000, 5015, 5020, 5040 and 6910. Corequisite: NURS 6920.

**NURS 6312 - Maternal and Child Nursing II (3)**

Analysis of pathophysiological responses that affect functioning from infancy to adolescence with an emphasis on the following systems: respiratory, cardiovascular, neurological, renal, endocrine, gastrointestinal, hematological, immunological, and musculoskeletal. Integration of growth and development theories, research findings, and treatment in the care of the pediatric client. Application of the nursing process in care management. Included is examination of legal and ethical issues, critical thinking, problem solving, communication skills, cultural diversity, and evidence-based practice.

Prerequisite: NURS 5000, 5015, 5020, 5040, 6910, and 6920. Corequisite: NURS 6921.

**NURS 6910 - Health Assessment Practice (2)**

Application of the nursing process during advanced

practice in health estimation. Integration of theoretical foundations, empirical documentation, physical examination skills, therapeutic communication, biopsychosocial aspect, critical reasoning, differential diagnosis and decision-making process. It requires sixty (60) hours of practice in structured and unstructured settings.

Corequisite: NURS 5040.

**NURS 6914 - Educational Practice in Nursing (4)**

Practice in a nursing program in an institution recognized by the Postsecondary Institutions Board (JIP), under the supervision of the professor and the practice supervisor. Requires ten (10) hours of practice weekly.

Prerequisite: NURS 6050, 6060.

**NURS 6915 - Administrative Practice in Nursing (4)**

Practice in different health service scenarios, under the supervision of the professor and the practice supervisor. Requires ten hours of practice weekly.

Prerequisite: NURS 6070, 6080.

**NURS 6916 - Practice in Critical Care Nursing I (2)**

Application of the nursing process with a humanistic approach during the care of critically ill clients, considering cultural diversity, evidence-based practice, and ethical/legal aspects. Determine the immediate nursing care for the stabilization of cardiac, respiratory, renal and neurological functions in critical situations. Integration of treatment modalities, including pharmacology to treat health disorders. Requires sixty (60) hours of practice in critical care clinical settings.

Prerequisite: NURS 5000, 5015, 5020, 5040, 6910.

Corequisite: NURS 6111.

**NURS 6917 - Practice in Critical Care Nursing II (2)**

Application of the nursing process with a humanistic approach during the care of the critically ill client, considering cultural diversity, evidence-based practice and ethical/legal aspects. Determine the immediate nursing care for the stabilization of the client with traumas, burns, collapse, psychosocial and nutritional disorders, sleep disturbances and pain management. Integration of treatment modalities, including pharmacology to treat health disorders.

Prerequisite: NURS 6111 and 6916. Corequisite: NURS 6112.

**NURS 6918 - Practice in Medical-Surgical Nursing I (2)**

Advanced nursing care practice for clients with alterations in the following systems: immune, integumentary, digestive and gastrointestinal, endocrine and metabolic and renal. Application of the nursing process taking into account cultural diversity and evidence-based practice. Application of ethical/legal aspects, critical thinking, problem solving and communication skills during its execution. It requires sixty (60) hours of clinical practice in various health settings.

Prerequisite: NURS 5000, 5015, 5020, 5040, 6910.

Corequisite: NURS 6221.

**NURS 6919 - Practice in Medical-Surgical Nursing II (2)**

Advanced nursing care practice for clients with diseases that affect adult functioning in the following systems: neurological, musculoskeletal, cardiovascular, circulatory and hematological, respiratory and reproductive. Application of the nursing process taking into account cultural diversity and evidence-based practice. Application of ethical/legal aspects, critical thinking, problem solving and communication skills during its execution. It requires sixty (60) hours of clinical practice in various health settings.

Prerequisite: NURS 5000, 5015, 5020, 5040, 6221, 6918 and 6910. Corequisite: NURS 6222.

**NURS 6920 - Practice in Maternal and Child Nursing I: Maternal-Neonatal (2)**

Advanced practice in maternal-neonatal care. Application of the skills of the nursing process: assessment, diagnosis of nursing, planning, implementation and evaluation of therapeutic interventions. Use of the ethical and legal aspects of critical thought, problem solving, communication skills, the cultural diversity and the practice based on evidence during the implementation. Requires sixty (60) hours of clinical practice.

Prerequisite: NURS 5000, 5015, 5020, 5040 and 6910.

Corequisite: NURS 6311.

**NURS 6921 - Practice in Maternal and Child Nursing II: Childhood-Adolescence (2)**

Advanced practice in the nursing care of clients from childhood to adolescence with emphasis on the following systems: respiratory, cardiovascular, neurological, renal, endocrine, gastrointestinal, hematological, immunological and musculoskeletal. Application of the skills of

assessment, diagnosis of nursing, planning, implementation and evaluation of the therapeutic nursing interventions. Use of the theories of growth and development, of the ethical and legal aspects of critical thought, the problem solving, the communication skills, cultural diversity and the practice based on evidence during its implementation. Requires sixty (60) hours of clinical practice.

Prerequisite: NURS 5000, 5015, 5020, 5040, 6910, 6311 and 6920. Corequisite: NURS 6312.

### **NURS 6931 - Clinical Practice of Mental Health and Psychiatry I (2)**

Application of therapeutic modalities focused on adults and in accordance with the conceptual or theoretical framework developed by the student in coordination with the teacher, taking into account evidence-based practice and research findings. Use of the nursing process with emphasis on mental health assessment and case conceptualizations. It requires sixty (60) hours of clinical practice in various health settings.

Corequisite: NURS 6121.

### **NURS 6932 - Clinical Practice of Mental Health and Psychiatry II (2)**

Application of therapeutic modalities focused on children and adolescents and in accordance with the conceptual or theoretical framework developed by the student in coordination with the teacher. Taking into consideration evidence-based practice and research findings. Use of the nursing process with emphasis on mental health assessment and case conceptualizations. It requires sixty (60) hours of clinical practice in various health settings.

Prerequisite: NURS 6121 and NURS 6931. Corequisite: NURS 6122.

### **NURS 6970 - Integration Seminar (3)**

Analysis and integration of knowledge, necessary skills and attitudes so that the specialist may provide advanced nursing care. Development of innovative ideas based on evidence for situations related to client care in different scenarios.

Corequisite: NURS 6914 or 6915.

### **NURS 6990 - Research Project (3)**

Application of the research process during the elaboration of a research project related to the specialization area in the Program. Use of statistical methods for the analysis of the data obtained. Oral and written presentation of the

problem, review of literature, methodology, results, conclusions and recommendations for the improvement of the nursing practice.

Prerequisite: NURS 6090.

## **OCLE - Organizational Change Leadership**

### **OCLE 5000 - FOUNDATIONS OF LEADERSHIP (3)**

Analysis of the fundamental terms and concepts of leadership. Comparison of different styles and theories of leadership. Interpretation of the essential behaviors of a leader in the context of the company.

### **OCLE 5010 - EMOTIONAL INTELLIGENCE AND LEADERSHIP (3)**

Discussion of emotional intelligence as a basis for leadership. Consideration of the effect of emotions on individual behavior and interpersonal relationships. Relationship of emotional intelligence and feedback skills to improve the performance and skills of the leader.

### **OCLE 5020 - ETHICAL LEADERSHIP (3)**

Integration of ethical values in the practice of leadership to promote a collaborative environment. Development of positive relationships that promote a culture that values change in the evolution of the organization. Awareness towards respect for diversity, social responsibility, the implications of power and influence in the transformation of the institution.

### **OCLE 5030 - COMMUNICATION AND LEADERSHIP (3)**

Analysis of effective communication in leadership to influence others to achieve the goals of the organization. Development of skills and abilities to communicate ideas and establish collaborative links. Use of active listening, verbal and non-verbal communication to communicate a clear message.

### **OCLE 5040 - ORGANIZATIONAL CONFLICT AND LEADERSHIP (3)**

Evaluation of conflicts that affect the leader's performance and efficiency in the organization. Differentiation of constructive and destructive conflicts in work teams and their effect on the achievement of goals. Conflict management to encourage creativity and innovation.

### **OCLE 6010 - TEAM LEADERSHIP (3)**

Education in the leadership of high-performance teams to

achieve goals in the corporation. Application of motivational and collaborative strategies to promote individual and group empowerment and responsibility. Evaluation of the factors that affect the performance of the team in the institution.

**OCLE 6020 - LEADERSHIP AND DECISION MAKING (3)**

Evaluation of decision-making models and their effect on the leadership of an organization. Relationship of internal and external factors with individual and group decisions within the company. Determination of decisional strategies for the fulfillment of the goals and objectives of the corporation. Selection of the decisional alternatives that best suit the interests of the organization.

**OCLE 6030 - LEADERSHIP IN STRATEGIC PLANNING (3)**

Education of leaders for the development of strategic plans in the organization. Promotion of commitment and collaboration for the implementation of management strategies aligned with the context of the institution. Design of plans that guarantee communication, coordination and effective integration of human capital.

**OCLE 6040 - CHANGE MANAGEMENT ADMINISTRATION (3)**

Analysis of the indicators that impact the success of change management. Evaluation of the organizational culture to promote activities and effective initiatives for change. Creation of strategies that help promote the participation of human capital in the transformation of the company. Prerequisite:

Prerequisite: To have approved 21 credits of the program.

**OCLE 6050 - CHANGE LEADERSHIP PROJECT (3)**

Integration of leadership knowledge, skills and abilities in a change management project. Design of a change plan focused on the components of the organizational culture and aligned with the mission and vision of the institution. Implementation of strategies for the coordination of actions that contribute to the efficiency and success of the corporation. Grade: P/NP.

Prerequisite: To have approved all the courses of the Program and have the authorization of the Chair of the Department.

## PSYC - Psychology

**PSYC 597\_ - SPECIAL TOPICS (3)**

Exploration of a variety of contemporary issues in psychology. The selected topics reflect topics of interest in topics related to Organizational and Work Psychology and may vary each time the course is offered.

**PSYC 5015 - HISTORY AND SYSTEMS OF PSYCHOLOGY (2)**

Analysis of the construction of knowledge and psychology paradigms from a philosophical and scientific perspective. Includes the historical development of psychology in Puerto Rico.

**PSYC 5030 - ETHICS AND LEGAL ASPECTS OF PSYCHOLOGY (3)**

Evaluation of the philosophical systems related to the state and federal standards that regulate the professional practice of school psychology, psychological counseling and industrial/organizational psychology. Includes the analysis of controversies that arise in professional practice and the alternatives to solve them.

**PSYC 5033 - INTERVIEW PROCESSES AND TECHNIQUES (2)**

Study of the elements of the psychological interview based on communication theories. Emphasis on the application of the different interview modalities in different populations and the analysis of behaviors, attitudes, and feelings.

**PSYC 5040 - BIOLOGICAL BASIS OF BEHAVIOR (3)**

Development of knowledge on neuroanatomy, neurophysiology and human pharmacology as the biological base of motor, sensorial, affective and cognitive processes. Emphasis on the relation of the central nervous system in the processing of emotions, motivations and cognition.

**PSYC 5050 - DEVELOPMENT THROUGHOUT THE LIFE CYCLE (3)**

Analysis of the theories and approaches that study the physical, cognitive, emotional, and socio-cultural aspects of human development.

**PSYC 5060 - PSYCHOLOGY OF PERSONALITY (3)**

Discussion of the theories of personality according to the psychodynamic, humanist, behavioral, and cognitive models.

**PSYC 5100 - COGNITIVE AND AFFECTIVE BASIS OF BEHAVIOR (3)**

Synthesis of the cognitive, affective and perceptual processes. Discussion of learning theories and the factors that interact to explain human conduct and thought.

**PSYC 5150 - STATISTICS APPLIED TO PSYCHOLOGY (2)**

Analysis of the inferential statistical methods applied to research in psychology. Application of statistical analysis to the study of psychology related issues.

**PSYC 5170 - MEASUREMENT AND TEST CONSTRUCTION (2)**

Examination of the fundamentals of psychological measurement. Analysis of the methods for the construction and evaluation of psychological tests. Discussion of the ethical and cultural controversies of the use of psychological tests in Puerto Rico.

Prerequisite: PSYC 5150.

**PSYC 5200 - SOCIAL AND MULTICULTURAL BASIS OF BEHAVIOR (3)**

Review of contemporary trends in social psychology, such as: symbolic interactionism, ethnomethodology, cognitive orientation and constructionist, critical and postmodern perspective. Includes analysis of studied trends based on their meaning for the Puerto Rican society.

**PSYC 5220 - RESEARCH METHODS (2)**

Evaluation of research methods frequently used in psychological research. Analysis of the methodological designs relevant to psychology and the evaluation of psychological services programs.

**PSYC 5231 - PSYCHOLOGICAL MEASUREMENT I (3)**

Analysis of the types of psychological cognitive tests, interpretation, use and application to the individual and the family. Study of the controversies related to the use of these in the diagnosis and treatment of human conflicts (45 hours lecture). In addition, the student must complete concurrently 25 hours of supervised practice in the administration, interpretation and writing of reports of the cognitive tests most used in Puerto Rico.

**PSYC 5232 - PSYCHOLOGICAL MEASUREMENT II (3)**

Analysis of the types of psychological tests of personality, interpretation, use and application in the measurement of

psychological characteristics of the individuals and the family. Discussion of the controversies related to the use of these and their application to human conflicts (45 hours of lecture). In addition, the student must complete concurrently 25 hours of supervised practice in the administration, correction, interpretation and writing of reports of the psychological tests of personality most used in Puerto Rico.

Prerequisite: PSYC 5231.

**PSYC 5280 - ROLES AND FUNCTIONS OF THE SCHOOL PSYCHOLOGIST (3)**

Roles of the school psychologist as a diagnostician, therapist, consultant and trainer. Analysis and application of the skills and knowledge related to the prevention and intervention of emotional and learning problems. Functions involved in consulting and training teachers, administrators and parents in the school system.

**PSYC 5285 - PSYCHOLOGICAL COUNSELING (3)**

Development of psychological counseling as a specialization. Synthesis of the psychological advisor's areas of competencies. Includes topics related to human diversity, gender, age, special populations, occupational and vocational topics, among others.

**PSYC 5286 - PSYCHOLOGICAL COUNSELING AND CAREER ASSESSMENT (2)**

Development of psychological counseling as a specialization. Synthesis of the areas of competence of the psychologist in counseling. Emphasis on the occupational and vocational issues involved. Review of the theoretical and practical aspects in the administration, scoring, and interpretation of career assessment instruments with diverse populations. Conceptualization of psychological counseling as a specialization. Synthesis of the areas of competence of the psychologist with this specialization. Emphasis on the issues of career counseling and career assessment. Development of psychological counseling as a specialization. Synthesis of the areas of competence of the psychologist in counseling. Emphasis on the occupational and vocational issues involved.

Corequisite: PSYC 5287.

**PSYC 5287 - PRACTICUM IN PSYCHOLOGICAL COUNSELING AND CAREER ASSESSMENT (1)**

Demonstration of psychological counseling strategies and career evaluation with diverse populations. Emphasis on the administration, correction, and interpretation of career assessment instruments. A minimum of 15 hours of

Practicum is required. Grade: P/NP.

**PSYC 5296 - SCHOOL CONSULTATION, COLLABORATION, AND ORGANIZATION (2)**

Discussion of consulting, collaboration, and school organization models. Application to situations related to the different components of the school system.

Corequisite: PSYC 5297.

**PSYC 5297 - PRACTICUM IN SCHOOL CONSULTING, COLLABORATION, AND ORGANIZATION (1)**

Discussion of cases and practice exercises related to consulting and collaboration activities for teachers, parents, and administrators of the school system. A minimum of 15 hours of Practicum is required. Grade: P/NP.

**PSYC 691A - SUPERVISED PRACTICE IN PSYCHOLOGICAL COUNSELING I (2)**

Application of skills and intervention techniques in psychological counseling with individuals and families. Recognition, interpretation and application of interview techniques. Supervised experience for a period of 200 hours per academic term in institutions or in public or private agencies is required. Grade P/NP.

Prerequisite: Approval of the Practice Supervisor and have approved the courses PSYC 5030, 5033, 5040, 5050, 5060, and 6410 (practice course that is taken concurrently with PSYC 5033).

**PSYC 691B - SUPERVISED PRACTICE IN PSYCHOLOGICAL COUNSELING II (2)**

Application of skills and intervention techniques in psychological counseling with individuals and families. Conceptualization, evaluation, diagnosis and treatment plan. Supervised experience for a period of 200 hours per academic term in institutions or in public or private agencies is required. Grade P/NP.

Prerequisite: Approval of the Practice Supervisor and have approved PSYC 691A, 5231, 5232, 6005, 591A.

**PSYC 691C - SUPERVISED PRACTICE IN PSYCHOLOGICAL COUNSELING III (2)**

Application of skills and intervention techniques in psychological counseling with individuals and families. Integration and therapeutic intervention. Supervised experience for a period of 200 hours per academic term in institutions or in public or private agencies is required.

Prerequisite: Approval of the Practice Supervisor and have approved all courses of the Program, except courses PSYC 6925, 697F.

**PSYC 697F - ADVANCED INTEGRATION SEMINAR (3)**

Integration of multiple aspects of psychological counseling practice in scenarios offering aid for individuals and the family. Emphasis on the study, analysis and discussion applied to problems and present trends, such as: family rights, mediation and group dynamics, human sexuality, deviant behavior and mental disorders of children and adolescents; among others topics. Includes the incorporation of topics and unique events that may allow the update of the curriculum of the master's degree in light of new and emerging knowledge in psychological counseling. Prerequisite: have passed at least 90% of the program courses. Grade: P/NP.

**PSYC 6000 - THEORETICAL FOUNDATIONS OF FAMILY THERAPY (3)**

Study and analysis of the historical development of family therapy theories from their fundamental bases to post-modernism. Emphasis on the different models that conceptualize family dynamics and the therapeutic techniques used in systemic intervention.

**PSYC 6005 - FAMILY PSYCHOPATHOLOGY (3)**

Analysis of current situations of family life and the dysfunctional dynamics generated in the home environment. Emphasis on the negative effect in the development of children; in domestic violence and the nontraditional family styles that can generate pathology.

**PSYC 6010 - COUNSELING TECHNIQUES AND INDIVIDUAL, AND GROUP AND FAMILY PSYCHOTHERAPY (3)**

Application of the psychotherapeutic techniques for intervention with individuals and families. Development of the skills and techniques that the effective administration of individual, group and family therapy requires. Includes the simulation of intervention strategies with individuals, groups, couples and families.

Prerequisite: PSYC 5033, 5050, 6000, 6005 and 6410 (practice course that take contender with PSYC 5033).

**PSYC 6015 - THE NONTRADITIONAL FAMILY (3)**

Analysis of the contemporary topics brought up by the emerging styles of the nontraditional family and their individual, social and communitarian effect.

**PSYC 6020 - INTERVENTION WITH FAMILIES IN CRISIS (3)**

Application of the intervention theories in crisis situations in diverse familiar structures. Emphasis on the development of the necessary skills for intervention in situations of familiar crises and mental health in the family.

Prerequisite: PSYC 6000, 6005, 6010, 6015.

**PSYC 6050 - INTERVENTION MODELS AND TECHNIQUES I (3)**

Evaluation and comparison of the classic and traditional psychotherapeutic approaches. Emphasis on the application of intervention strategies for each model. Includes the process of creating cases and use of simulations.

Prerequisite: PSYC 5285.

**PSYC 6051 - INTERVENTION MODELS AND TECHNIQUES II (3)**

Evaluation of contemporary psychotherapeutic models. Emphasis on the identification of contemporary, alternative or complementary intervention strategies. Includes simulations of intervention strategies and techniques with groups, couples or families.

Prerequisite: PSYC 6050.

**PSYC 6090 - PSYCHOPATHOLOGY THROUGHOUT THE LIFE CYCLE (3)**

Review of the varied approaches that study deviant behavior, mental and behavior disorders throughout the life cycle. Includes causes, manifestations, severity levels, and classification systems.

Prerequisite: PSYC 5050.

**PSYC 6110 - PSYCHOLOGICAL AND LEARNING PROBLEMS IN CHILDREN AND ADOLESCENTS (3)**

Evaluation of the traditional and contemporary approaches that study emotional, behavioral, and learning disturbances in children and adolescents. Includes causes, manifestations, severity levels, and the classification systems used in the diagnosis of these disorders.

Prerequisite: PSYC 5050.

**PSYC 6113 - COUNSELING AND PSYCHOTHERAPY MODELS (3)**

Diverse models of counseling and psychotherapy designed with behavioral, cognitive, rational, humanist and psychodynamic approaches. Review of the theoretical basis of these models as well as case studies.

Prerequisite: PSYC 6090.

**PSYC 6114 - COUNSELING AND PSYCHOTHERAPY TECHNIQUES (3)**

Application of diverse models of counseling and psychotherapy according to the different schools of thought. The acquisition of counseling and psychotherapy techniques and the practical aspects of this acquisition by utilizing role playing and other ways of practicing the use of the different models.

Prerequisite: PSYC 6113.

**PSYC 6214 - INTERVENTION AND PSYCHOTHERAPY MODELS WITH CHILDREN AND ADOLESCENTS (3)**

The diverse psychotherapeutic models and behavior management techniques utilized in work with children and adolescents. Critical analysis of research available on the application of existing intervention models in the context of Puerto Rican society and culture. Intervention strategies and psychological models from various approaches and their adequacy in the treatment of diverse clinical problems.

Prerequisite: PSYC 6110.

**PSYC 6216 - PSYCHOEDUCATIONAL EVALUATION AND INTERVENTION (2)**

Analysis of the theoretical aspects involved in psychoeducational evaluation and intervention with diverse populations. Emphasis on the identification of evaluation strategies and on psychoeducational intervention for the achievement of cognitive, behavior, and academic goals.

Prerequisite: PSYC 6255 and 6914. Corequisite: PSYC 6428.

**PSYC 6255 - COGNITIVE ASSESSMENT (2)**

Review of the theoretical aspects of the administration, scoring, and interpretation of cognitive tests most frequently used in Puerto Rico with diverse populations.

Prerequisite: PSYC 5033 and 5170. Corequisite: PSYC 6914.

**PSYC 6265 - PERSONALITY ASSESSMENT (2)**

Examination of the theoretical aspects of the projective and objective personality evaluation tests most frequently used in Puerto Rico.

Prerequisite: PSYC 5033 and 5170. Corequisite: PSYC 6915.

**PSYC 6275 - MODELS OF INDIVIDUAL PSYCHOTHERAPY BASED ON EVIDENCE (2)**

Comparison of classic and contemporary psychotherapeutic approaches. Emphasis on models of individual psychotherapy based on evidence. Design conceptualizations of clinical cases and development of treatment plans.

Prerequisite: PSYC 6090. Corequisite: PSYC 6276.

**PSYC 6276 - PRACTICUM IN MODELS AND INDIVIDUAL PSYCHOTHERAPY BASED ON EVIDENCE (1)**

Discussion of cases and individual psychotherapy practice. A minimum of 15 hours of Practicum is required. Grade: P/NP.

**PSYC 6280 - SYSTEMIC MODELS BASED ON EVIDENCE (2)**

Analysis of the main systemic models and of family intervention techniques based on scientific evidence. Emphasis on the design of conceptualizations of cases and the development of treatment plans.

Prerequisite: PSYC 6090. Corequisite: PSYC 6281.

**PSYC 6281 - PRACTICUM IN SYSTEMIC MODELS BASED ON EVIDENCE (1)**

Application of the main systemic models. Discussion of cases and family intervention practice. A minimum of 15 hours of Practicum is required. Grade: P/NP.

**PSYC 6285 - INTERVENTION AND PSYCHOTHERAPY WITH CHILDREN AND ADOLESCENTS (2)**

Discussion of the different intervention and psychotherapy models applied to children and adolescents. Analysis of research concerning the intervention and psychotherapy models.

Prerequisite: PSYC 6090. Corequisite: PSYC 6286.

**PSYC 6286 - PRACTICUM IN INTERVENTION AND PSYCHOTHERAPY WITH CHILDREN AND ADOLESCENTS (1)**

Discussion of cases and intervention and psychotherapy practice with children and adolescents. A minimum of 15 hours of Practicum is required. Grade: P/NP.

**PSYC 6290 - GROUP PSYCHOTHERAPY (2)**

Examination of the theories that explain group interventions. Analysis of the models and techniques for group intervention. Emphasis on the design of conceptualizations and the development of group intervention plans. Discussion of the ethical and legal aspects related to group psychotherapy.

Corequisite: PSYC 6291.

**PSYC 6291 - PRACTICUM IN GROUP PSYCHOTHERAPY (1)**

Discussion of cases and group psychotherapy practice. A minimum of 15 hours of Practicum is required. Grade: P/NP.

**PSYC 6302 - ORGANIZATIONAL PSYCHOLOGY IN PERSONAL AND HUMAN CAPITAL PROCESSES (3)**

Examination of the classical and contemporary literature on the psychology of personnel at work. Review of the recruitment and selection processes, legal aspects, performance management, talent management, compensation and labor relations. Review of techniques, instruments and interventions in the management of groups and organizational processes.

**PSYC 6307 - ORGANIZATIONAL QUALITY, IMPROVEMENT AND EXCELLENCE (3)**

Analysis of the origin and development of the philosophy of quality and organizational excellence with an emphasis on leadership, customer satisfaction, the formation of improvement teams and statistical tools to control the variation of quality processes. Review of regulations applicable to the development of metrics and evaluation of productivity and effectiveness.

**PSYC 6309 - 6309 APPRECIATIVE INQUIRY INTO THE ORGANIZATIONAL PROCESSES AND TRANSFORMATION (3)**

Application of the Appreciative Inquiry Model (IA) in the evaluation of work environments from the framework of Positive Organizational Psychology. Emphasis on organizational change and transformation processes and



their implications for positive leadership, managing potential conflicts, and decision-making.

**PSYC 6310 - TRAINING DESIGN (3)**

Design of training programs that promote learning for different types of organizations. Review of the basic components of the training such as the determination of needs, the design, the strategies and techniques and the appraisal models to corroborate the use and return of the investment.

**PSYC 6314 - PSYCHOLOGICAL EVALUATION IN THE ORGANIZATIONAL ENVIRONMENT (3)**

Discussion of the psychological testing used in selection, professional development and placement. Application of tests that measure the areas of personality, cognition, aptitude, occupational preferences and administrative and supervisory skills.

Prerequisite: PSYC 5170.

**PSYC 6315 - PSYCHOLOGICAL PROFESSIONAL CONSULTING (2)**

Evaluation of the various models of psychological consulting in the organizational field. Discussion of the stages in the consulting process and the various elements that are present in the role of the consultant.

**PSYC 6370 - PSYCHOPATHOLOGY IN THE WORK SCENARIO (2)**

Review of the various approaches that study deviant behavior and mental behavioral disorders. Weighting of those disorders with the highest prevalence in the world of work and their effect on selection processes, job development, teamwork and performance evaluation.

**PSYC 6371 - PSYCHOLOGY OF HEALTH AND OCCUPATIONAL AND WELLBEING (3)**

Analysis of the main strategies that determine how tasks are organized to decide when, how and where they should be carried out. Emphasis on the identification and development of a healthy organizational culture that encourages accident prevention and maintains the health and well-being of employees in the workplace.

**PSYC 6410 - PRACTICE IN INTERVIEW PROCESSES AND TECHNIQUES (1)**

Practice on interview processes and techniques. Preparation of interview videos with children, adolescents and adults to refine skills. Evaluation of interviews in a group context. Grade: P/NP.

Corequisite: PSYC 5033.

**PSYC 6421 - PRACTICE IN ADVANCED STATISTICS (1)**

Practice in data analysis and interpretation with the use of computerized programs. Includes writing of statistical analysis results following selected professional formats. Grade: P/NP.

Corequisite: PSYC 5150.

**PSYC 6422 - PRACTICE IN PSYCHOLOGY RESEARCH (1)**

Practice in the development of bibliographical research skills, review of specialization related research, and the professional APA writing style. Grade: P/NP.

Prerequisite: PSYC 5150, 6421. Corequisite: PSYC 5220.

**PSYC 6428 - PRACTICUM IN PSYCHOEDUCATIONAL EVALUATION AND INTERVENTION (1)**

Psychoeducational evaluation of children, adolescents, and young adults. Emphasis on the formulation of recommendations aimed at psychoeducational interventions based on evidence. Requires a minimum of 15 hours of practicum. Grade: P/NP.

**PSYC 6914 - PRACTICUM IN COGNITIVE ASSESSMENT (1)**

Administration, correction, and interpretation of cognitive tests and preparation of the case history. Includes specific training in the writing of reports and discussion of results. Requires minimum of 15 hours of practicum. Grade P/NP.

**PSYC 6915 - PRACTICUM IN PERSONALITY ASSESSMENT (1)**

Administration, correction, and interpretation of personality tests and preparation of the case history. Includes specific training in the writing of reports and discussion of results. Requires a minimum of 15 hours of practicum. Grade P/NP.

**PSYC 6925 - PRACTICE IN PSYCHOLOGICAL RESEARCH (2)**

Development and participation in a project of scientific research under the supervision of a faculty member according to the student's area of specialization. Requires 160 hours of practice distributed in agreement with the supervisor. Grade: P/NP.

Prerequisite: PSYC 5220.

**PSYC 6930 - PRACTICE I IN PERSONAL AND PROFESSIONAL DEVELOPMENT IN PSYCHOLOGY (1)**

Living and educational experience aimed for the personal and professional formation of the psychologist under the supervision of a faculty member. Emphasis on intra and interpersonal development and in skills related to: the psychological interview, conceptualization of psychological situations, professional assessment and professional decision-making. Use of portfolio as a strategy for self-evaluation and the evaluation of learning. Grade: P/NP.

**PSYC 6931 - PRACTICE II IN PSYCHOLOGICAL COUNSELING (3)**

Practical experiences aimed for the development of psychological evaluation skills. Integration and application of the skills of interviewing, review of records, writing of record, preparation of psychological evaluation reports. Development of skills related to feedback of test results, initial intervention, and consulting to parents and adults. The supervised practice will be carried out under business hours of the practice center where the student will be placed. Requires the completion of a minimum of 160 hours of practice under the supervision of a faculty member, 8 hours a week of practice in the assigned center and 2 additional hours of composition and reading outside the center. Grade: P/NP.

Prerequisite: PSYC 5260, 5270, 6914, 6915, 6930.

**PSYC 6932 - PRACTICE III IN PSYCHOLOGICAL COUNSELING (3)**

Practical experiences aimed for the development of psychological intervention skills including psychological interview, psychological evaluation, psychodiagnosis, creation of the psychotherapeutic plan and psychotherapy. Emphasis on the brief psychotherapy models aimed for the prevention and promotion of mental health and socio-emotional adjustment. Requires the completion of a minimum of 160 hours of practice under the supervision of a faculty member, 8 hours a week of practice in the assigned center and 2 additional hours of composition and reading outside the center. Grade: P/NP.

Prerequisite: PSYC 6931.

**PSYC 6933 - PRACTICE I: PERSONAL AND PROFESSIONAL DEVELOPMENT (1)**

Supervision aimed at the personal and professional formation of the psychologist. Emphasis on the intra and interpersonal development and on the skills related to

professional assessment and decision making. Requires a minimum of 45 hours of supervised practice. Grade: P/NP.

Prerequisite: PSYC 5030.

**PSYC 6934 - PRACTICE II IN PSYCHOLOGICAL COUNSELING (3)**

Supervision aimed to develop evaluation skills relevant to the Psychological Counseling specialization. Emphasis on the use and administration of instruments and strategies for data compilation, interpretation, and report preparation. Requires a minimum of 180 hours of supervised practice. Grade: P/NP.

Prerequisite: PSYC 5030, 5286, 5287, 6090, 6255, 6265, 6914, 6915 and 6933.

**PSYC 6935 - PRACTICE III IN PSYCHOLOGICAL COUNSELING (3)**

Application of psychological evaluation skills. Emphasis on diverse intervention modalities, such as psychotherapy and the individual, couple, family, and group vocational counseling. Requires a minimum of 180 hours of practice. Grade: P/NP.

Prerequisite: PSYC 6275, 6276, 6280, 6281, 6290, 6291 and 6934.

**PSYC 6936 - PRACTICE IV IN PSYCHOLOGICAL COUNSELING (3)**

Application of the intervention models used in psychological counseling. Emphasis on diverse psychotherapeutic modalities. Requires a minimum of 180 hours of practice. Grade: P/NP.

Prerequisite: PSYC 6935.

**PSYC 6941 - PRACTICE II IN SCHOOL PSYCHOLOGY (3)**

Practical experiences aimed for the development of psychological evaluation skills. Integration and application of the skills of interviewing, review of records, writing of records, preparation of psychological evaluation reports. Development of skills related to: feedback of test results, initial intervention, and consulting of school administration, teachers, and parents. The supervised practice will be carried out under the business hours of the practice center where the student will be placed. Requires the completion of a minimum of 160 hours of practice under the supervision of a faculty member, 8 hours a week of practice in the assigned center and 2 additional hours of composition and reading outside the center. Grade: P/NP.

Prerequisite: PSYC 5260, 5270, 6914, 6915, 6930.

**PSYC 6942 - PRACTICE III IN SCHOOL PSYCHOLOGY (3)**

Practical experiences aimed for the development of intervention skills in school psychology including psychological interview, psychological evaluation, psychodiagnosis, consulting, creation of an individual psychotherapeutic plan and application of psychotherapy techniques to infants, children and adolescents. Emphasis on the brief psychotherapy models aimed for the prevention and promotion of mental health and socio-emotional adjustment of children and adolescents. Requires the completion of a minimum of 160 hours of practice under the supervision of a faculty member, 8 hours a week of practice in the assigned center and 2 additional hours of composition and reading outside the center. Grade: P/NP.

Prerequisite: PSYC 6941.

**PSYC 6944 - PRACTICE II IN SCHOOL PSYCHOLOGY (3)**

Supervision aimed at the development of psychological and psychoeducational evaluation skills. Emphasis on the use and administration of psychoeducational and psychological evaluation tests. Writing of reports and communication of the evaluation findings. Requires 180 hours of supervised practice. Grade: P/NP.

Prerequisite: PSYC 5030, 6090, 6216, 6428, 6255, 6265, 6914, 6915 and 6933.

**PSYC 6945 - PRACTICE III IN SCHOOL PSYCHOLOGY (3)**

Supervision aimed at psychological and psychoeducational evaluation skills. Emphasis on diverse intervention modalities and consulting related to the school context. Requires a minimum of 180 hours of supervised practice. Grade: P/NP.

Prerequisite: PSYC 6272, 6273, 6285, 6286, 6290, 6291, and 6944.

**PSYC 6946 - PRACTICE IV IN SCHOOL PSYCHOLOGY (3)**

Application of intervention models used in School Psychology. Emphasis on consulting in schools and providing counseling to parents and students. Requires a minimum of 180 hours of supervised practice. Grade: P/NP.

Prerequisite: PSYC 6935.

**PSYC 6953 - PRACTICE I IN ORGANIZATIONAL AND WORK PSYCHOLOGY (3)**

Practical experiences that familiarize the student with various scenarios related to the practice of Organizational and Work Psychology. Development of professional skills related, but not exclusive, to job analysis and development of employee manuals. It is required to complete a minimum of 170 hours of practice under the supervision of a faculty member, 8 hours per week of practice in the assigned center, and 3 hours of writing and reading outside the center. Grade: P/NP.

Prerequisite: PSYC 5030 and PSYC 6302.

**PSYC 6954 - PRACTICE II IN ORGANIZACIONAL AND WORK PSYCHOLOGY (3)**

Supervised practice aimed at developing skills related to needs assessment and training design. It requires completing a minimum of 170 hours of practice. Grade: P/NP.

Prerequisite: PSYC 6953.

**PSYC 6955 - PRACTICE III IN ORGANIZACIONAL AND WORK PSYCHOLOGY (3)**

Supervised practice aimed at developing skills related to performance evaluation and survey development. It requires completing a minimum of 170 hours of practice. Grade: P/NP.

Prerequisite: PSYC 6954.

**PSYC 6983 - SEMINAR ON PSYCHOLOGICAL RESEARCH (2)**

Writing of a research proposal related to the student's specialization. Emphasis on the application of the quantitative or qualitative methodology. Grade: P/NP.

Prerequisite: PSYC 5220, 6422.

**PSYC 6985 - RESEARCH IN ORGANIZACIONAL AND WORK PSYCHOLOGY (2)**

Review of organizational issues and problems that can be solved through scientific investigation. Analysis of the quantitative and qualitative methods and designs used in organizational and work psychology.

**PSYC 6989 - INTERNSHIP IN SCHOOL PSYCHOLOGY (6)**

Integration of the knowledge and skills in providing services pertinent to school psychology. Requires 1,200 internship hours to be completed in a period of 1-2 years.

A minimum of 600 internship hours will be completed in a school scenario. Grade: P/NP.

**PSYC 6990 - THESIS (3)**

Development of a qualitative or quantitative research on a subject pertinent to psychology. Includes the supervision of a Thesis Committee and the defense of the thesis before the Psychology Graduate Program Faculty. Students will register as many times as necessary until finishing their research work. Grade: P/NP.

Prerequisite: PSYC 5150, 5220, 6421, 6422 and specialization courses.

**PSYC 7005 - PROFESSIONAL STANDARDS IN CLINICAL/SCHOOL PSYCHOLOGY (1)**

Critical analysis of the different types of interventions and roles carried out by the clinical/ school psychologist from the integrated-combined model and its applicability to the context of the current Puerto Rican culture and society. Analysis of the professional, ethical and legal matters that affect the practice of psychology in the school and clinical scenarios.

**PSYC 7010 - HUMAN DIVERSITY (2)**

Study of aspects inherent to the role of culture and individual diversity and their relation with research and practice of psychology in Puerto Rico. Analysis of the psychological and ethical implications related to: race, ethnic group, religion, gender, sexual orientation, and social class, among others.

**PSYC 7015 - PROFESSIONAL STANDARDS IN CLINICAL/COUNSELING PSYCHOLOGY (1)**

Critical analysis of the different types of interventions and roles carried out by the clinical /counseling adviser from the integrated-combined model and its applicability to the context of the current Puerto Rican society and culture. Analysis of the professional, ethical and legal matters that affect the practice of psychology at the prevention and intervention levels in the different clinical scenarios.

**PSYC 7020 - NEUROPSYCHOLOGY (3)**

Review of the neuroanatomical basic structures of the central nervous system and the systems that explain the cerebral bases of conduct and the normal and dysfunctional psychological processes.

**PSYC 7030 - QUANTITATIVE RESEARCH (2)**

Critical analysis of descriptive, experimental and quasi-experimental designs applied to the development of needs

studies, opinion polls, quasi-experimental and experimental research in psychology.

**PSYC 7035 - CORRELATION AND REGRESSION (2)**

Statistical analysis to estimate the correlation between two ordinal, or interval nominal variables by means of parametric and nonparametric coefficients of correlation. Evaluation of the linear regression and the bivariate factorial analysis. Use of statistical application for data analysis.

Prerequisite: PSYC 7030.

**PSYC 7040 - QUALITATIVE RESEARCH (2)**

Critical analysis of the philosophical bases and the types of studies used in qualitative methodology, as well as the methods for data compilation, such as the ethnographical interview, observation, and profound interview, among others. Application to special projects of concepts related to the categorization of data, and the triangulation of qualitative data.

**PSYC 7045 - ANALYSIS OF QUALITATIVE DATA (2)**

Review of the processes related to data collection and the way to analyze information in the qualitative methodology. Use and analysis of data collected by means of qualitative strategies of observation, qualitative interviews, focal groups, documents, and visual and interactive methods, among others.

Prerequisite: PSYC 7040.

**PSYC 7050 - DESIGN AND EVALUATION OF PSYCHOLOGICAL PROGRAMS AND SERVICES (2)**

Principles, theories and strategies that guide the planning and the design of psychological interventions. Emphasis in the use of the scientific method and the research focus in the action applied to the design and evaluation of programs and psychological services. Development of a project of planning and evaluation of a program of psychological services, in harmony with each specialization area.

Corequisite: PSYC 8912.

**PSYC 7060 - NEUROSCIENCE OF COGNOSCITIVE, AFFECTIVE AND DEVELOPMENT PROCESSES (2)**

Analysis of cognitive, affective and developmental processes from neuroscience. Emphasis on the neural bases of the processes of perception, language, attention,

memory, and affective throughout the vital period. Discussion of the mechanisms of typical development, as well as the genetic and environmental causes of developmental disorders.

### **PSYC 7970 - SPECIAL TOPICS (1 to 3)**

Exploration of a variety of contemporary subjects in psychology. The topics selected reflect themes of interest in specialized areas of the discipline and can vary whenever the course is offered. The course is governed by what is established the Graduate Catalog for this teaching modality.

### **PSYC 7971 - ADVANCED RESEARCH SEMINAR (2)**

Analysis of selected topics in agreement with the novel perspective of research.

### **PSYC 8210 - ADULTHOOD: PSYCHOLOGICAL PERSPECTIVES (3)**

Adulthood as a dynamic process of development where the individual has to make constant transitions and changes in relation to family, work and society. Analysis of social problems from the psychological perspective that adults face, such as couple relations, change of social roles, retirement, social participation, health situations, and sexuality, among others. Application of concepts on evaluation, intervention, and ethnical issues in the management of these situations of Psychological Counseling.

### **PSYC 8220 - PSYCHOTHERAPEUTIC INTERVENTION WITH FAMILIES (3)**

Study of different styles, configurations, and models of the contemporary family. Discussion of the main models, paradigms, and psychological intervention techniques with families including the systemic model, the structural model, the psychodynamic model, among others. Application of evaluation, diagnosis and psychological intervention methods, as well as prevention strategies, pertinent to situations that families confront.

### **PSYC 8230 - EVALUATION AND INTERVENTION IN POPULATIONS WITH SPECIAL CONDITIONS (2)**

Analysis of the current problems of persons with special characteristics, severe conditions and handicaps. Study of new federal and state legislation that defines and regulates the standards of service with emphasis on ethical implications and intervention with those populations. The course will give training on the methods of evaluation, diagnosis and prevention and psychological intervention

strategies with those populations.

Corequisite: PSYC 8913.

### **PSYC 8240 - SEMINAR IN PSYCHOLOGICAL EVALUATION (3)**

Theories, approaches, and procedures that allow an advanced integration of psychological testing techniques, cognitive evaluation and personality evaluation within the conceptual frame of the clinical-experimental method of generating hypothesis. The course is aimed for the evaluation of persons with handicaps, organic conditions or psychological dysfunction.

### **PSYC 8250 - PSYCHOTHERAPEUTIC INTERVENTION WITH COUPLES (3)**

Elements involved in the election and formation of a couple, interaction patterns, functional and dysfunctional, as well as, Psychological Counseling models applied to situations of traditional and non-traditional couples. Analysis of pertinent research to the intervention strategies of current problems such as violence, rupture, infertility, socio-emotional addiction, co-dependency, and other crisis situations.

### **PSYC 8260 - SEMINAR: HANDLING HIGH RISK PSYCHOLOGICAL CASES (1 to 3)**

Review of the theoretical, ethical, and legal aspects of the process of determining dangerousness or high risk. Discussion of the methods of evaluation, diagnosis, and psychological management of these groups. Among the topics that will be discussed in this seminar are persons with crisis situations, suicide attempts, victims of crime or violence, persons with self control problems, survivors of catastrophic events, persons with limiting or terminal diseases and aggressors, among others.

### **PSYC 8270 - GROUP PSYCHOTHERAPY (3)**

Study and application of postulates and practices of the different approaches to group psychotherapy. Emphasis on the evaluation and selection of psychotherapeutical approaches according to the particular needs of the different populations.

### **PSYC 8280 - ALTERNATIVE AND COMPLEMENTARY THERAPIES (3)**

The theoretical and philosophical approaches, techniques, methods, and procedures used in psychology and medicine to promote physical and mental health of human beings from a holistic perspective. Analysis of recent research regarding the mind-body approach and its effectiveness in management and intervention of different conditions such

as depression, anxiety, tension, high blood pressure, migraine, and chronic diseases, among others. Application of therapies such as creative visualization, relaxation, meditation, reiki, yoga, and acupuncture.

**PSYC 8310 - PROFESSIONAL STANDARDS IN SCHOOL PSYCHOLOGY (3)**

Critical analysis of the different types of interventions and roles carried out by the school psychologist and their applicability to the context of current Puerto Rican society and culture. Emphasis on the issues related to the professional work of the school psychologist at the doctoral level: professional supervision, teaching at the graduate level, and the planning and evaluation of programs, and professional practice, among others. Analysis of professional, ethical and legal controversies in this area.

**PSYC 8320 - SCHOOL ORGANIZATION AND OPERATION (3)**

Analysis of the different aspects in school organization and operation. Organizational theory applied to the educational scenario; processes of organizational change and the implications for the school personnel, the development, planning, and evaluation of psycho-educational programs.

**PSYC 8325 - VOCATIONAL COUNSELING AND EVALUATION OF CAREERS (2)**

Review of the theoretical and practical aspects of vocational counseling and the evaluation of careers. Emphasis in the administration, evaluation and interpretation of career evaluation instruments and in the formulation of strategies of vocational intervention with diverse populations.

**PSYC 8330 - PSYCHOLOGICAL EVALUATION AND INTERVENTION WITH INFANTS AND PRESCHOOL CHILDREN (2)**

Analysis of the investigations and the current approaches of the evaluation of infants and pre-school children. Development of the skills and competencies to perform the evaluation, and the multidisciplinary and transdisciplinary intervention. Emphasis in the collaboration of the community, the family and the school, and in the development of educative, behavioral and socio-moral interventions appropriate for these populations.

Corequisite: PSYC 8914.

**PSYC 8340 - NEUROPSYCHOLOGICAL EVALUATION (3)**

Analysis of the research and current theories regarding the

brain-conduct relation, dysfunctions of the central nervous system and their evaluation. Emphasis in the individualized, oriented neuropsychological evaluation to the processes and the generation of hypothesis. Topics related to the common patterns of neuropsychological deficits and their neuroanatomic correlation in children and adults.

Prerequisite: PSYC 7020.

**PSYC 8415 - DESIGN AND ORGANIZATIONAL TRANSFORMATION (2)**

Discussion of processes related to the design and restructuring of organizations. Emphasis on the psychological and organizational impact of the processes of change and transformation with their implications on work culture and environment. Presentation of different design modalities, including traditional bureaucracy, reengineering, organic structures, and high performance organizations.

**PSYC 8425 - MEASUREMENT IN INDUSTRIAL PSYCHOLOGY (2)**

Application of the principles of psychological testing in the creation, development and validation of instruments. Development of scales, questionnaires, inventories, observation guides, interview guides, and tests, biodata, focal groups, categorization and asset mapping. Requires the use of computers to make statistical analyses related to the assessment of reliability and validity of the instruments.

**PSYC 8430 - SEMINAR IN INDUSTRIAL/ORGANIZATIONAL PSYCHOLOGY (3)**

Analysis of issues related to the professional practice of Industrial/Organizational psychology and the use of the skills acquired in an integrated fashion. Emphasis on the independent work of the student, analytical skills and the integration of theoretical, practical and methodological concepts. Focus on the ability of the psychologist to deliver judgments and act in accordance to the norms of the profession.

**PSYC 8445 - DECISION MAKING AND CONFLICT MANAGEMENT (2)**

Presentation and analysis of decisional behavior theories and their applications in individual and group contexts. Emphasis on processes of strategic planning, risks taking, conflict management, negotiation, and sensitivity toward human diversity.

**PSYC 8455 - MANAGEMENT OF KNOWLEDGE IN THE ORGANIZATION (2)**

Application of advanced technology to the process of professional preparation and training. Analysis of electronic simulations and of the use of online learning. Analysis of human response to the use of technology and virtual reality. Use of the computer and the intra and inter networks as a learning tool of the employee.

**PSYC 8465 - DEVELOPMENT OF HIGHLY EFFECTIVE WORKTEAMS (2)**

Application of strategies of highly effective teams in the contemporary organization. Development of skills in formation, empowering, and supervision of teams in the world of work. Emphasis on homing, multinational and virtual teams.

**PSYC 8490 - ANALYSIS OF ORGANIZATIONAL ENVIRONMENTS (2)**

Analysis of the following environments: government, communitarian organizations, family businesses, cooperatives, churches and enterprises with social initiatives. Application of the concepts and intervention skills of industrial/organizational psychology in these scenarios.

**PSYC 8515 - PROFESSIONAL CONSULTING (2)**

Discussion of the principles and basic concepts of psychological and organizational consulting. Comparison of intervention models and strategies in consulting in view of recent studies. Discussion of ethical aspects in the process of consulting. Development of experiences related to the role of the consultant in organizations, industries, schools, programs, and service agencies.

**PSYC 8610 - FAMILY THERAPY (2)**

Analysis of the different configurations, structures and models of the contemporary family. Discussion of the main family systemic models, their techniques and the strategies of psychological intervention with the families, including the structural model, the psychodynamic model and the model of family communication, among others.

Corequisite: PSYC 8919.

**PSYC 8620 - PSYCHOLOGICAL INTERVENTIONS IN SCHOOLS (2)**

Analysis of the psychological and psychoeducational interventions based in the scientific evidence used in schools for the improvement of the academic, emotional, social, and behavioral function of children and adolescents.

Discussion of evaluation and implementation matters in school environments.

**PSYC 8630 - OBJECTIVE EVALUATION OF PERSONALITY (2)**

Discussion of the approaches and the objective techniques of evaluation of personality, emotion and conduct. Analysis of the controversies regarding the instruments of evaluation and of ethical matters related to the evaluation process. Emphasis in the relevance of the instruments of mediation for the Puerto Rican populations. Review of the processes of administration, validity and interpretation of the main instruments of evaluation, such as the MMPI-2, the Clinical Inventory Multi-axial of Millon, NEO PJ and other measurements of the emotional function.

Corequisite: PSYC8921.

**PSYC 8640 - COUPLES THERAPY (2)**

Analysis of the particular affairs and topics of couples. Discussion of the socializing processes of the genders and their connection with the problems and the intermediation with couples. Analysis of the most recent relevant research to the intermediation strategies.

Corequisite: PSYC 8922.

**PSYC 8650 - CLINICAL PSYCHOPHARMACOLOGY (2)**

Discussion of the psychopharmacological products, their basic classification, their indications and contraindications, and their side effects. Introduction to the basic terminology of the clinical psychopharmacology, and to the concepts of pharmacokinetics and pharmacodynamics. Review of the relation between drugs and the psychological interventions.

**PSYC 8660 - CLINICAL SUPERVISION AND CONSULTANCY (2)**

Comparison of the methods, models and principles of clinical supervision and the consultancy. Analysis of the roles that the supervisors and the consultants in the professional environment carry out. Emphasis in the development of the understanding of the networks that promote mental health in the context of our culture. Discussion of the laws and the legal matters related to the practice of consultancy and clinical supervision in Puerto Rico.

Corequisite: PSYC 8923.

**PSYC 8710 - INTERVENTION IN CRISES (3)**

Analysis of the models of intervention and the techniques

for the handling of crises, individual crises as well as group crises. Evaluation of the research conducted in the field and its application to the Puerto Rican cultural context. Emphasis in the handling of crises in the clinical and organizational context.

**PSYC 8715 - PROJECTIVE EVALUATION OF PERSONALITY: RORSCHACH (3)**

Discussion of the theory related to the projective evaluation of personality using the Rorschach Test. Analysis of the usefulness of this instrument in different clinical scenarios and of the controversies related to it. Emphasis in the application of the Comprehensive System of Exner for the administration, codification and interpretation of the test.

**PSYC 8720 - SUBSTANCE ABUSE (3)**

Discussion of the scientific information related to the evaluation and treatment of chemical dependency and of the problems of addictive conduct. Review of the theories and the intervention models that are applied to the needs of diverse populations. These practices are based on scientific evidence.

**PSYC 8730 - EVALUATION OF ALLEGATIONS OF SEXUAL ABUSE (3)**

Discussion of the instruments used to evaluate the allegations of sexual abuse. Emphasis in the techniques of the forensic interview of sexually abused minors. Integration of the theoretical models, the exaggerations and the protocols for evaluating the allegations of sexual abuse. Development of skills for the writing of the forensic expert report and the strategies to defend it in the court system of the country.

**PSYC 8740 - TRAUMA: PSYCHOLOGICAL PERSPECTIVE (2)**

Discussion of the effects of diverse traumas in minors, young people, adults and the elderly. Analysis of the recent research on the subject to expand the knowledge and the clinical skills of conceptualization, diagnosis and treatment of cases. Review of the cultural matters related to the evaluation and treatment.

**PSYC 8750 - INTERVENTION WITH WOMEN VICTIMS OF VIOLENCE (2)**

Analysis of the socializing processes of the genders, patriarchy and masculinity, and the relation of these factors to violence against women. Study of the cycle of violence and the syndrome of the maltreated woman in the partner relations. Application of strategies of intervention with

women victims of violence. Emphasis in the design and application of interventions based on feminist therapy.

**PSYC 8760 - SPIRITUALITY IN COUNSELING PSYCHOLOGY (2)**

Analysis of the historical, theoretical and philosophical foundations of a theist-ecumenical spiritual strategy and its application to counseling and psychotherapy. Discussion of the recent research on the benefits of spirituality in the integral health of people. Discussion and application of hypothetical cases.

**PSYC 8770 - ALTERNATIVE AND COMPLEMENTARY THERAPIES (2)**

Critical analysis of the alternative and complementary therapies used in psychology to control symptoms and to contribute to the physical, mental and spiritual health of people from a holistic perspective. Application of the alternative and complementary practices that are sustained in the empirical evidence and the context of scientific research.

**PSYC 8780 - INFANTILE PSYCHOANALYSIS (3)**

Analysis of the psychoanalytic conceptual frame and its contributions to clinics with children. Discussion of the concepts of psychoanalysis, constitution of the subject, clinical frame and free association. Consideration of the Freudian concepts by means of the reading of clinical cases, as well as the lacanian contributions on the constitution of the subject.

**PSYC 8795 - PSYCHOLOGY OF HEALTH (2)**

Analysis of the cultural biopsychosocial model of health. Discussion of the research on the psycho-social risks and the prevention and protection factors in the promotion of health. Emphasis in the models of intervention and the problems of health of the infant, young and adult population.

**PSYC 8912 - PRACTICUM IN THE DESIGN AND EVALUATION OF PSYCHOLOGICAL PROGRAMS AND SERVICES (1)**

Experience in the classroom constituted by activities of simulations, discussion of cases, performance of roles and the presentation of didactic virtual material. Development of the skills to make a design of evaluation of an intervention, a program or a psychological service. Includes the methodology, the instruments for collecting data and the writing of the evaluative report. Fifteen (15) hours of practicum are required.

Corequisite: PSYC 7050.



**PSYC 8913 - PRACTICE IN EVALUATION AND INTERVENTION IN POPULATIONS WITH SPECIAL CONDITIONS (1)**

Supervised practical experience in the methods of psychological evaluation, and diagnostic of special conditions and neuropsychological handicaps, strategies of psychological intervention for these populations and the role of professional consulting in this field. Grade: P/NP.

Corequisite: PSYC 8230.

**PSYC 8914 - PRACTICUM IN PSYCHOLOGICAL EVALUATION AND INTERVENTION WITH INFANTS AND PRESCHOOL CHILDREN (1)**

Experience in the classroom constituted by activities of simulations, discussion of cases, administration and correction of evaluation protocols. Development of the skills of administration, evaluation and interpretation of the findings of the psychological evaluation with infants and pre-school children. Emphasis on the application of strategies based on the scientific research of evaluation and intervention with these populations. 15 hours of practicum are required.

Corequisite: PSYC 8330.

**PSYC 8915 - PRACTICE IN NEUROPSYCHOLOGICAL EVALUATION (1)**

Supervised practical experience in which the student will develop the skills of administration, assessment and interpretation of the findings in neuropsychological evaluation. Grade: P/NP.

Corequisite: PSYC 8340.

**PSYC 8916 - PRACTICE IN INDUSTRIAL/ORGANIZATIONAL PSYCHOLOGY (3)**

Practical experiences aimed for the development of skills for organizational evaluation and diagnosis. Application of the different theories, instruments, and methods of research to conceptualize such information. Emphasis on the work of the organizational industrial psychologist in these interventions and in the consulting processes. Requires the completion of a minimum of 160 hours of practice under the supervision of a faculty member, 8 hours a week of practice in the assigned center and 2 additional hours of composition and reading outside the center. Grade: P/NP.

**PSYC 8917 - INTERNSHIP (6)**

An integrating experience of 2,000 hours in which students

of the specializations of Psychological Counseling or School Psychology must show, under the supervision of a faculty member of the Doctoral Program in Psychology, their ability to integrate knowledge and skills, when offering a variety of services in Psychological Counseling and school psychology. The student is provided the opportunity to work in a practice scenario with a diversity of situations or clients, a variety of problems, and different types of programs and human services, using different psychological interventions. Grade: P/NP.

**PSYC 8918 - PRACTICE IN ORGANIZATIONAL/INDUSTRIAL PSYCHOLOGY II (3)**

Practical experience aimed at the development of skills in the components of organizational transformation, supervision and teaching. Emphasis on the performance of the organizational industrial psychologist in professional activities and in the consulting processes. One hundred sixty (160) hours of practice under the supervision of a faculty member, 8 hours in a practice scenario and 2 additional hours of writing and reading outside the center are required. Grade: P/NP.

Prerequisite: PSYC 8916.

**PSYC 8919 - PRACTICUM IN FAMILY THERAPY (1)**

Experience in the classroom constituted by activities of simulations, discussions of case, performance of roles and the exposure to didactic virtual material. Use of practical exercises of intervention with different problems and family situations. Application of different strategies and techniques of several models and systemic theories. Fifteen (15) hours of practicum are required.

Corequisite: PSYC 8610.

**PSYC 8921 - PRACTICUM IN OBJECTIVE EVALUATION OF PERSONALITY (1)**

Experience in the classroom constituted by activities of discussion of cases, recordings and simulations aimed at the development of advanced skills in administration, evaluation, interpretation and the integration of the findings of the inventories of personality for young people and adults. Fifteen (15) hours of practicum are required.

Corequisite: PSYC 8630.

**PSYC 8922 - PRACTICUM IN COUPLES THERAPY (1)**

Experience in the classroom constituted by activities of

simulations, discussion of cases, performance of roles and the exposure to didactic virtual material. Development of practical exercises of intervention with different problems and situations of couples. Application of strategies and techniques of several models and theories of couples' therapy studied. Fifteen (15) hours of practicum are required.

Corequisite: PSYC 8640.

**PSYC 8923 - PRACTICUM IN CLINICAL SUPERVISION AND CONSULTANCY (1)**

Application of the principles, models and the basic theories of clinical supervision and consultancy. Practice of the strategies for the solution of ethical and legal problems tied to the context of the clinic, consultancy and supervision. Fifteen (15) hours of practicum are required.

Corequisite: PSIC 8660.

**PSYC 8975 - INTEGRATED PRACTICE IN CLINICAL/COUNSELING PSYCHOLOGY I (3)**

Practice in a scenario of mental health to integrate the skills of evaluation, diagnosis, conceptualization and intervention. In addition, students will conduct interventions with evidence-based models. 250 hours are required. Grade: P/NP.

**PSYC 8976 - INTEGRATED PRACTICE IN CLINICAL/COUNSELING PSYCHOLOGY II (3)**

Practice in a scenario of mental health to integrate the skills of evaluation, conceptualization, diagnosis and intervention. Emphasis on the skills of psychological evaluation, career evaluation and vocational counseling. In addition, the student will perform individual, group therapy and family therapy interventions with evidence-based models. 250 hours are required. Grade: P/NP.

Prerequisite: PSYC 8610, 8630, 8919, 8921 and 8975.

**PSYC 8977 - INTEGRATED PRACTICE IN CLINICAL/COUNSELING PSYCHOLOGY III (3)**

Practice in a real scenario to integrate the skills of evaluation, conceptualization, diagnosis, and intervention. Emphasis on the development of prevention programs. Application of evidence-based models for individual interventions, group therapy and family therapy. 250 hours are required. Grade: P/NP.

Prerequisite: PSYC 8976.

**PSYC 8978 - INTEGRATED PRACTICE IN CLINICAL/COUNSELING PSYCHOLOGY IV (3)**

Practice in a health scenario to integrate assessment, diagnosis, conceptualization and intervention skills. Emphasis on consulting, supervision and administration skills. Development of the skills of individual interventions, group therapy and family therapy with evidence-based models. 250 hours are required. Grade: P/NP.

Prerequisite: PSYC 8977, 8660 and 8923.

**PSYC 8985 - INTEGRATED PRACTICE IN CLINICAL/SCHOOL PSYCHOLOGY I (2)**

Practice in a health or school scenario to integrate the skills of evaluation, diagnosis, conceptualization and therapeutic techniques. Emphasis in the offering of psychological and psychoeducational interventions with evidence-based models. 250 hours of practice are required. Grade: P/NP.

**PSYC 8986 - INTEGRATED PRACTICE IN CLINICAL/SCHOOL PSYCHOLOGY II (3)**

Practice in a health or school scenario to integrate the skills of evaluation, diagnosis, conceptualization, and intervention. Emphasis in the skills of psychological and psychoeducational evaluation. Application of the models based on the evidence for individual interventions, group therapy and family therapy. 250 hours are required. Grade: P/NP.

Prerequisite: PSYC 8610, 8620, 8630, 8919, 8921 and 8985.

**PSYC 8987 - INTEGRATED PRACTICE IN CLINICAL/SCHOOL PSYCHOLOGY III (3)**

Practice in a health or school setting to integrate assessment, diagnosis, conceptualization and intervention skills. Emphasis on evaluation and intervention skills with infants and preschoolers and their family system. Application of evidence-based models for individual interventions, group therapy and family therapy. 250 hours are required. Grade: P/NP.

Prerequisite: PSYC 8330, 8914 and 8987.

**PSYC 8988 - INTEGRATED PRACTICE IN CLINICAL/SCHOOL PSYCHOLOGY IV (3)**

Practice in a health scenario or school setting to integrate assessment, diagnosis, conceptualization and intervention skills. Emphasis on consulting, supervision and administration skills. Development of the skills of individual interventions, group therapy and family therapy

with evidence-based models. 250 hours are required.  
Grade: P/NP.

Prerequisite: PSYC 8660, 8923 and 8987.

### **PSYC 8990A - INTERNSHIP (3)**

Integration of the knowledge, skills and attitudes of professional psychology to offer psychological services to diverse populations in varied contexts. Intensive training of 2000 hours in the combined specializations of Clinical Psychology/School Psychology and Clinical Psychology/Counseling Psychology. Integration and application of the competencies of evaluation, intervention, counseling, supervision, administration and research. Grade: P/NP.

### **PSYC 8990B - INTERNSHIP (3)**

Integration of the knowledge, skills and attitudes of professional psychology to offer psychological services to diverse populations in varied contexts. Intensive training of 2000 hours in the combined specializations of Clinical Psychology/School Psychology and Clinical Psychology/Counseling Psychology. Integration and application of the competencies of evaluation, intervention, counseling, supervision, administration and research. Grade: P/NP.

### **PSYC 8991 - DISSERTATION A (3)**

Application of the steps in scientific research for the preparation of the doctoral proposal, under the supervision of a faculty member. The student will work on the research proposal with the counseling of a doctoral dissertation committee. Grade: P/NP.

### **PSYC 8992 - DISSERTATION B - CONTINUATION OF DISSERTATION (3)**

The student will continue working on the research under the supervision of the doctoral dissertation committee. Grade: P/NP.

## **PUHE - Public Health**

### **PUHE 5100 - PUBLIC HEALTH CONCEPTS (3)**

Discussion of the main concepts of public health as a discipline. Application of these in the solution of health problems of greater prevalence.

### **PUHE 5110 - BIostatISTICS FOR PUBLIC HEALTH (3)**

Analysis of the main components of biostatistics to specific situations of public health. Application of techniques for the calculation of measures of central tendency, variability, hypothesis testing, sampling and

statistical power. Emphasis on the determination of the types and sources of data in public health and on the scientific interpretation of the data collected.

### **PUHE 5120 - FUNDAMENTALS OF EPIDEMIOLOGY (3)**

Foundations of epidemiology and its relevance in public health. Design of research in public health using models of case-control studies, cohort, clinical trial and cross-sectional study. Quantitative and qualitative analysis, interpretation and decision making based on the data collected in the investigations.

### **PUHE 5200 - ENVIRONMENTAL HEALTH (3)**

Analysis of environmental factors of a biological, chemical, physical or social nature that affect the physical and mental well-being of individuals in a population. Application of research techniques for the identification of sources of solid, aquatic, sound, visual and light pollution.

### **PUHE 5210 - STATISTICAL PROGRAMS (3)**

Analysis of the functions of statistical programs in the field of public health. Management of statistical programs related to the processing of data in public health and statistical analysis tools.

Prerequisite: PUHE 5110.

### **PUHE 5220 - PSYCHOSOCIOLOGY OF HEALTH (3)**

Discussion of the psychological and social aspects that influence the health of the communities. Analysis of the physical and mental effect produced in health by social aspects such as: socioeconomic status, sociodemographic aspects and access to health services.

### **PUHE 5300 - SCIENTIFIC WRITING (3)**

Application of writing techniques to scientific texts for publication. Evaluation of the main components of the scientific literature related to health issues.

### **PUHE 5310 - BIOETHICS (3)**

Analysis of the foundations of bioethics within the framework of public health. Application of analysis, understanding and deliberation skills to the ethical, moral and controversial issues of health and society.

### **PUHE 5320 - HEALTH ADMINISTRATION (3)**

Evaluation of management theories and their application to health programs and services. Discussion of the main aspects of the administration of health services and their ethical, legal and social implications.

### **PUHE 6100 - PLANNING AND EVALUATION (3)**

Application of the management fundamentals in the development of a strategic plan aimed at implementing or improving health services. Analysis of the methodologies of the evaluation of health services to ensure the quality and well-being of the population served.

### **PUHE 6110 - RESEARCH METHODS (3)**

Design and application of research methodologies, review of literature and drafting a research proposal.

### **PUHE 6120 - HEALTH COMMUNICATION (3)**

Application of the fundamentals of communication in health. Principles of the design of communication strategies in public health. Design of tools for planning, implementation and analysis of communication strategies in health. Determination of the role of the media and the digital era in the dissemination of health information.

### **PUHE 6230 - PUBLIC HEALTH AND THE DIGITAL AGE (3)**

Application of the uses of the Internet in the dissemination of health information. Publication of health information using digital platforms. Discussion of the utility of social networks in the communication of health data.

### **PUHE 6240 - SOCIAL NETWORKS AND PUBLIC HEALTH (3)**

Application of methods, models and theories about the use of social networks in the clinical and community settings. Emphasis on the methodologies of research in social networks in research as secondary data sources. Analysis of the content of social network accounts related to public health.

### **PUHE 6250 - CULTURE, HEALTH AND DIVERSITY (3)**

Analysis of aspects of human diversity in research, in the implementation of programs and in health services. Solution of public health problems framed in cultural sensitivity. Emphasis on the study of public health problems in various population groups.

### **PUHE 6260 - HEALTH MARKETING (3)**

Discussion of marketing processes and consumer behavior in public health. Application of methodologies for the execution of marketing campaigns.

### **PUHE 6300 - RESEARCH PROJECT (3)**

Application of research methodologies and scientific

writing in the development of a research project related to a topic of interest in public health. Design of a research proposal that incorporates the areas of epidemiology, statistics and communications for the study of health situations. Analysis and interpretation of the collected data and the generation of conclusions. Grade: PN/PP.

Prerequisite: Authorization of the chair or coordinator of the Program.

## **QODS - Quality Organizational Design**

### **QODS 5010 - STRATEGIC MANAGEMENT: INNOVATION AND CHANGE (3)**

Tools of quality management and its philosophies. Necessary re-engineering to achieve quality in products and services. Short and long-term success management, strategic framework for problem solving. Study and analysis of organizational changes to achieve innovation and competitiveness. Emphasis on the role of the organizational leader to bring about innovation and change.

### **QODS 6020 - ACCOUNTING AS A TOOL FOR EXECUTIVE ACTION (3)**

Study of managerial decisions through the techniques of planning and control. Analysis of profit planning, responsibility accounting, patterns of cost behavior and the application of accounting data for basic planning and control decisions.

### **QODS 6035 - MARKETING INFORMATION AND COMPETITIVE ADVANTAGE (3)**

Analysis of marketing and consumer data. Use and analysis of these for developing competitive market strategies.

## **RELI - Religious Education**

### **RELI 5010 - HISTORY AND PHILOSOPHY OF RELIGIOUS EDUCATION (3)**

Review of the historical trajectory and the philosophical principles that govern religious education. Emphasis on the study of the ideas and concepts that characterize the field of religious education.

### **RELI 5215 - HISTORY OF THE CHURCH (3)**

Review of the historical study of the Church from its origins to the 21st century. Analysis of the topics related to the cultural shock and the relations between the Church

and the State. Discussion of the influences of the Christian denominations in the social, political, historical and anthropological contexts in relation to Western Civilization.

### **RELI 5320 - INTRODUCTION TO THEOLOGY (3)**

Systematic and interdisciplinary analysis of Christian thought. Identification of select topics within theology in relation to Western Civilization. Comparison of the main theological doctrines in relation to the Christian faith.

### **RELI 5430 - BIBLICAL ANALYSIS (3)**

Analysis of Biblical passages using exegetic, theological, sociological and hermeneutic methods. Emphasis on the contemporary religious currents such as the mujerista theology and the theologies of liberation, among others.

### **RELI 5540 - ECUMENICAL THOUGHT (3)**

Discussion of the history of Ecumenicalism, its movements and the development of these in the light of the World-wide Council of Churches and Vatican II. Analysis of theology and its relation to the mission of the Christian Church in Modern and Contemporary Time.

### **RELI 5650 - RELIGIOUS PLURALISM (3)**

Review of some religions of the world and their relationship with Christianity. Social analysis of each of these by means of an interfaith dialog where the beliefs of each social and Faith group are respected.

### **RELI 5760 - THE HISTORICAL JESUS: SOCIAL MESSAGE (3)**

Historical analysis of the figure of Jesus of Nazaret in his social environment. Exploration of his message of liberation and justice. Evaluation of his doctrinal teachings and the interpretation of his religious dialogue; simultaneously with his theology and pastoral work.

### **RELI 5870 - CHRISTIAN ECLESIOLOGY (3)**

Analysis of the development of the Churches and their theological thought. Distinguish the social crises and the role of the churches by epochs and doctrines. Emphasis on intervention with topics like political conflicts, ecology, bioethics, poverty, and marginalization.

### **RELI 5990 - ETHICS AND PASTORAL ACTION (3)**

Review of the topics related to ethics and religion from a contemporary perspective. Consideration of the relation of the Christian communities and society. Exploration of the relationship between ethics and religion as a social phenomenon.

### **RELI 6020 - TEACHING STRATEGIES IN RELIGIOUS EDUCATION (3)**

Evaluation of learning theories and the models of education that guide the educational practice in the diverse contexts of religious education. Analysis of the implications of the integration of technology and research in action as a means to reflect on educational practices.

### **RELI 6030 - DESIGN AND EVALUATION OF CURRICULUM IN RELIGIOUS EDUCATION (3)**

Discussion of the basic concepts for the design, construction and evaluation of a religious educational curriculum. Use of the necessary tools for the construction and evaluation of the curriculum. Analysis of diverse models of curricular design and their application.

### **RELI 6040 - EDUCATIONAL LEADERSHIP IN RELIGIOUS EDUCATION (3)**

Analysis of the principles and theories related to educational leadership (administrative, strategic, didactic, communitarian) and their implications for educational practice in religious education.

### **RELI 6910 - PRACTICUM (3)**

Emphasis on intervention in the field of Religious Education in organizations with Christian or religious educational bases. Placement in an educational scenario for a minimum of 200 hours. Grade P/NP.

Prerequisite: Authorization of the Chair of the School of Theology.

### **RELI 6975 - INTEGRATION SEMINAR (3)**

Integration of the knowledge and the skills acquired in the courses that make up the Master of Arts in Religious Education. Emphasis on the analysis of Christian thought and the appropriate research in the discipline. Grade P/NP.

Prerequisite: Approval of the chair of the School of Theology.

## **REME - Research Methods**

### **REME 5010 - FUNDAMENTALS OF RESEARCH (3)**

Study of the general research concepts. Development of bibliographic research skills, in the review of research related to the student's area of interest and in professional writing. Discussion of ethical and legal aspects related to research.

**REME 5020 - RESEARCH METHODS I (3)**

Application of the methodology and terminology of quantitative research. Use of data collection methods and ethical aspects related to research. It includes the preparation of a research proposal in the student's area of interest.

**REME 5025 - RESEARCH METHODS II (3)**

Application of the methodology and terminology of qualitative research. Use of data collection methods and ethical aspects related to research. Introduction to qualitative data analysis programs. It includes the preparation of a research proposal in the student's area of interest.

Prerequisite: REME 5020.

**REME 5040 - STATISTICS (3)**

Application of descriptive and inferential statistics in research, in solving problems and in the decision-making process. Interpretation of data through the use of computer programs. Writing reports on results and interpretation of statistical analysis.

**REME 5050 - RESEARCH PROJECT I (2)**

Design of a research proposal related to the student's area of interest, under the supervision of a faculty member.  
Grade: P/NP/PP.

Prerequisite: REME 5020, 5025 and 5040.

**REME 5055 - RESEARCH PROJECT II (2)**

Completion and presentation of the research project under the supervision of a faculty member. Grade: P/NP/PP.

Prerequisite: REME 5050.

**REME 797\_ - SPECIAL TOPIC: NEW TRENDS IN RESEARCH (1)**

Analysis of issues related to new trends in the field of research.

**REME 7000 - QUALITATIVE RESEARCH (3)**

Critical analysis of the theoretical foundations, models and contributions of qualitative research to the development of new knowledge, problem solving and the decision-making process. Study of the epistemological paradigms and assumptions that support the different designs of qualitative research. Development of qualitative research proposals.

**REME 7005 - QUANTITATIVE RESEARCH (3)**

Critical analysis of descriptive, experimental and non-experimental designs, applied to the development of needs studies, surveys, problem solving and the decision-making process. Development of quantitative research proposals.

**REME 7010 - WRITING FOR RESEARCHERS (3)**

Analysis and application of styles on the writing process to the production of texts. Emphasis on writing texts such as essays, research reports, article reviews, and monographs. It includes writing for electronic media and for publishing arbitrated articles.

**REME 7020 - STATISTICS (3)**

Analysis of inferential statistical methods: correlation and regression measures, T tests, ANOVA and non-parametric tests, among others. It includes the use of computerized statistical analysis programs for research.

**REME 7050 - QUALITATIVE DATA ANALYSIS (2)**

Examination of the processes related to data collection and how to analyze the information in the qualitative methodology. Analysis of data collected through observation strategies, interviews, focus groups, documents and visual and interactive methods, among others. It includes strategies of validity and qualitative reliability.

Prerequisite: REME 7000.

**REME 7055 - QUANTITATIVE DATA ANALYSIS (3)**

Examination of the processes related to data collection and how to analyze the information in the quantitative methodology. It includes the use of computerized statistical analysis programs.

Prerequisite: REME 7005.

**REME 8991 - APPLIED RESEARCH I (2)**

Design and defense of a qualitative, quantitative or mixed research proposal related to the student's area of interest, under the supervision of a research committee. Grade: P/NP/PP.

Prerequisite: REME 7010 and REME 7050 or REME 7055.

**REME 8992 - APPLIED RESEARCH II (2)**

Writing and defense of qualitative, quantitative or mixed research under the supervision of a research committee. Grade: P/NP/PP.

Prerequisite: REME 8991.

## **SEMI - International Business Administration**

### **SEMI 6970 - INTEGRATION SEMINAR (3)**

Integration Seminar in Psychology.

### **SEMI 697\_ - MIBA INTEGRATING SEMINAR (3)**

Analysis of contemporary trends in international business administration by area of the student's specialization. Application of the theoretical and practical concepts of the profession through the development of a research project supervised by a teacher of the discipline. Defense of the investigative project by means of an oral and written presentation. Grade: P/NP.

Prerequisite: Having approved all specialization courses and authorization from the department's chair.

## **SLAR - Second Language Research**

### **SLAR 7010 - INTRODUCTION TO THE INVESTIGATION OF THE SECOND LANGUAGE (3)**

Analysis of recent investigations of the second language, different methodologies and statistical analysis. Emphasis on the understanding of the purpose, selection of research methods, analysis and results obtained by the researcher. Discussion of the ethical aspects of second language research.

### **SLAR 7020 - QUANTITATIVE RESEARCH DESIGN (3)**

Analysis and application of quantitative research methods and techniques. It requires the development of a quantitative research design for the study of the second language.

### **SLAR 7030 - QUALITATIVE RESEARCH DESIGN (3)**

Analysis and application of qualitative research methods and techniques. It requires the development of a qualitative research design for the study of the second language.

### **SLAR 7035 - RESEARCH-ACTION DESIGN (3)**

Exploration of the basic philosophy of action research and its methodology. Emphasis on the selection of the research topic, data collection, organization, analysis and interpretation of the data, as well as decision-making on

appropriate actions based on the findings. It requires the development of a research-action design for a problem related to learning a second language.

### **SLAR 7040 - SOCIAL, CULTURAL AND POLITICAL ASPECTS OF THE SECOND LANGUAGE (3)**

Study of social, cultural and political aspects of languages in contact and research methodologies to study them. It requires the development of a research article with the required quality of a professional journal.

Prerequisite: SLAR 7010, SLAR 7020, SLAR 7030.

### **SLAR 7050 - READING RESEARCH IN A SECOND LANGUAGE (3)**

Study of social, cultural, psychological and linguistic aspects in the reading of the second language. Discussion of the quantitative and qualitative research methodologies used to study them. It requires the development of a research article with the required quality of a professional journal.

Prerequisite: SLAR 7010, SLAR 7020, SLAR 7030.

### **SLAR 7060 - INVESTIGATION OF WRITING IN A SECOND LANGUAGE (3)**

Application of quantitative and qualitative research methodologies for the study of social, cultural, psychological and linguistic aspects in writing in a second language. It requires the development of a research article with the required quality of a professional journal.

Prerequisite: SLAR 7010, SLAR 7020, SLAR 7030.

### **SLAR 7070 - RESEARCH OF ORAL COMMUNICATION IN A SECOND LANGUAGE (3)**

Study of social, cultural, psychological and linguistic aspects in oral communication in a second language and the quantitative and qualitative research methodologies used for their investigation. It requires the development of a research article with the required quality of a professional journal.

Prerequisite: SLAR 7010, SLAR 7020, SLAR 7030, SLAR 7035.

### **SLAR 7080 - LEARNING LANGUAGES USING COMPUTED TECHNOLOGY (3)**

Analysis of social, cultural, psychological and linguistic aspects in relation to computer technology. Discussion of the applicable quantitative and qualitative research

methodologies. Emphasis on the different types of computer technology and its impact on the learning of a language. It requires the development of a research article with the required quality of a professional journal.

Prerequisite: SLAR 7010, SLAR 7020, SLAR 7030.

### **SLAR 7970 - SPECIAL TOPICS IN RESEARCH OF THE SECOND LANGUAGE (3)**

Development of special topics in the research area of the second language in accordance with the interests of the students and under the supervision of a faculty member. Reserved exclusively for students who choose to receive a Master of Philosophy in Second Language Research as an option to exit the doctoral program.

Prerequisite: All specialization courses.

### **SLAR 8990 - DISSERTATION PROPOSAL FOR A SECOND LANGUAGE INVESTIGATION (3)**

Definition of the topic for the student's dissertation. Preparation of the research proposal that includes the development of the chapters of the introduction, review of literature and methodology under the supervision of one or more members of the faculty. It requires students to defend their subject and selection of methodology before a committee composed of at least three professors-knowledgeable about research design and language research.

Prerequisite: All specialization courses.

### **SLAR 8991 - DISSERTATION IN SECOND LANGUAGE RESEARCH (3)**

Complete the final chapters of the dissertation under the supervision of one or more professor-mentors. Compilation and analysis of the data corresponding to the research area. It requires students to defend the results and conclusions of their research before a committee composed of at least three professors-knowledgeable about research design and language research. Students who earn an NP grade must repeat this course. Students who earn a DP grade can enroll in SLAR 8991 Dissertation Extension 1.

Prerequisite: SLAR 8990.

### **SLAR 8992 - DISSERTATION EXTENSION 1 (1)**

Continuation of the data analysis and writing of the final chapters started in SLAR 8991, and the dissertation defense.

Prerequisite: SLAR 8990 and a DP grade in SLAR 8991.

### **SLAR 8993 - DISSERTATION EXTENSION 2 (1)**

Continuation of the data analysis and writing of the final chapters started in SLAR 8991, and the dissertation defense.

Prerequisite: SLAR 8990 and a DP note on SLAR 8992.

### **SLAR 8994 - DISSERTATION EXTENSION 3 (1)**

Continuation of the data analysis and writing of the final chapters started in SLAR 8991, and the dissertation defense.

Prerequisite: SLAR 8990 and a DP note on SLAR 8993.

## **SMKT - Strategic Marketing**

### **SMKT 6005 - MARKETING LAWS (3)**

Study of the basic knowledge of the laws and regulations applied to marketing activities. Analysis of the legal liability of the companies in the use of strategies related to marketing activities.

### **SMKT 6010 - STRATEGIC COMMUNICATION and CREATIVITY (3)**

Development of communication strategies through the analysis of strengths, opportunities, weaknesses and threats (SWOT). Emphasis on strategic creativity in the communication process.

### **SMKT 6020 - BRAND STRATEGIES (3)**

Development of tools to assess, plan and implement brand strategies. Emphasis on brand strategies that give the companies a sustainable value, competitiveness and sustained growth.

### **SMKT 6030 - STRATEGIES FOR PRODUCTS AND SERVICES (3)**

Analysis of the criteria and the experiences of the consumer for the formulation of strategies for marketing of products and services.

### **SMKT 6040 - ECONOMICAL AND FINANCIAL STRATEGIES IN MARKETING (3)**

Application of the principles of economy and finance to a company. Formulation of strategies and policies for economical and financial decision-making.

### **SMKT 6050 - SALES STRATEGIES (3)**

Examination of various sales models. Development of sales strategies aimed to maintain and increase the profits



of the companies.

### **SMKT 6060 - IMPLEMENTATION AND ASSESSMENT STRATEGIES (3)**

Study of market indicators to assess the impact of marketing on business strategies. Design of metrics and analysis of results.

### **SMKT 6070 - STRATEGIES OF DISTRIBUTION AND LOGISTICS (3)**

Study of the movement of goods and services from its origin to its final destination. Application of distribution and logistics strategies in companies.

### **SMKT 6071 - PROJECT: DESIGN OF A STRATEGIC PLAN (3)**

Practice of all knowledge acquired through the program in the design of a strategic plan for a company. Prerequisite: Have passed all courses of the program with a minimum grade of C. Grade: P/PP/NP.

### **SMKT 6971 - PROJECT: DESIGN OF A STRATEGIC PLAN (3)**

Practice of all knowledge acquired through the program in the design of a strategic plan for a company. Prerequisite: Have passed all courses of the program with a minimum grade of C. Grade: P/PP/NP.

## **SNLI - Sign Language Interpretation**

### **SNLI 5000 - INTRODUCTION TO THE SORDA COMMUNITY STUDY (3)**

Analysis of sociocultural factors that define deaf people as members of a cultural minority. It includes history, the contribution of deaf people to society and the listener's attitudes towards this population and sign language.

### **SNLI 5010 - SIGN LANGUAGE STRUCTURE (3)**

Analysis of knowledge of common vocabulary, of lexical elements on sign language. Acquisition and use of the functional grammatical structure of Sign Language and the development of comprehension and production skills.

### **SNLI 5020 - CONVERSATION SKILLS IN SIGN LANGUAGE (3)**

Development of skills and fluent conversation skills through the use of classifiers, non-manual grammar, spatial references and "shifting role". Application of techniques for textual and vocal interpretation, paraphrasing and a variety of interpretation techniques in narrations, descriptions, comparisons and comments.

Prerequisite: SNLI 5010.

### **SNLI 5030 - INTERPRETATION IN EDUCATIONAL SCENARIOS (3)**

Application of text analysis skills for the consecutive and simultaneous interpretation of discourses in interactions in educational settings. The technical signs and the system of signs in the educational centers are studied. Requires: 15 hours of experiences in educational settings.

Prerequisite: SNLI 5000 and 5010.

### **SNLI 5040 - INTERPRETATION IN HEALTH SCENARIOS (3)**

Application of text analysis skills for consecutive and simultaneous interpretation of discourses in interactions in health centers. The technical signs and the system of signs in the health centers are studied. Critical analyzes of the structure and content of basic medical and health terminology. Requires: 15 hours of experiences in health scenarios.

Prerequisite: SNLI 5000 and 5010.

### **SNLI 5050 - INTERPRETATION IN LEGAL SCENARIOS (3)**

Application of text analysis skills for the consecutive and simultaneous interpretation of discourses in interactions in legal centers. The technical signs and the sign system in the legal centers are studied. Critical analyzes of the structure and content of basic legal terminology. Requires: 15 hours of experience in legal settings.

Prerequisite: SNLI 5000 and 5010.

## **SOPM - Service Operations Management**

### **SOPM 5000 - INTRODUCTION TO SERVICE OPERATIONS MANAGEMENT (3)**

Study of the fundamental concepts of Service Operations Management. Integration of marketing skills, human resources and the operational functions of companies. Emphasis on the planning, creation and development of the service experience between the client and the supplier. Analysis of service models.

### **SOPM 5100 - SERVICE AND EXPERIENCE DESIGN BETWEEN CUSTOMER AND SUPPLIER (3)**

Study of the necessary elements for the optimal design of the service experience between the client and the supplier.

Analysis of the elements that support the total experience (customer benefit package) of the client and the supplier to have an optimal meeting.

**SOPM 5200 - SERVICE MEETING DESIGN AND PERFORMANCE MEASUREMENT (3)**

Identification of the issues and decisions necessary to design effective service meetings. It focuses on the direct or indirect interaction between the client and the supplier. In addition, mathematical models for the design of the service experience and performance metrics are included.

## SOWO - Social Work

**SOWO 5011 - HUMAN BEHAVIOR IN THE SOCIAL ENVIRONMENT I (3)**

Study of eco-systemic and strength based theories, and their application in various human systems. Analysis of the theories of human behavior, diversity and oppression, and their implications for social intervention.

**SOWO 5012 - HUMAN BEHAVIOR IN THE SOCIAL ENVIRONMENT II (3)**

Study of conflict, phenomenological, and organizational theories. Examination of the concepts of oppression and exclusion, and how they are promoted through social structures, ideologies, language and power relations.

Prerequisite: SOWO 5011.

**SOWO 5013 - FUNDAMENTALS OF PROFESSIONAL PRACTICE I (3)**

Critical analysis of the historical development of the profession. Examination of the generalist intervention process with various human systems. Study of professional ethics as an essential principle for the practice of Social Work. Application of interview strategies and techniques and documentation in the process of the general practice of social work.

**SOWO 5014 - FUNDAMENTALS OF PROFESSIONAL PRACTICE II (3)**

Study of the theoretical and practical aspects necessary for working with groups, communities and organizations from the generalist practice. Analysis of the organizational context and its relationship with the practice of social work. Application of basic skills in the use of the Generalist Model in working with groups, communities and organizations, with emphasis on oppressed and marginalized populations.

Prerequisite: SOWO 5013.

**SOWO 5015 - SOCIAL POLICY AND SOCIAL WELFARE SYSTEMS (3)**

Study of the historical development of the social welfare system in Puerto Rico and other countries. Analysis of social policy, programs, services and their implications for underprivileged and oppressed groups in Puerto Rico and in other countries. Discussion of the intervention of the state in the formulation of social policy, in the development of the social welfare system, and in social change.

**SOWO 5016 - RESEARCH IN SOCIAL WORK (3)**

Discussion of the concepts and stages of research. Critical analysis of innovative methodologies in social work research. Examination of ethical dilemmas and researcher practices that impact the diversity of population groups.

**SOWO 5923 - PRACTICUM I (3)**

Application of the knowledge and skills of the Generalist Model to the processes of social intervention within the organizational scope. Emphasis on the perspective of strengths and empowerment in the offering of direct and support services with diverse individuals and their families. It requires a minimum of 200 hours. A minimum of 80% is required to pass. Grade: P/NP.

Prerequisite: SOWO 5011 y SOWO 5013.

**SOWO 5924 - PRACTICUM II (3)**

Application of the Generalist Model with individuals and families. Emphasis on social work with groups and the community. It requires a minimum of 200 hours. A minimum of 80% is required to pass. Grade: P/NP.

Prerequisite: SOWO 5923.

**SOWO 6029 - DIVERSITY AND OPPRESSION (3)**

Critical analysis of the theoretical frameworks and social, political, cultural, and economic factors that generate and maintain oppression in various groups. Study of the diverse populations discriminated by reason of age, gender, race, ethnicity, sexual orientation, and religious or political creed, among others.

**SOWO 6036 - PROGRAM PLANNING AND EVALUATION (3)**

Study of the planning process of programs in human services organizations. Analysis of the methodology and evaluation processes of programs to achieve quality services. Critical review of ethical dilemmas in the evaluation of programs.

**SOWO 6037 - ADMINISTRATION IN SOCIAL WORK (3)**

Critical analysis of the principles and processes in the administration of human service agencies. Analysis of organizational theories in the administration of human services in the various roles of the social worker-administrator and the ethical implications. Emphasis on the process of intercession and facilitation for empowerment of service users and personnel.

**SOWO 6038 - ADMINISTRATION OF HUMAN RESOURCES (3)**

Analysis of the role of the social worker as administrator of human resources in social service institutions. Examination of the principles and techniques of the selection process, training, supervision and evaluation of agency personnel and the legislation applicable to these processes. Emphasis on cultural diversity, the empowerment of personnel and the quality of services, as well as the preventive role of negligence and professional incompetence.

**SOWO 6039 - GRANT PROPOSALS FOR FUNDING (3)**

Analysis of dilemmas, processes and procedures related to the preparation and presentation of proposals for obtaining funds. Identification of financing sources available inside and outside the country. Requires the preparation of a proposal.

Prerequisite: SOWO 6036.

**SOWO 6042 - SOCIAL WORK WITH ORGANIZATIONAL AND COMMUNITY GROUPS (3)**

Evaluation of the structure, functions and tasks of formal and informal groups from the community and organizational perspective. Analysis of group dynamics as a means to integrate social capital to teamwork to facilitate the achievement of group goals. Emphasis on the role of the social worker as administrator from a strengths and empowerment perspective.

**SOWO 6043 - ADMINISTRATION OF NON-GOVERNMENTAL ORGANIZATIONS (3)**

Study of non-governmental organizations, their development, and inherent dilemmas. Analysis of the objectives, structure, governance and personnel patterns and their relationship with the community environment. Discussion of the leadership characteristics needed to direct these agencies. Analysis of concepts such as

diversity, power sharing and empowerment.

**SOWO 6045 - SOCIAL WORK AND THE ELDERLY (3)**

Review of the biopsychosocial factors in elderly people. Theoretical approximations that explain the relationship between the elderly and their families. Analysis of controversies related to this group and examination of ethical dilemmas.

**SOWO 6052 - SUPERVISION IN THE ORGANIZATIONAL CONTEXT (3)**

Analysis of supervision models that facilitate organizational work processes and the achievement of programmatic goals. Development of the competencies of the leader-supervisor. Emphasis on conflict management in human service organizations.

**SOWO 6062 - MODELS IN SOCIAL GROUP WORK II (3)**

Study of group therapy with diverse populations from a biopsychosocial perspective. Emphasis on the Cognitive-Behavioral Model and the Transtheoretical Model in the processes of behavior change through group therapy. Discussion of the role of the social worker as a group therapist in the process of change. Analysis of ethical aspects in group therapeutic interventions.

Prerequisite: SOWO 6161.

**SOWO 6064 - MENTAL HEALTH AND SOCIAL WORK (3)**

Analysis of behavior disorders and concepts of atypical behavior and mental illness throughout history. Analysis of the psychosocial and biological aspects that affect the development of mental illness. Study of the mental conditions commonly diagnosed by the classification system Diagnostic Statistical Manual (DSM). Emphasis on the ethical and legal responsibility of the social worker during intervention with diverse populations.

**SOWO 6072 - CLINICAL SUPERVISION (3)**

Analysis of the supervision process in social work in direct or clinical service scenarios. Application of supervision strategies and techniques in the provision of services. Study of strategies aimed at creating an environment that fosters training and professional development. Analysis of the responsibility of the clinical supervisor for the outcomes of the person under supervision and for preventive measures in the event of negligence and professional incompetence.

**SOWO 6131 - FAMILY INTERVENTION MODELS I (3)**

Evaluation and application of intervention models with families in order to facilitate the empowerment of families in their environment. Examination of the theoretical basis, values and professional roles in the models of strengths, solutions and communication. Application of the Code of Ethics in professional practice.

**SOWO 6132 - FAMILY INTERVENTION MODELS II (3)**

Critical review of therapeutic models: structural, cognitive behavioral and narrative. Study of effectiveness based on evidence of intervention models with families. Application of intervention models that are aimed at the process of empowerment and resilience of diverse families.

**SOWO 6143 - EVALUATION OF EFFECTIVENESS OF PROFESSIONAL PRACTICE (3)**

Evaluation of the effectiveness of the professional practice of social work. Analysis of research that supports evidence-based practice. Emphasis on qualitative and quantitative research to measure the effectiveness of its practice from the various theoretical-methodological perspectives.

Prerequisite: SOWO 5016 or admission to the Advanced Program.

**SOWO 6161 - MODELS OF SOCIAL GROUP WORK I (3)**

Study of the different types of groups aimed at primary prevention and processes that facilitate the strengthening of the diversity of families. Emphasis on socio-educational groups to intervene with factors associated with protective behavior and risk.

**SOWO 6162 - MODELS OF SOCIAL GROUP WORK II (3)**

Study of group therapy with diverse populations from a biopsychosocial perspective. Emphasis on the Cognitive-Behavioral Model and the Transtheoretical Model in the processes of behavior change through group therapy. Discussion of the role of the social worker as a group therapist in the process of change. Analysis of ethical aspects in group therapeutic interventions.

Prerequisite: SOWO 6161.

**SOWO 6921 - PRACTICUM III: CLINICAL SOCIAL WORK (3)**

Practical experiences aimed at integrating knowledge and skills in biopsychosocial intervention with families consistent with the principles and values of the social work profession. Integration of ecosystem, strengths and empowerment perspectives. Application of biopsychosocial intervention models with emphasis on prevention. Analysis of social and institutional policy, in accordance with the cultural and socioeconomic reality of the population served. Requires a minimum of 167 hours. A minimum of 80% is required to pass. Grade: P/NP.

Prerequisite: SOWO 5924 or admission to the advanced program.

**SOWO 6922 - PRACTICUM IV: CLINICAL SOCIAL WORK (3)**

Practical experiences for the integration of knowledge and the skills in the intervention with emphasis on couples and family therapy. Application of the model of structural therapy, of the communication, and of problem solving. Emphasis on an evidence based culturally competent practice. Requires a minimum of 167 hours. A minimum of 80% is required to pass. Grade: P/NP.

Prerequisite: SOWO 6921.

**SOWO 6923 - PRACTICUM V: CLINICAL SOCIAL WORK (3)**

Practical experiences in the differential use of the biopsychosocial intervention models with groups in accordance with the perspectives of empowerment and strengths. Emphasis on the group level strategies that reflect a commitment to cultural competence. Implementation of strategies that integrate research as a tool for the evaluation of social work practice. Requires a minimum of 167 hours. A minimum of 80% is required to pass. Grade: P/NP.

Prerequisite: SOWO 6922.

**SOWO 6924 - PRACTICUM III: ADMINISTRATION IN SOCIAL WORK (3)**

Practical experiences aimed at integrating theoretical knowledge into the analysis of an organization in accordance with the purposes, values and ethics of social work administration. Analysis of the philosophy, social policies, and organizational culture of the agency through an empowerment and strengths approach toward the constituents of the organization. Requires a minimum of 167 hours. A minimum of 80% is required to pass. Grade:

P/NP.

Prerequisite: SOWO 5914 or admission to the advanced program.

### **SOWO 6925 - PRACTICUM IV: ADMINISTRATION IN SOCIAL WORK (3)**

Practical experiences aimed at integrating knowledge and skills in the participatory process of planning and coordination in a human services agency. Includes the application of administrative practices in the management of the human resources of the agency. Requires a minimum of 167 hours. A minimum of 80% is required to pass. Grade: P/NP.

Prerequisite: SOWO 6924.

### **SOWO 6926 - PRACTICUM V: ADMINISTRATION IN SOCIAL WORK (3)**

Learning experiences directed towards the integration of theoretical knowledge and skills with a systemic approach of strengths and empowerment in the administration of social agencies. Emphasis on the implementation of the action plan, the preparation of proposals and the search for financial resources for the agency. Application of models for the evaluation of programs. Requires a minimum of 167 hours. A minimum of 80% is required to pass. Grade: P/NP.

Prerequisite: SOWO 6925.

### **SOWO 7130 - CONCEPTUAL APPROACHES IN CLINICAL SOCIAL WORK (3)**

Analysis of the conceptual foundation of the three dimensions that integrate the social-clinical intervention applied to individuals, family, couples and group therapy. Integration of several conceptual models with an echo-systemic, cognitive-behavioral and problem solving approach for intervention. Includes ethical aspects of the social-clinical work. Requires a minimum of 15 hours of lab.

### **SOWO 7140 - COORDINATED HANDLING OF MENTAL HEALTH AND CLINICAL SOCIAL WORK (3)**

Review of the historical aspects and social policies regarding the coordinated handling of mental health services. Critical analysis of the state and federal laws regulating the independent practice of clinical social work. Identification of the strategic and operational resources in the use and planning of services: quality of service, benefits administration, claims and lawsuits. Emphasis on

the critical analysis of the Revised DSM IV, its origin and evolution. Includes ethical aspects related to the use of diagnosis and drugs.

### **SOWO 7150 - FAMILY THERAPY IN SOCIAL WORK (3)**

Analysis of social work intervention in family therapy in Puerto Rico. Discussion of clinical models of intervention in social work beginning with contemporary family therapy approaches which contemplate the complexities families confront. Application of the therapeutic process and the social work function in family therapy. Critical examination of the conditions of oppression, discrimination and the lack of opportunities that families face and which condition their family function. Emphasis on the importance of professional ethics in family therapy. Requires a minimum of 15 hours of lab.

Prerequisite: SOWO 7130, 7140.

### **SOWO 7153 - SOCIAL WORK IN COUPLES THERAPY (3)**

Application of social work intervention with couples. Discussion of the steps in beginning to work with traditional and nontraditional couples. Analysis of the fundamental elements in the function of couples such as: diversity, decision making, problem solving, finances, values, ethics, gender, religion, race, sexual orientation and sexual conditions. Review of how these elements affect the therapeutic reasoning. Requires a minimum of 15 hours of lab.

Prerequisite: SOWO 7130, 7140.

### **SOWO 7154 - GROUP THERAPY IN SOCIAL WORK (3)**

Application of group therapy with different theoretical frameworks to a wide range of biopsicosocial conditions in diverse populations and the role of social work in promoting behavior changes in participants. Emphasis on the cognitive-behavioral model and the strengths approach. Discussion of protocols used in social work scenarios to develop the individual transformation process, maintain cohesion, group tasks and objectives. Requires a minimum of 15 hours of lab.

Prerequisite: SOWO 7130, 7140.

### **SOWO 7156 - PRACTICUM IN CLINICAL SOCIAL WORK (3)**

Practical experience at the post-master's level directed towards the application and integration of clinical social

intervention models for individuals, families and groups. Students must complete 180 hours of work in a mental health scenario. Requires that students have approved the 12 credits of the theoretical courses, which include SOWO 7153.

Corequisite: SOWO 7154.

**SOWO 7215 - QUALITATIVE AND QUANTITATIVE INVESTIGATION IN CLINICAL SOCIAL WORK (3)**

Comparative and complimentary examination of the essential elements of qualitative and quantitative research. Application of qualitative methodology to clinical practice. Comparative and complementary studies between qualitative and quantitative methods.

**SOWO 7230 - NEUROSCIENCES AND CLINICAL INTERVENTION IN SOCIAL WORK (3)**

Examination of the basic structures of the nervous system, its relationship with human behavior and with mental health disorders. Likewise, it deals with the relationship with psychotropic medications. Critical analysis of the recent findings of neuroscience and the challenges they represent for the clinical intervention in social work.

**SOWO 7310 - STATISTICS APPLIED TO THE EVALUATION OF CLINICAL SOCIAL WORK (2)**

Analysis of statistical methods in clinical quantitative research. Examination of hypothesis tests through the processing of statistical data. Application of statistics to the measurement of variables and equally to the generalization of the results of the biopsychosocial intervention.

**SOWO 7315 - PSYCHOTHERAPEUTIC INTERVENTION MODELS (2)**

Analysis of different psychotherapy modalities and their relationship with the theories that support them. It is specified in the discrimination of practices based on evidence as a tool to intervene with different populations and their needs. Application of psychotherapeutic principles in clinical social work.

**SOWO 7410 - CLINICAL THEORIES IN SOCIAL WORK (3)**

Critical examination of the epistemological sources and propositions of the theories congruent with the principles, values and mission of clinical social work. Analysis of the central theories of psychodynamic thinking, as well as with the various related perspectives and that of attachment and relationship links with neuroscience. Postmodernist theories, narrative, and social constructionism are included. Critical evaluation of the social and ideological

subjectivity inherent in the intellectual tradition in most theories of human behavior.

**SOWO 892A - CLINICAL INTERNSHIP II A (1)**

Application of theoretical knowledge and methodological skills in clinical intervention with a minimum of four situations with different populations. Oral and written presentation of the interventions, clinical diagnosis and their empirical justification for each situation. It requires a total of 200 hours. Grade: P/NP.

Prerequisite: SOWO 8910.

**SOWO 892B - CLINICAL INTERNSHIP II B (1)**

Application of theoretical knowledge and methodological skills in clinical intervention with a minimum of four situations with different populations. Oral and written presentation of the interventions, clinical diagnosis and their empirical justification for each situation. It requires a total of 200 hours. Grade: P/NP.

Prerequisite: SOWO 892A.

**SOWO 893A - CLINICAL INTERNSHIP III A (1)**

Application of theoretical knowledge and methodological skills in clinical intervention with a minimum of four situations with different populations. Oral and written presentation of the interventions, clinical diagnosis and their empirical justification for each situation. It requires a total of 200 hours. Grade: P/NP.

Prerequisite: SOWO 892B.

**SOWO 893B - CLINICAL INTERNSHIP III B (1)**

Application of theoretical knowledge and methodological skills in clinical intervention with a minimum of four situations with different populations. Oral and written presentation of the interventions, clinical diagnosis and their empirical justification for each situation. It requires a total of 200 hours. Grade: P/NP.

Prerequisite: SOWO 893A.

**SOWO 8015 - EVALUATION OF EFFECTIVENESS IN THE PRACTICE OF CLINICAL SOCIAL WORK (3)**

Analysis of the historical trajectory and the current situation in the evaluation of the effectiveness of the practice of social work in Puerto Rico and other countries. Study of the evaluation processes and their results from the qualitative and quantitative perspectives. Use of diversity of designs, instruments and standardized scales to measure

effectiveness in practice. Analysis of the research to encourage the production of theoretical knowledge for clinical practice.

Corequisite: SOWO 8016.

**SOWO 8016 - EVALUATION OF PRACTICE EFFECTIVENESS SEMINAR (2)**

Examination of the effectiveness of practice in clinical interventions with individuals, families, children and adolescents. Critical analysis of cases and reports of interventions in a real setting. Requires 15 contact hours and 45 hours of field experiences.

Corequisite: SOWO 8015.

**SOWO 8025 - BIOPSYCOSOCIAL AND PSYCHOPATHOLOGICAL DIAGNOSIS IN CLINICAL SOCIAL WORK (3)**

Critical analysis of current diagnostic manuals and their uses by other disciplines in biopsychosocial diagnosis for different psychopathologies, as well as their application to different populations.

Corequisite: SOWO 8026.

**SOWO 8026 - BIOPSYCHOSOCIAL AND PSYCHOPATHOLOGICAL DIAGNOSTIC SEMINAR (2)**

Evaluation of the clinical interventions carried out. Study of the criteria and indicators that lead to diagnoses and intervention methods. Weighting of cases and diagnoses in a real scenario by using current diagnostic manuals. Requires 15 contact hours and 45 hours of field experiences.

Corequisite: SOWO 8025.

**SOWO 8030 - CLINICAL INTERVENTION WITH FAMILIES (3)**

Comparative examination of family therapy models that include non-traditional models and those applicable to diverse populations. Analysis and application of clinical intervention models with families that meet the basic needs of the life cycle that occur from pregnancy to death in its various components. Emphasis on psychosocial intervention with families that have patterns of interpersonal violence such as gender, against minors and sexual abuse. Analysis of evidence-based interventions.

**SOWO 8040 - CLINICAL INTERVENTION WITH CHILDREN AND ADOLESCENTS (2)**

Critical analysis of evidence-based intervention models with children and adolescents. Emphasis on the incidence, diagnosis, treatment of prevalent conditions and their application in different settings.

**SOWO 8050 - CONSTRUCTION OF MEASUREMENT INSTRUMENTS IN CLINICAL SOCIAL WORK (2)**

Design and construction of instruments for the evaluation measurement that validate the effectiveness of the biopsychosocial intervention in the practice of clinical social work. These instruments can be in the qualitative or quantitative order, depending on the purpose of the measurement. Analysis and application of concepts such as: validity and reliability in measurement scales. Examination of the ethical-philosophical aspects related to measurement in practice.

**SOWO 8060 - HEALTH PERSPECTIVE IN CLINICAL SOCIAL WORK (2)**

Critical analysis of the health perspective in social policies for the attention of clinical, epidemiological and social aspects. Review of interventions that are used to disseminate results. Application of social policy analysis models to evaluate programs and services in relation to health.

**SOWO 8110 - TRAUMA AND ADVANCED CLINICAL PRACTICE IN SOCIAL WORK (2)**

Analysis of the different theoretical approaches that explain the trauma and the clinical strategies to intervene with children, adolescents and adults. Understanding of the theoretical approaches of neuroscience.

**SOWO 8120 - ADDICTIONS AND THE PRACTICE OF CLINICAL SOCIAL WORK (2)**

Identification and diagnosis of people with additions, as well as their relationship with other mental conditions, from the perspective of neuroscience. Emphasis on a biopsychosocial intervention focused on the family. Analysis of the various clinical intervention models, their differences and controversies.

**SOWO 8130 - THERAPEUTIC GROUPS WITH VARIOUS POPULATIONS (2)**

Critical analysis of group therapy models with respect to their theoretical frameworks, their purpose and population to which they are directed. Examination of the contribution of collective dynamics to the individual therapeutic goal

designed. Special attention to the contribution of collective dynamics to the individual therapeutic goal designed. Special attention to the therapy of games and other nontraditional types.

### **SOWO 8910 - CLINICAL INTERNSHIP I (1)**

Critical analysis of the policies, protocols and regulations of an agency to deal with mental health problems. The population profile, its predominant pathologies and diagnoses are contrasted with the services provided to them. A minimum of four psychosocial interventions are carried out, written and oral presentation of the clinical diagnosis and the empirical justification, as well as their interventions. It requires a total of 200 hours. Grade: P/NP.

Prerequisite: Have approved all methodology courses and their seminars.

### **SOWO 8921 - CLINICAL INTERNSHIP II (2)**

Application of theoretical knowledge and methodological skills in clinical intervention with a minimum of eight situations with different populations. Oral and written presentation of the interventions, the clinical diagnosis and the empirical justification for each situation. It requires a total of 400 hours. Grade: P/NP.

Prerequisite: SOWO 8910.

### **SOWO 8931 - CLINICAL INTERNSHIP III (2)**

Application of theoretical knowledge and methodological skills in clinical intervention with a minimum of eight situations with different populations. Oral and written presentation of the interventions, the clinical diagnosis and the empirical justification for each situation. It requires a total of 400 hours. Grade: P/NP.

Prerequisite: SOWO 8921.

### **SOWO 8985 - DISSERTATION AND PUBLICATION SEMINAR (2)**

Application of the theories, research methods and instruments for the preparation of the research proposal and for publishable articles. Grade: P/NP.

Prerequisite: Have approved SOWO 7215, SOWO 7310 and SOWO 8050. It requires 15 hours of face-to-face sessions and 45 hours of reading, research research and writing experiences.

### **SOWO 8991 - DISSERTATION I (3)**

Written and oral presentation of the etiology of a

biopsychosocial problem experienced by a population attended during the internship. Integration of a literature review that includes evidence-based interventions and their results, as well as the research proposal. The summary of the literature review may be publishable. Presentation and oral defense of a research proposal. The approval of this written and oral presentation will allow the student to continue to the second phase or implementation of their research. Grade: DP/P/NP.

Prerequisite: Certification of approval of the publishable article by the evaluation committee.

### **SOWO 8992 - DISSERTATION II (3)**

Data collection and analysis of the results of the investigation. Written presentation of the results of the investigation and the oral defense of the same. Grade: DP/P/NP.

Prerequisite: SOWO 8991.

## **SPAN - Spanish**

### **SPAN \_\_\_\_ - Special Topics (3)**

Special Topics in Spanish.

### **SPAN 5140 - TEXT PRODUCTION (3)**

Application of the current theories on the process of writing to the production of written text. Emphasis on expository and argumentative text writing such as the essay, the research report, article review or the monograph in different media and formats, including the electronic medium. Includes the discussion and the practice of support strategies to plan, to write and to review documents. Requires skills in the use of computers.

### **SPAN 6140 - THE TEACHING OF SPANISH AS A SECOND LANGUAGE (3)**

Common elements in the teaching of a second language; techniques used in teaching Spanish as a second language; emphasis on writing techniques.

### **SPAN 6904 - IMPORTANCE AND PERTINENCE OF APPLIED LINGUISTICS IN THE STUDY OF THE SPANISH LANGUAGE IN PUERTO RICO (3)**

Analysis of linguistics as an applied science that permits the study and monitoring of Spanish as a language and its current pertinence. Development of a curricular segment. Course designed for students in the Master of Education in Curriculum and Teaching of Spanish.



**SPAN 6905 - APPLICATION OF ADVANCED GRAMMAR IN MODERN COMPOSITION (3)**

Theoretical and practical analysis of the postulates and concepts that serve as the basis for the study and development of the Spanish language. Production of oral and written speeches. Development of a curricular segment. Course designed for students in the Master of Education in Curriculum and Teaching of Spanish.

**SPAN 6906 - CRITICAL VIEW OF PUERTO RICAN LITERATURE: 20TH CENTURY TO THE PRESENT (3)**

Critical study of the development of Puerto Rican literature through the analysis of representative works and authors of the different genres and literary movements, including the 20th century to the present. Development of a curricular segment. Course designed for students in the Master of Education in Curriculum and Teaching of Spanish.

**SPAN 6907 - IMPORTANT FIGURES IN CONTEMPORARY SPANISH-AMERICAN LITERATURE (3)**

Study of the general background of the development of Spanish-American Literature based on the analysis of representative works and authors of the different trends and literary genres, from the 20th century XX to the present. Development of a curricular segment. Course designed for students in the Master of Education in Curriculum and Teaching of Spanish.

**SPAN 6908 - NEW APPROACHES OF THE TEACHING OF SPANISH (3)**

Study of new models for the teaching of Spanish and their application to pedagogical practices of Spanish in Puerto Rico. Development of a curricular segment. Course designed for students in the Master of Education in Curriculum and Teaching of Spanish.

**SPAN 6909 - STUDY AND APPLICATION OF READING AND WRITING AS TEACHING TOOLS (3)**

Study of teaching theories and techniques that apply to the planning and development of reading and writing skills. Analysis of novel approaches and resources directed to the development and practice of skills that stimulate innovation in teaching. Development of a curricular segment. Course designed for students in the Master of Education in Curriculum and Teaching of Spanish.

**SPAN 6910 - TRAJECTORY AND EVOLUTION OF THE CONCEPT OF IDENTITY IN PUERTO RICAN POETRY OF THE 20TH CENTURY (3)**

Emphasis on the identification and examination of expressions of national affirmation arising in Puerto Rican poetry during the 20th century. Presentation of an integrated view of poetic discourse revealing a clear trend towards the search for and affirmation of a Puerto Rican national identity from different perspectives. Development of a curricular segment. Course designed for students in the Master of Education in Curriculum and Teaching of Spanish.

**SPLP - Speech-Language Pathology****SPLP 5100 - ANATOMY, PHYSIOLOGY AND NEUROLOGY OF THE MECHANISMS OF SPEECH, LANGUAGE AND HEARING (3)**

Review of the anatomical, physiological and neurological bases of speech production. Emphasis on the study of the structures and mechanisms of breathing, phonation, resonance, articulation, hearing and the nervous system.

**SPLP 5105 - FOUNDATIONS OF AUDIOLOGY (3)**

Analysis of the anatomy of the ear, the physiology of the central peripheral auditory system, types of hearing loss and their tests. Emphasis on the administration and interpretation of these tests. Review of the methods of auditory screenings with different populations in diverse scenarios.

**SPLP 5110 - NORMAL DEVELOPMENT OF SPEECH AND LANGUAGE (3)**

Review of the processes related to the normal acquisition of speech and language. Analysis of the main theoretical perceptions related to the normal acquisition and development of speech and language. Emphasis on the development of language components during the periods from childhood to adolescence.

**SPLP 5120 - SEMINAR: CONTEMPORARY TOPICS AND MULTICULTURAL AND METHODOLOGIC CONSIDERATIONS (1)**

Discussion of contemporary topics and review of scientific literature related to the pathologies of speech and language. Emphasis on the multicultural aspects in the evaluation and intervention with diverse populations.

**SPLP 5215 - PROFESSIONAL ETHICS IN SPEECH-LANGUAGE PATHOLOGY (3)**

Analysis of the ethical and legal aspects related to the professional practice of Speech-Language Pathology. Discussion of the ethical codes of the Puerto Rico Speech-Language Pathology and Audiology Organization (OPPHLA for its abbreviation in Spanish), the "American Speech and Hearing Association" (ASHA).

**SPLP 6000 - INTRODUCTION TO AUDITORY HABILITATION/ REHABILITATION (3)**

Review of the principles and strategies in dealing with problems related to hearing impediments in children and adults. Emphasis on the development and preservation of communication through lip reading, auditory training and the use of technology in auditory habilitation/rehabilitation.

Prerequisite: SPLP 5105.

**SPLP 6100 - ARTICULATION AND PHONOLOGY DISORDERS (3)**

Analysis of the development of sound production in children's speech. Discussion of the factors that affect phonological development and auditory-motor learning. Review of the differential diagnosis of the phonological disorders against oro-motor disorders. Discussion of clinical cases to apply the methodologies used in the identification and treatment of such disorders.

Prerequisite: SPLP 5100 and 5110.

**SPLP 6101 - LANGUAGE DISORDERS IN CHILDREN I (3)**

Analysis of language disorders in the children from birth to five years of age. Evaluation and intervention of the different language pathologies in the context of language components. Review of research related to language disorders in children.

Prerequisite: SPLP 5110.

**SPLP 6102 - LANGUAGE DISORDERS IN CHILDREN II (3)**

Analysis of language disorders in school age and adolescent children, as well as the linguistic and cognitive processes related to the performance of children in the classroom in language skills (listening, speaking, reading and writing). Evaluation of the functions of the speech-language pathologist in the diagnosis and treatment of students with language learning problems.

Prerequisite: SPLP 6101.

**SPLP 6150 - SIGN LANGUAGE (3)**

Description of the theoretical and practical aspects of sign language. Organization of the basic vocabulary required for the elaboration of phrases, sentences and messages using the American Sign Language (ASL).

**SPLP 6210 - FLUENCY DISORDERS (3)**

Review of the theories, development, nature and symptoms of stuttering and other disorders of fluency in children and adults, as well as the intervention strategies used in dealing with such disorders. Analysis of clinical cases methodologies used in the diagnosis and intervention of different fluency disorders.

Prerequisite: SPLP 5110.

**SPLP 6215 - VOICE DISORDERS (3)**

Review of the etiology, symptoms, development, diagnosis, intervention and prevention of voice disorders in children and adults.

Prerequisite: SPLP 5110.

**SPLP 6320 - DIAGNOSTIC METHODS IN SPEECH-LANGUAGE PATHOLOGY (3)**

Application of the diagnostic principles and procedures in Speech-Language Pathology to establish a differential diagnosis. Emphasis on the procedures of evaluation, interview techniques, data compilation, integration and interpretation, as well as in the documentation and writing of evaluation reports. Discussion of the evaluations of different clinical cases with diverse conditions.

Prerequisite: SPLP 5100, 6102, 6210, 6215.

**SPLP 6325 - ACQUIRED LANGUAGE DISORDERS (3)**

Analysis of the neuropathology, symptoms and speech and language rehabilitation in individuals with aphasia and other related disorders that affect communication in the adult. Comparison with other disorders, such as: dementia, cerebral trauma, vascular brain accident and damage to the right hemisphere to establish a differential diagnosis. Evaluation, treatment and prognosis of such conditions.

Prerequisite: SPLP 5100.

**SPLP 6405 - AUGMENTATIVE AND ALTERNATE AID FOR COMMUNICATION (3)**

Discussion of the theoretical and practical aspects of the

augmentative and alternate aids for communication (AAC) and their impact in the life of people with severe communication impediments. Evaluation of the available equipment, their characteristics and uses. Discussion of strategies for the implementation of AAC to satisfy the communication needs of clients.

Prerequisite: SPLP 6102.

### **SPLP 6430 - DYSPHAGIA IN CHILDREN AND ADULTS (3)**

Review of the anatomy and physiology of the normal swallowing process in infants, children and adults. Includes the anatomical and physiological factors that affect the process. Description of swallowing disorders associated with structural, neurological and behavioral disorders. Emphasis on the evaluation methods in the treatment of such disorders.

Prerequisite: SPLP 5100.

### **SPLP 6435 - MOTOR DISORDERS IN SPEECH (2)**

Review of the neurological disorders that affect the production of speech. Discussion of the procedures used in the evaluation of speech disorders associated with neuromotor disorders. Emphasis on neuropathology and the habilitation/rehabilitation of individuals with apraxia and dysarthria.

Prerequisite: SPLP 6100.

### **SPLP 6440 - WRITTEN LANGUAGE DISORDERS (2)**

Evaluation of the reading and writing processes in children with language disorders. Analysis of the relation of oral skills and speech skills with the reading and writing processes, as well as of the function of the speech and language pathologist in the intervention with school age children who present such disorders.

Prerequisite: SPLP 6102.

### **SPLP 6535 - SUPERVISION AND ADMINISTRATION IN SERVICES OF SPEECH AND LANGUAGE PATHOLOGY (3)**

Discussion of the models, theories and principles of clinical supervision in Speech and Language Pathology. Analysis of the administrative aspects of the profession in reference to the offering of services and the supervision of other professionals of the area.

### **SPLP 6910 - CLINICAL PRACTICE I (3)**

Application of the skills, techniques and treatment of speech and language disorders of children and adults with a variety of communication disorder evaluations. Implementation of counseling interventions with the patients and their families. Design and elaboration of intervention plans and the writing of evaluation and progress reports. Requires the student to complete a minimum of 160 hours of supervised practice. Grade: P/NP.

Prerequisite: Have authorization of the Chair of the Program. Corequisite: SPLP 6535 and SPLP 6970.

### **SPLP 6911 - CLINICAL PRACTICE II (4)**

Application of the skills, techniques of evaluation and the treatment of communication disorders of speech and language of children and adults. Implementation of counseling interventions with patients and their families. Design and elaboration of intervention plans and the writing of evaluation and progress reports. Application of the skills of supervision and counseling to speech and language therapists. Use of the skills of administration of services in Speech and Language Pathology. Requires the student to complete a minimum of 240 hours of supervised practice. Grade: P/NP.

Prerequisite: SPLP 6910.

### **SPLP 6970 - INTEGRATION SEMINAR (2)**

Evaluation of the diagnostic and intervention aspects of the most common speech-language pathologies in children and adults with communication disorders. Discussion of the content areas evaluated in the Puerto Rico Board examination and in the national examination (PRAXIS) required for the certification of clinical competence (CCC) and for professional practice in speech-language Pathology. Grade: P/NP.

Prerequisite: SPLP 6140.

## **TALO - Applied Technology in Operations and Global Logistics**

### **TALO 7100 - OPERATIONS MANAGEMENT (3)**

Analysis of the principles relating to the effective use of factors of production in manufacturing activities. Evaluation of the organizations and of production methods, facilities and production operations control systems design. Analysis of operations, forecasting, cost and production, quality control, design, products and services, location of

facilities, suppliers, planning, materials management, chain of suppliers and project management.

### **TALO 7200 - DISTRIBUTION AND GLOBAL LOGISTICS (3)**

Analysis of the fundamentals, processes and policies inherent to the selection, administration of the channels of distribution and the logistics in international processes. Discussion of integral vision, design, and the dynamics of a distribution chain in the economic, political, socio-cultural and technological field in the international environment. Evaluation of the impact of technology in the design, selection and management of distribution channels.

### **TALO 7300 - SERVICE OPERATIONS MANAGEMENT (3)**

Analysis of the fundamental concepts of the management of service operations. Discussion of the concepts of planning, creation and development of the experience of service between the customer and the supplier. Analysis of service models and elements that support the total experience of the consumer and the supplier. Evaluation of mathematical models for the measurement of the performance of the processes in the management of service operations.

### **TALO 7400 - APPLIED TECHNOLOGY IN OPERATIONS AND GLOBAL LOGISTICS (3)**

The research of technology in the field of operations and global logistics. Analysis of the fundamental principles of the technology as a support to the processes of logistics, operations, transportation, distribution and safety of the chain of value in the environment of the global economy. Comparison of the technological tools of the supply chains of local and regional companies in relation to international companies.

### **TALO 7500 - CORPORATE TECHNOLOGY AND SECURITY (3)**

Analysis of the elements inherent to information technology in solving problems, management decision-making and its strategic role for companies. Examination of the security aspect with relation to vulnerabilities and cyber attacks, sabotage, financial fraud and the types of malicious activity that can deal with companies in the global environment. Formulation of internal controls and policies that an organization can take to minimize threats and vulnerabilities.

### **TALO 7600 - BUSINESS INTELLIGENCE (3)**

Analysis of business intelligence at strategic, tactical and operational levels. Discussion of applications in the value chain, management of service to customer, business process analysis and design, processing of transactions, management and executive information systems. Review of management of enterprise data, simulations, such as enterprise resource planning and supply chain management.

### **TALO 7700 - PLANNING AND ENTERPRISE RESOURCE MANAGEMENT (3)**

Use of information systems for the integrated management of business management and the planning of its resources and assets. Analysis of computer platforms for the integration and management of business management. Research of functions and major transactions in the areas of planning in the use of resources, materials, inventory, storage, and distribution management. Assessment of the financial control function, production and services, quality control and the services to the customer.

### **TALO 7800 - CYBERNETIC INVESTIGACIÓN AND FORENSIC METHODS (3)**

Description of the function of the cyber investigation and forensic methods in information management. Analysis of aspects related to cyber crimes, forensic methods, the role of the forensic investigator, the identification and the application of forensic evidence. Use of tools, techniques and processes for the development of a forensic investigation.

### **TALO 7900 - SIMULATIONS IN OPERATIONS AND GLOBAL LOGISTICS (3)**

Description of tools to simulate the processes of distribution and global logistics. Use of simulations of processes for the study and the design of models of evaluation and optimization of the main functions in the distribution and global logistics. Study the design, and the development of simulations to strengthen decision making management at the local and international level. Integration of the concepts of assistance in decision-making, database management and the management of performance-critical through its application

### **TALO 7950 - AUDIT AND CONTROL IN SECURITY INFORMATICS (3)**

Analysis of the process of auditing and control for the security of the systems in an organization. Evaluation of the governance and best practices for the implementation of security systems and effective auditing for information

systems. Comparison of the audit process, and the legal and ethical environments in information technology.

### **TALO 7960 - RESEARCH METHODOLOGY (3)**

Review of conceptual and theoretical frameworks for the development of an investigation. Design of the methodology to be followed in a scientific research aimed at completing a project on technology applied to operations, distribution and global logistics.

### **TALO 7970 - SEMINAR IN APPLIED TECHNOLOGY IN OPERATIONS AND GLOBAL LOGISTICS (3)**

Analysis of investigations and cases on technology applied to logistics and operations. Seminar inclusive of interdisciplinary nature for the development of special topics in the application of technology in global logistics. It will be developed using a methodology of readings, study, literature review, analysis and contrasts of business cases in the field of technology applied to operations and global logistics.

Prerequisite: Have passed all specialization courses and TALO 7960.

### **TALO 8991 - DISSERTATION I (3)**

Development of the dissertation proposal. Defense of the first three chapters to the dissertation committee. The student must submit the proposal approved by the dissertation committee, to the institutional review board and obtain its approval, as required. Grade P/DP/NP.

Prerequisite: Have passed all specialization courses and TALO 7970.

### **TALO 8992 - DISSERTATION II (3)**

Final draft of the dissertation. Preparation for the defense of the dissertation under the supervision of doctoral dissertation committee. Grade P/DP/NP.

Prerequisite: TALO 8991.

## **THEO - Theology**

### **THEO 7000 - FUNDAMENTAL THEMES OF CHRISTIAN THEOLOGY (3)**

Analysis of fundamental topics of Christian Theology, such as the Doctrine of God, Christology, Ecclesiology, and Eschatology. Special attention to the theological, philosophical, and pastoral contemporary dialog of these topics. Review of tendencies, thinkers, trends, and methodology, particularly from the Latin American

perspective.

### **THEO 7010 - BIBLICAL STUDIES (3)**

Critical study of the sacred writings (Old and New Testament). Special attention to several aspects, such as the historical, social, and theological aspects that frame the books of Christian writings.

### **THEO 7016 - EVANGELIZATION IN THE CARIBBEAN (3)**

Analysis and interpretation of the religious, theological and social history of the Hispanic Caribbean until the twentieth century. Interdisciplinary review of Christian thought and its connection with the evangelization process of the Caribbean.

### **THEO 7017 - THEOLOGY: COLONIAL AMERICA (3)**

Analysis and interpretation of the religious and theological phenomenon in the societies of colonial America from the seventeenth century until the beginning of nineteenth century in light of the history of Christian thought.

### **THEO 7019 - THEOLOGY: CONTEMPORARY AMERICA (3)**

Analysis and interpretation of the religious phenomenon and theology in the societies of contemporary America in the period from 1825 to the present in light of the history of evangelization and other religious currents.

### **THEO 7020 - CHRISTIAN ETHICAL PERSPECTIVES (3)**

Analysis of the history, methodology, and the theological and philosophical basis of the ethical-Christian school of thought. Study of deontological, utilitarian, contextual, libertarian, and feminist discourses.

### **THEO 7030 - HISTORY OF CHRISTIANITY (3)**

Study of Christianity from the Apostolic Era, the Patristic Period, the Middle Ages, and the Protestant Reformation to the present. Includes theological development, its ecumenical expressions, and the geographical expansion through the different continents, especially Latin America and the Caribbean.

### **THEO 7100 - CONTEMPORARY THEORIES OF CHRISTIAN THEOLOGY (3)**

Study of trends, theories, practices, and challenges of Christian education in the context of Catholic Christian and Protestant communities in Latin America, the Caribbean and the United States. Emphasis on both the

ecclesial as well as the academia context.

**THEO 7110 - THEOLOGICAL AND PHILOSOPHICAL FOUNDATIONS OF EDUCATIONAL MINISTRY (3)**

Readings and discussions of several contemporary approaches to Christian education, such as those from Horace Bushnell, George Albert Coe, Lewis J. Sherill, James Smart, C. Ellis Nelson, Thomas Groome, and Paulo Freire. Emphasis on educational philosophies, and theories of human development relevant to Christian education.

**THEO 7120 - CURRICULA AND METHODS OF POPULAR EDUCATIONAL THEOLOGY (3)**

Review of different alternative theological education curricula, programs, and strategies for popular sectors, with special emphasis on the models developed by fundamental ecclesiastical communities in Latin America and the Caribbean.

**THEO 7130 - EDUCATION FOR PEACE, HOPE AND SOCIAL JUSTICE (3)**

Study of educational models of Christian Churches that foster brotherhood relations and social coexistence. Analysis of the theological, pedagogical, and social dimensions in the contemporary world context.

**THEO 7140 - CHRISTIAN EDUCATION AND MORAL FORMATION (3)**

Review of the critical role that the teaching of faith and Christian values play on moral formation in its personal and community character. Study of different approaches and methodologies on spiritual and moral development in a pluralist world.

**THEO 7150 - CHRISTIAN EDUCATION AND CONTEMPORARY DEBATES ON GENDER (3)**

Analysis of the impact that theological education has had on contemporary discussions about gender. Study of its connection with topics of ethnic group and social class. Emphasis of the role of this impact on the teaching-learning processes and on curriculum design in the Puerto Rican and Latin American context.

**THEO 7160 - CHRISTIAN EDUCATION, MODERNISM AND POSTMODERNISM (3)**

Study of paradigms that have framed history and human life in Occident. Emphasis on the postulates and the impact of modernism, the different trends of postmodernism, and the critical Christian attitudes facing them.

**THEO 7170 - CHRISTIAN ECUMENISM AND RELIGIOUS EDUCATION (3)**

Study of the biblical, theological and traditional bases of Christian Ecumenism. Examination from a historical perspective, of its presence in Puerto Rico and the rest of the world, with special emphasis on the last two decades. Evaluation of its achievements, goals, forecasts, and impact on Christian education.

**THEO 7180 - SPIRITUALITY AND THE RELIGIOUS EXPERIENCE IN PUERTO RICO (3)**

Interdisciplinary analysis of the search for sanctity and spirituality in our particular context. Study of the heterogeneous character of Puerto Rican spirituality, as well as the factors that influence and legitimize it. Study of native movements, their models of spirituality and the recent development of an inclusive and socially committed ecumenical spirituality.

**THEO 7190 - CLASSIC EXPONENTS OF CHRISTIAN SPIRITUALITY (3)**

Readings and critical discussions of classic texts of Christian thinkers and mystics from the Middle Ages to the XIX century. Includes works from Saint Augustine, Eckhardt, Kempis, Francis of Assisi, Catalina de Siena, Martin Luther, Thomas of Aquinas, Teresa de Avila, San Juan de la Cruz, Ignatius Loyola, Juan Wesley, Fray Luis de León, Tomás Merton, among others.

**THEO 7200 - TOWARDS A PUERTO RICAN PASTORAL WORK (3)**

Evaluation of different approaches to pastoral work in the Puerto Rican context. A critical examination of the impact that the socio-cultural, political, and economical reality has on the different dimensions of pastoral work. Evaluation and reinterpretation of the sources of Christian faith facing the complexity of pastoral work in the XXI century.

**THEO 7210 - PASTORAL WORK AND THE ESCHATOLOGY (3)**

A critical examination of the historical roots and trajectory of theological work as eschatology, in other words, hope that searches understanding. Evaluation, from an interdisciplinary perspective and a pastoral approach, of the Christian eschatological discourse in different historical contexts starting from the writings of the New Testament. Study of the proposal for hope and vision of the future in the theological-political discourses, in the patristic period, the Middle Ages, illustration, modernism and postmodernism with special attention to the Latin American, Caribbean, and Puerto Rican context.

### **THEO 7220 - NEW RELIGIOUS MOVEMENTS IN THE AMERICAS (3)**

A systematic study from the pastoral perspective of historical, sociological and spiritual aspects of new religious groups and sects in Puerto Rico and the Americas. Includes the groups of new conscience, oriental religions and those originated in Puerto Rico and Latin America.

### **THEO 7230 - GERONTOLOGY AND PASTORAL ACTION (3)**

Review of the ways that the elderly experiment religion and spirituality in a society that it is also getting old. From an interdisciplinary perspective, the course covers the complete life of the elderly, with emphasis on spiritual claims that are frequently molded by faith and the religious practice. Explanation of the process of getting old as part of the development of the human being and identifying the physical, social, emotional, and economical aspects of this component of the population. An examination of pastoral models and strategies, from a biblical and theological approach, to adequately address their needs.

### **THEO 7240 - YOUTH AND PASTORAL ACTION (3)**

An exploration of the situations that young people are facing in the Puerto Rican social context and the pastoral response to it from an interdisciplinary approach. Includes social, economical, emotional and spiritual aspects that affect young people. Evaluation of traditional responses to these problems and proposals of new responses from a biblical-theological perspective.

### **THEO 7250 - SPANISH-CARIBBEAN THEOLOGICAL METHODS (3)**

Critical and comparative analysis of the theological methodologies implicit in Hispano-Caribbean thinking. Study of the cultural, economic, social and political context in which Hispano-Caribbean theological methods arise.

### **THEO 7260 - THEOLOGY OF PASTORAL ACTION (3)**

Fundamental aspects of pastoral action and the different theological implications from the praxis perspective. Special attention to the analysis of the historical development, method and object of pastoral theology.

### **THEO 7270 - CHRISTOLOGY AND PASTORAL ACTION (3)**

A theological-pastoral interpretation of the life of Jesus and his relation to the Father, the kingdom, the law, the

cult, and the alienated. The theological-pastoral importance of the topic Jesus for history and Christ for faith. Analysis of the temptations of Jesus, his death and resurrection. Starting from Jesus' resurrection, a presentation of the different Christologies, both neotestamentary, as well as contemporary and their implications for pastoral action.

### **THEO 7280 - ANTHROPOLOGY AND PASTORAL ACTION (3)**

Relation between the biblical anthropology and the presumptions of contemporary anthropology and the implications to pastoral action. Analysis of the great anthropological methods: Pantheist, Gnostic, Fundamentalist, Progressive, Buddhist, Radical, Biblical and Dialectical. Study of the topic of the openness of human beings towards that which is sacred.

### **THEO 7290 - ECCLESIOLOGY AND PASTORAL ACTION (3)**

Identification of biblical keys with respect to the pastoral action of Jesus, its relation and meaning for the primitive church and the apostolic dynamic. Analysis of the church and pastoral models, the concept of God's kingdom, and the concept of Church as the people of God in its prophetic and institutional dimension as theological keys. Study of the historical evolution of the concept of pastoral action.

### **THEO 8000 - MISSION THEOLOGY (3)**

Study of different models of mission theologies expressed throughout the history of Christian churches. Emphasis on the impact of Christian missions in the contemporary world with special emphasis on Latin America.

### **THEO 8010 - THEORY OF THE THEOLOGICAL METHOD (3)**

Study of the theological method as the operative basis of theology. Examination the most distinguished theological methods in contemporary theologies, including the main elements, rules of construction, and critical basis. Identifies the different paths of Puerto Rican theology.

### **THEO 8020 - HUMAN SUFFERING AND THE PROBLEM OF EVIL AND LOVE (3)**

Analysis of a selection of biblical and theological perspectives that have thought about the correlation between human suffering and the problem of evil and love in the Judeo-Christian tradition. Special attention to the biblical-theological interpretations and responses offered on these topics by the Caribbean and Latin America.

### **THEO 8993 - DISSERTATION PROPOSAL (3)**

Writing and defense of the dissertation proposal. Students will work under the direction of their doctoral committee until the proposal is approved by the Committee. They will enroll in this course while working on the proposal for the dissertation.

### **THEO 8994 - DISSERTATION (3)**

Intense work on the research and preparation of the doctoral dissertation. Students will enroll in this course while working under the direction of their doctoral committee. Grade: P/NP.

## **TURI - Tourism**

### **TURI 697G - INTEGRATION SEMINAR IN RESEARCH IN TOURISM (3)**

Analysis and discussion of aspects related to the tourism industry. Development of a research project under the supervision of a professor using ethical criteria related to the profession. Grade: P/NP.

Prerequisite: Approval of the Chair of the Department.

### **TURI 6010 - ANALYSIS AND GENERAL POLICIES OF THE TOURIST INDUSTRY (3)**

Analysis of the basic concepts and the general areas of the tourism as one of the important components in the development of a destiny. Discussion of the importance of tourism for the economy and its local and international socioeconomic impact. Study of policies and regulations related to tourism at local and international level. Analysis of its impact on tourism development.

### **TURI 6110 - CULTURE AS A VIABLE TOURIST DEVELOPMENT (3)**

Analysis of the concepts of cultural tourism and the components of the touristic system towards patrimony and culture. Cultural tourism is considered as a complementary option for a vocation and the necessary tools for its development and implementation.

### **TURI 6210 - ADMINISTRATION AND MARKETING OF TOURIST COMPANIES (3)**

Identification of the new tools for the integral management of tourist companies. Analysis of the global and strategic vision to improve the competitiveness of the companies or tourist enterprises through marketing.

### **TURI 6410 - PLANNING AND ADMINISTRATION OF TOURIST DESTINIES (3)**

Discussion of the competencies, methods and instruments of analysis, as well as the tools of planning and administration of tourist areas. Description of the interpretative models of tourism by means of analysis of its conditions of location, the tourist flow that it generates, the classification of tourist cities with the identification of their products, the impact that tourism generates, the problems of mobility and the analysis of promotion strategies, among others aspects.

Prerequisite: TURI 6310.

### **TURI 6990 - THESIS (3)**

Identification of a research topic in the field of the tourism; analysis of the literature and development of the thesis proposal. Grade: P/NP/TP.

Prerequisite: Authorization of the chair of the Department or his representative.

## **WSCN - Wound and Skin Care**

### **WSCN 5000 - PRINCIPLES OF WOUND AND SKIN CARE (3)**

Differentiation of the professional role in wound and skin care. Discussion of the principles and concepts related to wound and skin care. Description of anatomy and physiology of the skin and soft tissue. Explanation of the epidemiology and physiology of wounds, as well as the estimation of skin care. Discussion of aspects related to evidence-based practice on cultural diversity, administration, ethical - legal principles, patient education, family and health team.

### **WSCN 5010 - ETIOLOGY OF SKIN LESIONS (3)**

Differentiation of the types of skin lesions according to etiology, explanation of the normal process of wound healing. Use of findings according to evidence-based practice.

### **WSCN 5020 - MANAGEMENT AND ADMINISTRATION OF TREATMENT: BIOPHYSIOLOGICAL AND BIOPHYSICAL AGENTS (3)**

Application of knowledge of wound types, costs, and patient's condition to identify the most appropriate treatment. Distinguish between cellular and acellular products for the treatment of wounds. Classify the different tropical products for the management of skin lesions



according to categories. Contrast different wound therapies such as negative pressure, hyperbaric chamber, electrical stimulation, ultraviolet light and ultrasound. Use the principles of infection control. Use of findings related to evidence-based practice.

**WSCN 5030 - MANAGEMENT OF WOUND AND SKIN CARE IN SPECIAL PATIENT POPULATIONS (3)**

Discussion of wound and skin management in special populations (obese, neonatal, pediatric, patients with drainages, fistulas, percutaneous tubes and palliative care). Distinguish risk factors for complications in this population including cultural diversity. Discussion and management of infected wounds. Use of findings related to evidence-based practice.

**WSCN 6911 - PRACTICUM IN WOUND AND SKIN CARE I (2)**

Application of the principles of wound and skin care in various populations with pressure, vascular and arterial ulcers. Application of estimation skills, diagnosis, patient management, education and care administration through demonstration. Use of ethical and legal principles during patient and family intervention, as well as implications for practice. Integration of evidence-based practice during wound and skin care. The student will present all required documents as requested by the practice center. Requires 90 hours of practice.

Corequisite: WSCN 5000 and WSCN 5010.

**WSCN 6912 - PRACTICUM IN WOUND AND SKIN CARE II (2)**

Application of the principles of wound and skin care in diverse populations with surgical, dermatological, neuropathic, and chemical wounds, as well as by trauma, burns, radiation, and other wounds. Application of estimation skills, diagnosis, patient management, education and care administration through demonstration. Use of ethical and legal principles during intervention. Integration of evidence-based practice during wound and skin care. The student will present all required documents as requested by the practice center. Requires 90 hours of practice.

Corequisite: WSCN 5020 and WSCN 5030.



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