

Catalog 2006-2008

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University of Puerto Rico

Medical Sciences Campus

Catalos 2006-2008

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Welcome to the Medical Sciences Campus of the University of Puerto Rico!

The Medical Sciences Campus is one of eleven campuses of the University of Puerto Rico. It is located within the Dr. José Celso Barbosa Medical Center in Rio Piedras, offering students the opportunity to train in the fields of Medicine, Dentistry, Public Health, Pharmacy, Nursing and Allied Health Professions. Historically, the campus has educated the best health professionals in Puerto Rico and many of those serving latino communities in the United States and abroad.

The Medical Sciences Campus is distinguished by outstanding academia in the medical sciences, including excellence in teaching, research opportunities and health services through a multi/ interdisciplinary approach. Each of the degree programs offered is authorized by the Puerto Rico Council of Higher Education; and accredited by its respective professional accreditation agency and by the Middle States Association of Colleges and Universities.

We encourage you to pursue your academic and research interests at our campus and invite you to explore the 2006-2008 Catalog to learn more about our extensive menu of academic degrees in the health fields and how you can be a part of a distinguished health service team. The various curricula to choose from promise to provide you with state of the art education.

Let us be your Alma Mater; become one of our Alumni!

Carlo-Izavlerdo, MC Chancellor

Della M. Comucha, PhD Dean for Academic Affairs







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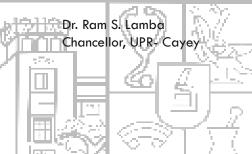
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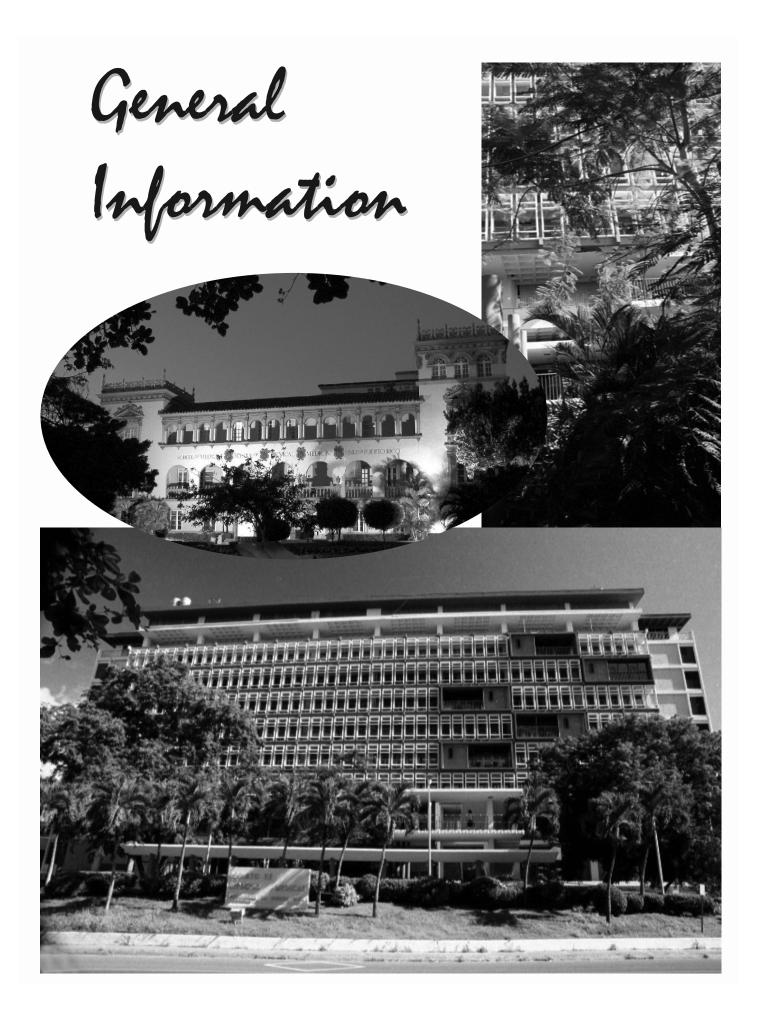
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ORGANIZATION OF THE UNIVERSITY OF PUERTO

The University of Puerto Rico is a multiunit, state supported, university system consisting of eleven campuses: Río Piedras, Mayagüez, Medical Sciences, Cayey, Humacao, Aguadilla, Arecibo, Bayamón, Carolina, Ponce, and Utuado. It is a co-educational university system offering graduate, first professional, five, four, and two-year programs with over 69,000 students, 5,000 faculty members, and 9,000 other employees.

THE BOARD OF TRUSTEES

The Board of Trustees is the governing body of the University of Puerto Rico. It is composed of thirteen (13) members that include: one (1) regular student past his/her freshman year, two (2) tenured faculty members, and ten (10) citizens representing the community. One of the ten community representatives must be a University of Puerto Rico graduate. All community representatives are appointed by the Governor in four (4), six (6), and eight (8) year terms. Student and faculty representatives are elected from among student and faculty representatives in the University Board for a period of one (1) year.

The Board of Trustees is charged by law with the responsibility of authorizing the creation or reorganization of University units, approving the institution's budget, approving or amending University bylaws and overseeing the overall functioning of the institution.

THE PRESIDENT

The President is the chief executive officer and official representative of the University System. He/she is appointed by the Board of Trustees for an indefinite term. With the collaboration of the University Board, the President coordinates and supervises all University activities and takes actions to promote the development of the institution. He/she presides over the University Board and is an ex-officio member of the faculties, academic senates, and administrative boards of the University System. The President, with the advice of the University Board, submits a plan to the Board of Trustees for the comprehensive development of the University on the basis of projects and recommendations, which originate at the institutional units. He/she also prepares a comprehensive budget for the University System based on the budget proposals submitted by the chancellors and approved by the administrative boards of the campuses.

The President also submits to the Board of Trustees the appointment of the chancellors of the institutional units, the financial officers, and other appointments which require confirmation by the Board of Trustees.

THE UNIVERSITY BOARD

The University Board is composed of the University President, who presides it, the Chancellors of all system units, the Director of Finance, three additional officials appointed by the President with the approval of the Board of Trustees, a representative elected by each academic senate, and six student representatives. The Board's essential functions are to integrate the University System's planning and advise the President as to the coordination of the various institutional units in their academic, administrative, and financial matters.

The University Board prepares the General Student Bylaws and submits the document to the Board of Trustees for final approval. It considers the comprehensive development plan and budget proposal for the University System presented by the President, which is then submitted to the Board of Trustees for its approval.

CHANCELLORS AND CAMPUS ADMINISTRATIVE BOARDS

All system campuses are headed by a chancellor who exercises administrative and academic authority according to the provisions of the University Law and other university regulations. The Chancellor of each campus is nominated by the President of the University after consulting with the corresponding academic senates. The appointment is then submitted for consideration by the Board of Trustees. The Chancellor presides over the Academic Senate, the Administrative Board, and faculty meetings, and prepares the budget proposal, which is submitted to the President and the University Board upon approval by the Administrative Board of the campus.

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Each campus has an administrative board composed of the Chancellor, who presides it, the deans, a student representative, and two senators elected from among the non ex-officio members of the Academic Senate. The Administrative Board is an advisory body to the Chancellor. It oversees administrative matters, among them budget proposals submitted by the Chancellor. At the request of the Chancellor, the Board grants leaves, academic rank, tenure, and promotions to academic personnel according to the University Bylaws.

THE ACADEMIC SENATES

All university campuses have academic senates composed of the Chancellor, who presides it, the deans, the Director of the Library, and representatives elected by each faculty from among its tenured members, including librarians, counselors, social workers and psychologists, and the students. The Senate constitutes the official forum of the academic community for the discussion of issues pertaining to many aspects of the institution's life.

The academic senates establish academic policy and establish the general guidelines for appointments, tenure, promotion, and leaves of absence of faculty members. Academic senates elect their representatives to the University and Administrative Boards and make recommendations to the Board of Trustees as to the creation or reorganization of colleges, schools, and units, appointment of chancellors and deans, and evaluate and recommend proposals for the creation of new academic programs. In addition, the academic senates submit student bylaws to the University Board, and establish general rules regarding campus or institutional matters which involve common responsibilities.

HISTORY OF THE MEDICAL SCIENCES CAMPUS

In 1904, the Government of Puerto Rico created the Anemia Commission in response to a pressing health problem in the island. Dr. Bailey K. Ashford and others pioneered in the mass treatment of hookworm disease, establishing the grounds for the Institute of Tropical Medicine, which began operations in 1912. In 1926, under the auspices of Columbia University, the Institute became the School of Tropical Medicine of the University of Puerto Rico. General Information

A specially designed and equipped building for research and teaching was erected next to the Capitol Building in Old San Juan. The School offered programs in the areas of medical technology, health education, public health, nursing, and sanitation, and soon became a renowned center for research and teaching.

The agreement between the University of Puerto Rico and Columbia University was terminated by mutual consent in 1948. The following year, the Legislature of Puerto Rico authorized the establishment of the School of Medicine. The new School admitted its first class in August, 1950 and was accredited in the spring of 1954 by the Liaison Committee on Medical Education. The first forty-five (45) Doctor of Medicine degrees were awarded in June of that year.

In 1953, the San Juan City Hospital became the main clinical setting. The Department of Preventive Medicine was part of the School since its inception. It offered programs in the field of public health, drawing on the long tradition of research and teaching in this area initiated at the School of Tropical Medicine.

On June 21, 1956 the Legislature appropriated funds for the establishment of a school of dentistry. The new School of Dentistry enrolled its first class of twenty-nine (29) students in August, 1957 in a program leading to the degree of Doctor of Dental Medicine.

In 1960, a Department of Health hospital facility located on the grounds of today's Medical Center became the main clinical setting for the School of Medicine and was renamed the University District Hospital. The clinical faculty of the School of Medicine moved to the hospital while the Basic Sciences faculty and the School of Dentistry remained at the original building in Old San Juan.

In the area of basic sciences, the Council on Higher Education of the University of Puerto Rico approved the establishment of graduate education programs leading to the degrees of Master of Science and Doctor of Philosophy in Anatomy, Biochemistry and Nutrition, Medical Zoology, Microbiology, and Physiology. In 1964, the Pharmacology and Toxicology Graduate Program was added. During the 1960s and 1970s the School of Medicine established and expanded residency programs in the clinical specialties. The School of Dentistry created postgraduate programs in Pedodontics and Oral Surgery. Programs in Dental Assisting and Dental Hygiene were also added.

Other programs offered during that period by the Department of Preventive Medicine were Cytotechnology, Demography, Health Services Administration, Radiologic Technology, Medical Records, and bachelor and master's degree programs in Nursing.

The Medical Sciences Campus became a campus as a result of the organizational reform of the University of Puerto Rico, as stated by the University Law of January 20, 1966. Previously, the School of Medicine and the School of Dentistry had deans who reported directly to the Chancellor of the University. Both units operated autonomously with funds assigned directly by the Legislature. Their faculties had no representation in the Academic Senate or the University Board.

The establishment of the Medical Sciences Campus involved the appointment of a chancellor for the Medical Sciences Campus, the centralization of administrative procedures (formerly under the School of Medicine), and the establishment of a contract between the Chancellor of the Medical Sciences Campus and the Secretary of Health for the use of the University District Hospital and facilities of the Puerto Rico Medical Center. In addition, the Chancellor of the Medical Sciences Campus was appointed the official representative of the University in the Board of Directors of the Puerto Rico Medical Center. The Schools of Medicine and Dentistry, the Physical Therapy, Occupational Therapy and Speech Pathology programs, and the Biomedical Sciences graduate programs were organized as units under the new Chancellor.

In 1970, the Department of Preventive Medicine of the School of Medicine became the Graduate School of Public Health under the direction of a dean. In 1971, the Deanship for Student Affairs was established.

In 1972, the Medical Sciences Campus administrative offices and the basic sciences departments, previously located at the School of Tropical Medicine building in Old San Juan, moved to new facilities at the Puerto Rico Medical Center, joining the clinical departments operating at the University District Hospital since 1960. Offices and research laboratories were provided for the basic sciences and clinical faculties in the main building of the Campus, which is adjacent to the University District Hospital and to other buildings of the Puerto Rico Medical Center.

In 1975-76 the Campus underwent an internal reorganization approved by the Council on Higher Education on February 13, 1976, effective July 1, 1976. This reorganization included: the creation of the Deanship for Academic Affairs and the Deanship of Administration, the establishment of the School of Health Professions under which all the technical and professional allied health programs were grouped, the reorganization of the School of Public Health as the Faculty of Biosocial Sciences and Graduate School of Public Health, and the creation of the Office of the Associate Dean for Biomedical Sciences of the School of Medicine.

In 1977, the School of Pharmacy, established in 1913, moved from the Río Piedras Campus to the Medical Sciences Campus. Additional buildings were constructed or remodeled to house the School of Pharmacy and the School of Health Professions and its School of Nursing.

With the addition of the School of Pharmacy, the Medical Sciences Campus truly united the major health professions programs offered by the University of Puerto Rico System. The location of the five schools near the Puerto Rico Medical Center facilitated clinical practice and fostered life as a health sciences campus.

As the institution entered the eighties, planning and development activities were given high priority and were sustained throughout the decade. A Comprehensive Development Plan and a Campus Mission Statement issued in 1984, were followed by strategic plans at the schools and campus level, as well as by a revised mission statement in 1986 and subsequently in 1994.

In 1995, the School of Nursing, until then part of the School of Health Professions, became an administratively separate unit and the sixth campus school.

Growth as a campus is also evidenced in the institution's programmatic areas of teaching, research, and service. In the eighties and nineties new academic programs were added in response to identified health manpower needs. Among them, Master of Science programs in Epidemiology, Pharmacy, Clinical Laboratory, and Industrial Hygiene, as well as a Master of Public Health with a Specialty in Gerontology and Nurse Midwifery. The Graduate School of Public Health began a Doctor of Public Health program in 1998, while the School of Pharmacy began offering a Doctor of Pharmacy degree in August 2001.

ACCREDITATION

Licensing and Accreditation

The Medical Sciences Campus operates as a higher education institution licensed by the Puerto Rico Council on Higher Education and is accredited as a campus by the Middle States Association of Colleges and Schools (MSA). In addition, schools hold accreditation by the accrediting bodies in their fields.

- State Licensing Puerto Rico Council on Higher Education
- National and Specialized Accreditation Commission on Higher Education, Middle States Association; Accrediting Commission on Education for Health Services Administration; American Association of Nurse Anesthetists, Council on Accreditation of Nurse Anesthesia Educational Programs; American College of Nurse-Midwives, Division of Accreditation; American Council on Pharmaceutical Education; American Dental Association, Commission on Dental Accreditation; Commission on Accreditation for Dietetic Education of the American Dietetic Association; American Occupational Therapy Association, Accreditation Council for Occupational Therapy Education; American Physical Therapy Association, Commission on Accreditation in Education; American Speech-Language-Hearing Association, Council on Academic Accreditation; American Veterinary Medical Association, Council on Education; Commission on Collegiate Nursing Education; Council on Education for Public Health; Joint Review Committee on Education in Radiologic Technology; Joint

Review Committee on Educational Programs in Nuclear Medicine Technology; Liaison Committee on Medical Education; National Accrediting Agency for Clinical Laboratory Sciences; Cytotechnology Programs Review Committee of the American Society of Cytopathology; Council on Accreditation of the American Health Information Management Association; Joint Commission on Allied Health Personnel in Ophthalmology.

General Information

• Medicine Residency Programs Accreditation Council for Graduate Medical Education.

MISSION

The Medical Sciences Campus (MSC) became an autonomous unit of the University of Puerto Rico pursuant to the University Law of January 20, 1966. The Medical Sciences Campus is the unit of the State University System chartered to prepare health teams to promote and maintain the best possible health conditions of the Puerto Rican people.

It is a multidisciplinary center assuming the leadership in teaching and research on prevalent health conditions in Puerto Rico.

The Medical Sciences Campus Mission comprises three complementary areas of activity: education, research, and service. These are carried on by the Schools of Medicine, Dentistry, Public Health, Pharmacy, Nursing, and the School of Health Professions.

The Medical Sciences Campus fulfills its educational mission through a wide range of academic offerings in the health sciences, from pre-baccalaureate to post doctoral degrees. The Campus, is a specialized center in basic, applied, and clinical research in the biomedical and biosocial sciences.

The Campus' service mission is fulfilled by diverse on-campus and off-campus activities that include clinical services, consultation, applied research, evaluation, advising, and continuing education.

The students' formative process is attained through a

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variety of educational experiences, both in the classroom and at multiple service settings in public and private institutions in Puerto Rico. These interdisciplinary educational experiences are conducive to the attainment of skills, knowledge, and the necessary attitudes for the performance of the students' roles in the community. Academic programs are offered to diverse student populations regardless of political or religious beliefs, race, sex, age, or socioeconomic level.

The Medical Sciences Campus considers that it is imperative that the students' knowledge, skills, and attitudes lead to their commitment to the welfare of the population, to their ability to work in interdisciplinary teams, their creative capacity, critical thinking, and the ethical and humanistic vision that will enable them to respond to the needs of society and to enrich human experience and the practice of the health professions.

The campus' educational experiences are offered by a highly professional and academically qualified faculty, fully committed to the acquisition and dissemination of knowledge and service to the community.

In its quest for maintaining a preeminent scientific and academic position and in order to enrich its resources and services, the Medical Sciences Campus promotes ample educational and research interactions at local, national, and international levels. In addition, the Campus is committed to the development of an academic environment that promotes a high regard for human values and the attainment of the social, ethical, and economic progress of present and future human beings.

GOALS

Academic and Student Development

- 1. Prepare the scientists, educators, and professionals who will promote and maintain the best health conditions of the Puerto Rican people, by working as an interdisciplinary health team.
- Provide excellent education in the health sciences from pre- and post baccalaureate levels to postgraduate levels.
- Procure that students attain the highest level of excellence in knowledge, development of human sensibility and ethical values, social conscience, critical thinking skills, and lifelong learning.
- 4. Provide a variety of health services in tune with community needs as an integral component

of educational, research, and professional development of the faculty.

 Update the health professionals' knowledge and skills so that they may effectively practice their professions.

Research Development

6. Strengthen scientific, basic, and applied research as the institution's contribution to the search for knowledge in the health field.

Institutional Development

- Maintain a common purpose between administrative tasks and teaching, research, and service pursuits.
- 8. Develop and maintain a commitment to excellence among university personnel.
- 9. Widen national and international collaborative agreements for the strengthening and academic and cultural enrichment of the institution.
- 10. Promote an environment that fosters creative activity, the respect for human values, and the attainment of social progress.
- 11. Endow the Medical Sciences Campus with financial stability in accordance with its academic philosophy.

THE MEDICAL SCIENCES CAMPUS

The Medical Sciences Campus is composed of the School of Medicine, the School of Dentistry, the Graduate School of Public Health, the School of Pharmacy, the School of Health Professions, and the School of Nursing. Three support deanships, i.e., Academic Affairs, Student Affairs, and Administration, assist the Chancellor and the schools in daily operations.

The Chancellor is the chief executive officer for both the academic and administrative affairs at the Medical Sciences Campus. He/she coordinates the various administrative structures common to all academic units and promotes and directs academic planning for the comprehensive development of the institution. The Chancellor represents the Medical Sciences Campus at institutional bodies and the community at large, and is assisted by the Academic Senate on academic affairs, and by the Administrative Board on administrative matters. Each school is headed by a dean who represents it at the Administrative Board and who is an ex-officio member of the Academic Senate. The schools are represented at the Academic Senate by academic senators elected by each faculty. There are also two faculty representatives to the Administrative Board elected from among academic senators.

OFFICE OF THE CHANCELLOR

As chief executive officer of the campus, the Chancellor oversees administrative and academic processes assisted by the staff of the offices of: Institutional and Academic Research, Budget, Physical Planning, Information Systems, Student Ombudsperson, Press and Public Relations, Employee Assistance, Legal Advisors, and Contracts, External Funds and Financial Administration. The Chancellor also presides the Academic Senate and the Administrative Board.

DEANSHIP FOR ACADEMIC AFFAIRS

The Deanship for Academic Affairs of the Medical Sciences Campus was created in 1976 as part of a reorganization of the Campus. The Deanship is charged with the responsibility of overseeing those academic processes that pertain to all schools, such as development of new academic programs, curricular revisions, continuing education, faculty development, accreditation processes, and coordination of interdisciplinary activities.

The Deanship for Academic Affairs comprises two main divisions, each under an Assistant Dean, and several service and research units under the Office of the Dean. The two main divisions are the Office of the Assistant Dean for Academic Development and Planning and the Office of the Assistant Dean for the Integration of Technology and Access to Information in Academia. The first division comprises the Academic Development Office, Accreditation Office, and the Institutional and Academic Research Office. The second division groups the Library, Compu-Centro, the Center for Technological Support in Academia, and the Puerto Rico Health Sciences Journal. All units are described below. Research units are described in the Research Facilities and Programs section of this Bulletin. General Information

Office of the Assistant Dean for Academic Development and Planning

Academic Development Office

The Deanship for Academic Affairs supports the schools in curricular and other related activities. These tasks are carried out by the Academic Development Office, which is also responsible of offering faculty development activities and maintaining close collaboration with the schools and the University Central Administration office. This assures that all academic processes are conducted according to established practices within the University System.

Accreditation Office

The Accreditation Office coordinates the campus accreditation processes by the Commission on Higher Education of the Middle States Association and the institutional licensing process by the Puerto Rico Council on Higher Education. The Office also offers consulting and support services to campus schools and programs in their professional accreditation activities. Campus schools and programs are accredited by twenty professional accrediting agencies.

Institutional and Academic Research Office

The Institutional and Academic Research Office collects and analyzes institutional data in order to support decision-making, strategic planning, budgeting, and assessment activities. The Office produces the campus Annual Report, the campus Fact book, and researches numerous areas of campus activity as requested by university authorities.

Office of the Assistant Dean for the Integration and Access to Information in Academia

<u>Library</u>

The University of Puerto Rico Medical Sciences Campus Library is the main health sciences information resource in the island and the most complete collection of its kind in the Caribbean. Collections and services are geared to academic programs in Medicine, Public Health, Dentistry, Pharmacy, Nursing, and Allied Health.

The Library offers a full range of services to faculty,

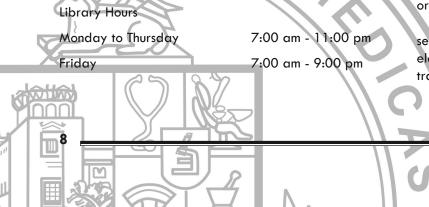
students, and staff of the Medical Sciences Campus and health professionals in the community. These services include book and journal loans, reserve collection, reference services, interlibrary loans, and computer literature searches, both end-user and librarian mediated. The staff also offers bibliographic instruction and workshops on the use of library resources. The collection totals over 125,000 book and journal volumes, including 1,100 active journal subscriptions. The monographs collection contains 44,454 book titles. Books and journals are kept in open stacks with adjoining reading areas.

Non-print materials such as slides, films, cassettes, and videocassette programs are available in the Audiovisual Center that houses a collection of over 2,000 non-print materials and provides facilities for individual and group viewing.

The Puerto Rican Collection contains unique and valuable information about the history and development of the health sciences in Puerto Rico. The Bailey K. Ashford collection, which contains part of the personal library and archives of Dr. Ashford, is a valuable collection for the study of the history of tropical medicine. The Historical Archives house institutional documents from 1966 to the present.

The Medical Sciences Campus Library online catalog, as well as Medline and numerous other information databases may be accessed through the campus web page www.rcm.upr.edu or library web page http://rcmlibrary.rcm.upr.edu.

As a Resource Library of the National Network of Libraries of Medicine, the Library participates in a document delivery program. It is also member of the Consortium of Southern Biomedical Libraries (CONBLS). Through these programs, materials that are not available in the collection are obtained from other health sciences libraries using the ARIEL software for interlibrary loan transmittal. Reciprocal agreements are in place with the Veterans Administration Hospital, and the Río Piedras Campus Natural Sciences Library.



Saturday	8:00 am - 10:00 pm
Sunday	9:00 am - 11:00 pm
Holidays	Closed

Center for Technological Support in Academia

The Center for Technological Support in Academia promotes and facilitates the processes of instructional design and production of learning materials, using the latest technology available. The goals of the Center are to provide the resources needed for the design of instructional materials tailor-made to the needs of students and faculty members, to coordinate and produce learning materials geared at augmenting instructional quality, and promote the utilization of media technology integrated into the teaching-learning process.

The Center provides graphic arts and photography services, as well as production of instructional and educational television programs. It also has downlink capability for teleconferences.

Compu-Centro

Compu-Centro, the computer services and informatics unit of the Deanship for Academic Affairs, is located on the second floor of the campus main building. It opens from 7:30 am to 9:00 pm during the academic year. The Center helps faculty, students, and staff in their efforts to develop and enhance their information technology skills, and supports the academic, research, and service activities of the institution.

Compu-Centro holds several activities throughout the year from which users may select, depending on their needs. These include workshops, formal courses, special training sessions, one-on-one teaching, small group teaching, conferences, demonstrations, orientations, and technical help and support. The staff also plans and organizes custom-made activities for individuals, groups, or faculty members with special needs or interests.

Compu-Centro operates a two- room PC technology section, used for training and independent work, and two electronic classrooms for formal courses and specialized training. Each classroom is equipped with instructor and student PC workstations, a high-resolution video projector, an electronic whiteboard, and printers. All units in these classrooms are connected to the campus computer network and the Internet. Computers provide access to the most commonly used computer applications on campus, including specialized health sciences programs.

Puerto Rico Health Sciences Journal

Published four times a year since 1982, the Puerto Rico Health Sciences Journal is a peer-reviewed journal indexed in Index Medicus. It is the campus' scholarly publication, covering all health sciences areas, including biosocial and health services issues.

Other Units

<u>Central Division for Continuing Education and</u> Professional Studies

The Central Division for Continuing Education and Professional Studies was created in 1981, and transferred to the Deanship for Academic Affairs in 1985. The Division provides continuing education and professional development activities to health professionals in Puerto Rico. It also offers support to other continuing education units on campus, and oversees compliance with institutional continuing education policies and the government's ethics program for public employees.

Florida/Caribbean AIDS Education and Training Center

In 2002, the Puerto Rico AIDS Education and Training Center merged with the Florida AIDS Education and Training Center to become the Florida/Caribbean AIDS Education and Training Center. The Center offers continuing education activities to health professionals serving the HIV population, focusing on new treatments and advances in care. Over the years, the Center has developed an extensive network of community based organizations, migrant health centers, hospitals, correctional health facilities, and public health clinics with which it collaborates in bringing state-of-the-art training to health professionals in direct service to persons living with HIV.

Office of the Registrar

The Office of the Registrar of the Medical Sciences Campus is located on the second floor of the Deanship for Student Affairs and School of Pharmacy Building. The Registrar assures the accuracy and safety of student General Information

records and offers all services pertaining creation, safekeeping, and management of student academic records. Rules and regulations governing these processes are stated in the section Admissions, Registration, and Graduation Procedures of this Catalog.

Institute for Humanistic Studies and Bioethics

In 1995, the Medical Sciences Campus Chancellor approved the creation of the Institute for Humanistic Studies and Bioethics in response to the need to formally address those areas. The Institute's main goals are: to develop and strengthen a humanistic perspective within the health professions, with emphasis on bioethics; to train health professionals in the comprehension, analysis, evaluation, and application of methods used in humanistic disciplines; and to collaborate with the academic faculties in promoting the development of ethical principles among students and health professionals.

The Institute sponsors lectures, workshops, continuing education activities, and other projects to advance its mission. Efforts are also directed to promoting changes in campus curricula to include humanities and bioethics contents.

Women's Health Center

The Women's Health Center was established in March 1996 to contribute to the well-being of women in Puerto Rico. It addresses, coordinates, and incorporates issues relevant to women and their health in existing health services. The Women's Health Center was designated a National Center of Excellence in Women's Health in 1998 and the designation was renewed in 2002 in recognition of its commitment to women's health. The main goal of its interdisciplinary approach is to promote the health and well-being of women in Puerto Rico through the study of the feminine gender in the sciences and in the health professions. The Center offers information, orientation, and educational services to the academic community and to the Puerto Rican community in general, promotes research studies of multi and interdisciplinary nature and the development of integrated services sensitive to women's needs, and promotes the inclusion of issues relevant to women in the training of health professionals.

Institute for Health Sciences History

Created in 2003 with the participation of all campus schools, the Institute for Health Sciences History seeks to promote the study of the history of health sciences by sponsoring symposia, lectures, and multidisciplinary projects among campus faculty and guest researchers. The Deanship for Academic Affairs provides the common ground for all disciplines and the Institute's activities.

As stated above, research units are described in the Research Facilities and Programs section of this Catalog.

DEANSHIP OF ADMINISTRATION

The Deanship of Administration oversees all matters pertaining management of fiscal, human, and physical resources on campus. It is one of the three support deanships and, as such, seeks to facilitate the campus academic mission through sound administrative practices.

The Office of the Dean of Administration and the Offices of Human and Fiscal Resources are located on the 7th floor of the main building. Other units are located throughout the campus.

DEANSHIP FOR STUDENT AFFAIRS

The Deanship for Student Affairs coordinates services offered to students by the institution, including among others, financial aid, student health services, counseling, and cultural activities. Please refer to the Student Services section of this Catalog for a detailed description of these services.

CLINICAL SETTINGS

School of Medicine

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The educational programs offered at the Medical Sciences Campus use a variety of settings for the clinical practice of their students. These are located within the Puerto Rico Medical Center and include the University District Hospital, the Dr. Antonio Ortiz University Pediatric Hospital, the Rafael López Nussa San Juan City Hospital, and the Dr. Isaac González Martínez Oncology Hospital. Agreements also exist with the Veterans Administration Medical Center, the University Medical Services Corporation to perform clinical work at the University of Puerto Rico Hospital in Carolina, and the Diagnostic and Treatment Centers in the cities of Canóvanas and Trujillo Alto. Other clinical sites used include primary care settings in private hospitals and clinics.

Puerto Rico Medical Center

The Medical Sciences Campus is located within the Puerto Rico Medical Center. The institutional units that make up the Medical Center include the University District Hospital and the University Pediatric Hospital, which are owned by the Department of Health of the Commonwealth of Puerto Rico; the San Juan City Hospital, a public hospital owned by the Municipal Government of San Juan; the Industrial Hospital owned by the Commonwealth of Puerto Rico's State Insurance Fund Corporation; the government's Vocational Rehabilitation Center; the Puerto Rico and Caribbean Cardiovascular Center, which is government owned; the community Oncologic Hospital; the University of Puerto Rico Nuclear Medicine Laboratories; the Latin American Center for Sexually Transmitted Diseases; and a short-stay inpatient housing facility for patients undergoing clinical studies.

All units are located around a central building for common use in which multiple services are offered. These include: outpatient clinics, admissions office, emergency room, radiology, clinical laboratories, operating room, dental services, blood bank, pathology, anesthesiology, and other specialized medical services. The medical and dental faculty responsible for the delivery of the centralized medical services are members of the Medical Sciences Campus schools.

School of Dentistry

The School of Dentistry General Clinic is located on the first floor of the Medical Sciences Campus main building. It is equipped with 98 dental units and chairs, which are available for students to perform their clinical procedures. Fourth year students provide services as members of a dental team, following the Institutional Policy of Comprehensive Patient Care. Third year students may serve on different rotation base on dental disciplines availability.

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Other clinics at the periphery of the main clinic complete available services. These include: (1) Oral Surgery, (2) Oral Diagnosis, (3) Oral Roentegenology, and (4) Graduate Clinics.

Other Clinical Settings

Students at the School of Dentistry, the School of Pharmacy, the Graduate School of Public Health, the School of Health Professions, and the School of Nursing practice at numerous sites. The schools have established arrangements with centers for diagnosis and treatment, public and private schools, private hospitals and clinics, the Maternal and Infant Care Program, Head Start Program, family planning clinics, community pharmacies, homes for the elderly, and others.

MUSEUMS

Luis Torres Díaz Pharmacy Museum

Originally founded in 1954 by Dr. Luis Torres Díaz, Dean of the College of Pharmacy from 1940-1968, at the Agustin Stahl Building at the University of Puerto Rico, Río Piedras Campus, the Museum later reopened in 1984 at the Medical Sciences Campus.

The Museum is a representation of a traditional, end of the 19th century pharmacy in Puerto Rico. The main collection has an additional historical value as it was originally owned by J. Federico Legrand, the first pharmacy professor at the U.P.R. Each of the collection's 210 genuine porcelain apothecary jars shows a beautiful reproduction of medicinal plants with their botanical names.

The Museum also exhibits a smaller heterogeneous collection donated by Dr. Torres Díaz which includes jars from different parts of the island, Spain, France, and other countries.

School of Dentistry Museum

The School of Dentistry of the Medical Sciences Campus, opened the first museum of dentistry in Puerto Rico on April 30, 2003. It is located on the first floor of the main building of the Campus.

General Information

The museum exhibits documents, equipment, books, photos and other memorabilia of historical relevance for the dental profession. Of special interest are the clamps of 17.5 inches in length, used during the XIX Century to make extractions. In that time both hands were used to remove the tooth while another person restricted the head of the patient. They are almost identical to the ones in hands of Santa Apolonia, the patron saint of the dentists.

Also calls the attention the dental chair of 1840-1860 period, that resembles a barber's chair. It's not a coincidence, says Dr. Alván Vélez, propellant of the project of the museum. During those days barbers often removed teeth. The museum of dentistry is the result of the effort of several members of the faculty, under the leadership of doctor Vélez.

Research Facilities

and Programs



OFFICE OF THE CHANCELLOR

ANIMAL RESOURCES CENTER

The Animal Resources Center (ARC) is responsible for the daily care of all animals used for teaching and research at the Medical Sciences Campus. The animal facilities are fully accredited by the American Association for the Accreditation of Laboratory Animal Care (AAALAC). The research conducted focuses primarily on the use of laboratory animals as models of human disease.

The ARC is located on the 10th and 11th floors of the Main Building of the Medical Sciences Campus. Facilities on the 10th floor include temperature and light controlled rooms for the housing of rodents and lagomorphs, a Biolevel 2 area for non-human primates, isolation wards with laminar flow ventilation systems and hoods, procedure and treatment rooms, a necropsy room, and administrative offices. The 11th floor contains adequate space and cages for housing of larger species. There is an additional rodent housing room, and a Biolevel 2 non-human primate rooms. The 11th floor also contains a Biolevel 3 animal facility equipped to house up to 40 primates for use in biohazardous research. Ongoing research includes studies on SIV/HIV, axonal regeneration, hormone effects on behavior, addiction, FDA preclinical studies, fasciolasis, cardiology and airway physiology, among others.

CARIBBEAN PRIMATE RESEARCH CENTER

The Caribbean Primate Research Center (CPRC) consists of three facilities with close to 2,000 rhesus monkeys available for biomedical and behavioral research. The animal facilities are fully accredited by the American Association for the Accreditation of Laboratory Animal Care (AAALAC).

Cayo Santiago, a small island off the southeastern coast of Puerto Rico near Punta Santiago, was the first free-ranging colony of rhesus macaques established in the Americas. Since 1938, studies conducted on this population have provided the basis for researchers' knowledge of social organization in rhesus macaques. Furthermonre, studies from Cayo Santiago have largely contributed to our understanding of social and sexual behavior in old **Research Facilities and Programs**

primates. The colony has been monitored continuously since 1956 by a team of trained observers responsible for maintenance of a daily census of the animals. The demographic database on the colony for the past 45 years is computerized. The population presently consists of about 1,115 monkeys divided into seven naturally-formed social groups. DNA fingerprinting is used to determine complete pedigrees as well as for research on paternity and maternity. This colony is ideally suited for studies on behavior and non-invasive biomedical research. The Center provides daily boat transportation to the island. Office, computer, and laboratory spaces are located in Punta Santiago.

The Sabana Seca Field Station is located on a 400 acre tract in Sabana Seca, about 12 miles west of downtown San Juan. This facility houses approximately 1,000 rhesus monkeys in outdoor enclosures. Ready access and differing cage configurations allow many types of behavioral and biomedical studies to be conducted at this facility.

At the CPRC Museum, the Center has the world's largest collection (over 2,500) of complete nonhuman primate skeletons for osteological research.

EXTRAMURAL RESEARCH DEVELOPMENT AWARD (EARDA)

The Extramural Research Development Award (EARDA) was created to:

- Exhance the research productivity of the faculty, and facilitate research experiences for students to reduce health disparities, and improve the health related quality of life of the Puerto Rican community.
- Encourage research excellence, integrity and interdisciplinary collaboration.

Services

- Sponsor mini pilot projects /yearly competition).
- Facilitate the communication between the funding agencies and the faculty.
- Coordinate/conduct workshops on grants writing, grants process, proposal development, and scientific publication.

- Disseminate information on funding opportunities.
- Assist PIs in finding funding appropriate to their research interests and developmental level.
- Assist PIs in the development of proposals with a focus on suitability of funding source and compliance with local and federal guidelines.
- Provide information on federal and institutional research regulations.
- Help orient faculty on IRB and IACUC Policies and Procedures for extrauniversity funding.
- Orientation on scientific misconduct, copyrights and patents, conflicts of interests, ect.
- Suggest sources for grant writing and editing assistance.

PARTNERSHIP FOR EXCELLENCE IN CANCER RESEARCH

Significant disparities in cancer incidence and outcomes exist among ethnic minority populations. The goal of the Partnership for Excellence in Cancer Research between The University of Puerto Rico Cancer Center and The University of Texas M. D. Anderson Cancer Center is to establish a comprehensive long-term mutually beneficial partnership aimed at understanding the reasons behind cancer disparities and their impact on minority populations.

Partnership benefits include, but are not limited to, opportunities for:

 Establishing working relationships between researchers and clinicians at both institutions

 Funding projects to explore minority cancerrelated health disparities.

Providing undergraduate, graduate, medical and postdoctoral student mentored training experiences with clinical and research faculty in cancer research.

Collaboration Opportunities

CANCER RESEARCH:

Cancer research projects in any area of basic, clinical, prevention, control, behavioral or population research.

CABCER TRAINING AND CAREER DEVELOPMENT:

Cancer training and career development programs with an emphasis on the training of minority scientists and on educating other trainees to appreciate the issues and problems associated with cancer disparities in minority populations

CANCER EDUCATION:

Cancer education programs augmenting or creating new curricula that would apprise and culturally sensitize graduate and postdoctoral students in research, medicine and public health of the need to reduce disproportionate cancer burden in minority populations

CANCER OUTREACH:

Cancer outreach programs that help minority communities to develop and manage their own culturally sensitive education programs on cancer risk, early detection, screening, prevention, and treatment. Through funding for collaborative projects, the partnership hopes to improve the competitiveness of clinicians and researchers from The University of Puerto Rico and M. D. Anderson to apply for other types of competitive funding.

Faculty and Trainee Opportunities

Early recruitment of underrepresented minorities to biomedical and health research training is essential to ensure that society's diversity is reflected in those professions. The Partnership helps to prepare underrepresented minorities to become independent clinical and basic cancer researchers.

CURRENT OPPPORTUNITIES AVAILABLE INCLUDE:

Rotations for Graduate Students, Postdoctoral Research Fellows, and Clinical Trainees. Two week to up to three month clinical and basic sciences rotations are available at each institution. These rotations enable trainees from The University of Puerto Rico to work with M. D. Anderson clinicians and researchers to gain hands-on cancer research experience. These rotations also enable M. D. Anderson trainees to gain increased first-hand knowledge about cancer in ethnic minority populations and skills in culturally sensitive patient care. Both rotations also include didactics and special events.

Faculty Development

Seminars, workshops, and short visits to M. D. Anderson and the Puerto Rico Cancer Center and other special events for faculty development are offered through the Partnership on an ongoing basis.

M. D. Anderson summer Research Program

The 10-week Summer Research Program offers college and medical students from The University of Puerto Rico an opportunity to explore biomedical research as it relates to cancer, to gain firsthand biomedical research experiences in the clinical or basic sciences, and to attend institutional lectures and seminars given by M. D. Anderson faculty.

For more information on the Partnership Opportunities listed above, please go to our website at www. mdanderson.org/departments/prcc or http://medweb. rcm.upr.edu/ccpr

DEANSHIP FOR ACADEMIC AFFAIRS

INSTITUTE OF NEUROBIOLOGY

The Institute of Neurobiology of the University of Puerto Rico Medical Sciences Campus is an interdepartmental, interdisciplinary research facility. It is devoted to and equipped for the study of excitable cells and the neurobiology systems formed by them. In addition, the laboratory provides access to the rich fauna and flora which inhabit the littoral waters and the rain forests of Puerto Rico. All laboratory facilities are open to cellular neurobiologists and to research workers including physiologists, anatomists, biochemists, toxicologists, zoologists, and others, both from the University of Puerto Rico and visiting scientists from universities on the mainland and foreign countries. **Research Facilities and Programs**

Ongoing research includes studies of oscillating neuronal circuits in lobster ganglia, the interactions between neurons and glial cells in amphibians, excitationcontraction coupling in invertebrate muscle, establishment of synapses between identified neurons in insects, gene expression in individual identified pyloric neurons in lobsters calcium signaling in muscle, the nature and neural control of ligament stiffening of the joints of sea urchin spines, and the activity, synthesis and turnover of the sodium pump in vertebrates and invertebrates. Retinal projection pathways responsible for the transmission of color information in the visual system, and the morphology of retinal cells that preferentially respond to certain colors are also under investigation. Molluscs are used to investigate the roles of neuropeptides as signaling molecules in the mediation and modulation of behavior. The neurotoxic actions of compounds isolated from tropical marine organisms, some of which are implicated in the fish intoxication syndrome known as ciguatera, are also studied at the cellular level.

The Institute is housed in a building overlooking the Atlantic Ocean in Old San Juan. In addition to laboratories and equipment for experimental research in morphology, including electron microscopy and confocal microscopy, electrophysiology, tissue culture, imaging of intracellular ions by fluorescence methods, and neurochemistry. There are class and seminar rooms, staff offices, and workshops. Guest rooms and kitchen facilities are also available for visiting scientists.

BEHAVIORAL SCIENCES RESEARCH INSTITUTE

The Behavioral Sciences Research Institute is a scientific research program under the Deanship for Academic Affairs of the Medical Sciences Campus. Its main goals are to carry out studies of mental disorders, behavioral problems and their associated features in the adult, child, and adolescent population of Puerto Rico; to translate, adapt to the Puerto Rican culture, and test the psychometric properties of the various diagnostic instruments used in the research performed; to develop methodologies and theoretical models which are applicable to research with Hispanic and other minority populations within the United States; to promote collaborative research with other research centers and researchers within and outside the island, including European research centers; and to provide training to students in basic research skills, both within the University and outside, particularly in Latin America.

The Institute has been funded by various grants from the National Institute of Mental Health, National Institute of Drug Abuse, World Health Organization, and the William T. Grant Foundation. Current projects include: Antisocial Behaviors in US and Island Puerto Rican Youth, Puerto Rico Neonatal Twin Registry, and Pediatric Asthma Disparities: Perceptions and Management.

Past research includes: Vulnerability of Drug Abuse in Puerto Rican Children, Service Use Need Outcomes in Puerto Rican Children, and Translation and Adaptation of the CAPA into Spanish.

RESEARCH CENTERS IN MINORITY INSTITUTIONS (RCMI) PROGRAM

The Research Centers in Minority Institutions (RCMI) Program in the National Center for Research Resources is a congressionally mandated program initiated by the National Institutes of Health (NIH) in 1985. The RCMI Program is a unique concept in the history of NIH to increase the participation of underrepresented minorities in biomedical research. This uniqueness is attributable to the program's focus on institutions rather than on individual investigators.

The University of Puerto Rico Medical Sciences Campus has participated in the RCMI Program since 1986, when the institution was awarded its first RCMI grant. The Program is currently in its fourth cycle of funding, 2001-2006. The goal of the RCMI Program is to continue the development of research at the Medical Sciences Campus, by focusing on the development of a strong infrastructure for conducting research related to health disparities in the Puerto Rican population. Research approaches to address this goal range from the molecular to the clinical level. The specific aims are to: (1) develop infrastructure and provide support services to facilitate the conduct of research related to health disparities; (2) target specific areas of research related to health disparities and provide a focal point for these research activities on campus; and (3) promote the professional development of research

faculty and technical personnel working on this area. To

achieve these objectives, the RCMI Program established the Health Disparities Research Program, which has three components. The Division of Research Resources, includes all activities that provide support services in the areas of molecular genetics, information architecture, and image analysis. The Division of Research Development supports research activities addressing health disparities in the population such as AIDS, women's health (breast cancer, osteoporosis), emerging infectious diseases, and blood disorders. The Division of Advancement in Research provides opportunities for strengthening research skills, obtaining specialized services on biostatistics, epidemiology and scientific editing, rewarding role models, protecting and marketing ideas, and accessing research-related databases. The continuous contribution of the RCMI Program to the research infrastructure of the Medical Sciences Campus is critical to the preservation of the progress made thus far and in permitting still greater levels of achievement by focusing on the health disparities that affect the Puerto Rican population.

CLINICAL RESEARCH CENTER

The goal of the Clinical Research Center is to develop the necessary infrastructure and support services to conduct clinical research activities and to stimulate the clinical research potential of the faculty. The Center has established the following goals:

- Provide opportunities for updating technical expertise and knowledge in clinical research methods.
- Facilitate the interaction between basic and clinical investigators on campus.
- Facilitate the interaction between Medical Sciences Campus clinical investigators and those of other institutions.

These goals are achieved through the center's three major components:

• The Clinical Research Workshops Program coordinates a series of clinical research workshops and seminars by local and external faculty.

- The Clinical Research Faculty Training Program provides opportunities for training to local clinical research faculty in other research institutions.
- The Visiting Faculty Program coordinates visits by established clinical researchers who collaborate and offer consultation in specific clinical research areas or projects.

MINORITY BIOMEDICAL RESEARCH SUPPORT (MBRS), SUPPORT OF CONTINUOUS RESEARCH EXCELLENCE (SCORE), AND RESEARCH INITIATIVE FOR SCIENTIFIC ENHANCEMENT (RISE) PROGRAMS

The National Institute of General Medical Sciences (NIGMS) is dedicated to increasing the number of scientists who are members of minority groups currently underrepresented in biomedical research, including: Blacks, Hispanics, Native Americans, and Pacific Islanders. Towards this end, NIGMS sponsors minority research through the MBRS Program. The program awards grants to educational institutions with substantial minority enrollments in order to support research by faculty members, strengthen the institution's biomedical research capabilities, and provide opportunities for students to work as part of a research team. To be eligible for the program, schools must have either a fifty percent or more minority student enrollment or, if the minority student population is significant but less than fifty percent, a demonstrated commitment to the special encouragement and assistance of minority students and faculty. The Medical Sciences Campus of the University of Puerto Rico is currently a grantee institution.

The MBRS Program provides support for faculty research initiatives under the MBRS Support of Continuous Research Excellence (SCORE) Program. This program provides support for faculty to develop their own independent research leading to peer-reviewed publications, presentations at scientific meetings, and sufficient data for submission of competitive applications for independent research. The purpose of the MBRS Research Initiative for Scientific Enhancement (RISE) Program is to enhance the research environment at minority-serving institutions. Its overall goal is to increase the interest, skills, and competitiveness of students and **Research Facilities and Programs**

faculty in pursuit of biomedical research careers. The RISE Program currently provides support for student development in externally-funded biomedical research projects.

The MBRS SCORE and MBRS RISE Programs fulfill the overall MBRS Program's mission of increasing the number of minority scientists engaged in biomedical research by awarding grants to enable faculty and students to participate in biomedical research. Awards are also made for activities such as attendance to scientific meetings and participation in research during the summer at off-campus laboratories. Monies are also allotted for equipment and laboratory improvements.

SCHOOL OF MEDICINE

THE HISPANIC CENTER OF EXCELLENCE PROGRAM

The Hispanic Center of Excellence Program of the University of Puerto Rico School of Medicine is a federally funded program administered through the Office of Disadvantaged Assistance, Bureau of Health Professions of the Public Health Service. Grants for Centers of Excellence are authorized under Section 782 of the Public Health Service Act. These are awarded to public or nonprofit private health professions schools to support programs of excellence in health professions education of minority individuals.

The Hispanic Center of Excellence Program of the University of Puerto Rico School of Medicine began on September 1, 1993. It contributes to the understanding of health issues affecting Hispanics, the development of instructional activities for health professionals serving mainly Hispanic populations, and the training of Hispanic physicians to deliver culturally sensitive health care and who will understand and contribute to the solutions of the health problems affecting these populations.

The Program is an important promoter of the training of generalist physicians and supports the development of research that is relevant to the health problems faced by Hispanics in Puerto Rico and the US mainland. The Community Oriented Primary Care model is promoted as an appropriate service delivery model upon which instructional activities and relevant research may be developed. The Program conducts activities to strengthen and expand the existing institutional programs concerning student performance and recruitment, information resources, curriculum, faculty development and retention, and faculty and student research. Research is addressed by the following objectives:

- Faculty Research Objective
 - To develop research in community oriented primary care, health services outcomes, and Hispanic health problems that will result in publications and/or presentations by the faculty.
- Student Research Objective

To provide students with a supervised research experience dealing with health issues that affect Hispanics on the island and on the mainland, the results of which will be presented at the Medical Sciences Campus Annual Research Forum or another appropriate professional or scientific forum.

In order to strengthen the program, the faculty training and faculty research components are being implemented in collaboration with the Tufts University School of Medicine and the University of Puerto Rico Graduate School of Public Health. In addition, the Program has joined efforts with the Division of Biomedical Sciences of the School of Medicine in order to enhance the research activities of school faculty and students.

TRANSFUSION MEDICINE PROGRAM

Transfusion Medicine is a multidisciplinary area concerned with the proper use or removal of blood and its components in the treatment or prevention of human disease states.

This program of the Department of Pathology and Laboratory Medicine was funded by a Transfusion Medicine Academic Award (TMAA) granted to the University of Puerto Rico, School of Medicine by the Division of Blood Diseases and Resources, National Heart, Lung and Blood Institute of the National Institutes of Health (NIH) in 1990.

The TMAA program began in 1983 and has since granted awards to prestigious medicine and veterinary schools. Among other goals, the program seeks to stimulate the development of multidisciplinary curricula in transfusion medicine and permit awardees to broaden their

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expertise in transfusion medicine so as to contribute more effectively to the teaching, research, and clinical needs of the discipline. Besides attracting students, physicians, and scientists to the field, the program encourages faculty to provide instruction in transfusion medicine. It also facilitates the exchange of information, education, and evaluation techniques among the research, medical, and service communities. The Program provides information related to Transfusion Medicine at its Information Center. It also offers elective courses on the subject to medical students, residents, and fellows. An exchange program exists with Latin American institutions in the field.

PUERTO RICO CANCER CENTER

The Puerto Rico Cancer Center comprises programs in basic research, clinical research, medical care, education, and community services. It also maintains the Islandwide Cancer Management System.

The Cancer Center seeks to establish programs in basic and clinical research which are of high scientific merit in accordance with the National Cancer Plan and which offer appropriate solutions to various cancer problems. The Center also strives to provide optimal care to cancer patients using a multidisciplinary approach in diagnosis, confirmation, evaluation, treatment, and rehabilitation by applying the best and most advanced diagnostic methods and treatment plans.

Among the Center's educational goals are educational programs for both professional and technical personnel, which meet the needs of the increasing cancer problem in Puerto Rico and abroad, and community educational programs to raise public awareness regarding the early and varied manifestations of cancer and the need to seek prompt and efficient care. The Center also provides an environment in which new basic findings in cancer research may be translated into medical practice and serves as a demonstration center for dissemination of these new therapeutic techniques.

The Center reaches community programs by establishing an effective collaboration between practicing health professionals institutions, and various agencies in Puerto Rico which participate in the Islandwide Cancer Management System.

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The Puerto Rico Cancer Center has established relationships with other cancer centers on the mainland in order to exchange information, and share activities of mutual interest and resources Some of the services offered by the Center include: Clinical Immunobiology Laboratory, Leukapheresis Laboratory, Tumor Registry, Clinical Cancer Research Unit, seminars, symposia, and editorial services.

MATERNAL INFANT STUDY CENTER - CEMI

The Maternal-Infant Study Center, CEMI in spanish, is dedicated to scientific research, training of health professionals and service to women who live with AIDS.

The program offers patients with a multidisciplinary team that provides medical, gynecologic-obstetrics, psychiatric, psychological and social work services. Also provides research clinics with new medicines related with HIV.

One of the most important achievements has been to reduce to zero the perinatal transmission of HIV in patients they have attended. None of the children born to the patients has acquired HIV.

WOMEN AND INFANTS TRANSMISSION STUDY (WITS)

The Women and Infants Transmission Study (WITS) is a multi-center longitudinal, natural history study of pregnant women with human immunodeficiency virus (HIV) infection and their offspring.

This study has had two major phases. WITS 1 enrolled three cohorts including HIV-infected pregnant women and the offspring of HIV-infected women from 1990 through 1993. WITS 2 recruited only HIV-infected pregnant women and their offspring and followed all postpartum women and their children from both WITS 1 and WITS 2 until the end of the study in 1998. The project is on its third phase (WITS 3) and is still recruiting pregnant women and their infants.

This prospective cohort study is designed to answer questions such as likelihood of HIV transmission, the effect of perinatally acquired HIV infection on the infant, and the most effective means for early diagnosis of HIV infection in the infant. Current research also seeks to determine risk factors for ante-partum vs. intra-partum transmission and the most useful predictors for HIV disease progression in postpartum.

Research Facilities and Programs

There are six clinic sites participating in WITS 3, namely State University of New York (SUNY); the Boston Consortium of Hospitals including University of Massachusetts Medical Center, Worcester; Central Massachusetts Medical Center, Worcester; Boston City Hospital, Children's Hospital and Bringham and Women's Hospital; the University of Illinois, Chicago; Baylor University, Houston, Texas; Columbia Presbyterian, New York City; and the University of Puerto Rico, School of Medicine, San Juan. C-TASK serves as the Statistical and Coordinating Center. Four central laboratories are responsible for processing and analyzing specific WITS 3 laboratory specimens.

It is expected that the number of cases of pediatric AIDS will be eventually reduced by lowering the risks of transmission of the virus from mother to infant.

AIDS CLINICAL TRIAL UNIT FOR ADULTS

The AIDS Clinical Trial Unit of the Department of Medicine is part of a multicenter clinical research unit funded by NIAID and its AIDS Division. Its purpose is to offer experimental drug protocols approved by NIH and FDA to the population with HIV/AIDS. The unit has excellent physical facilities and services including clinical evaluation units and pharmacy, psychosocial evaluation, nursing, data management, and health education services. It is actively participating in sixteen clinical protocols and eight sub-studies. Since 1991, the Unit has participated in twenty-eight clinical protocols and fourteen sub-studies, with 546 volunteers.

VACCINE EVALUATION STUDIES OF REPLICATION-DEFECTIVE SIV

Under the sponsorship of a federal research grant, the BL3 Virology Laboratory of the Department of Microbiology and Medical Zoology of the School of Medicine is currently evaluating the vaccine potential of defective simian immunodeficiency virus (SIV) mutants.

Simian immunodeficiency virus mutants generated by the Virology Laboratory are characterized at the molecular level using recombinant DNA techniques. The immunogenicity of these replication-defective mutants is ascertained by the well defined SIV-rhesus macaque model. These studies should lead to a better understanding of SIV replication and of the correlates of protection against pathogenic lentiviruses, including HIV.

CLINICAL MICROBIOLOGY LABORATORY

The Clinical Microbiology Laboratory of the Department of Microbiology and Medical Zoology of the School of Medicine was established in 1983. It is a reference laboratory for Puerto Rico and the Caribbean which performs specialized procedures such as isolation of herpes simplex virus and chlamydia by tissue culture and monoclonal antibody techniques. The laboratory gives technical and scientific support to both clinical and basic research projects that require PCR procedures for the detection of viral genome sequences such as HIV and HPV in human specimens.

SCHOOL OF DENTISTRY

SCHOOL OF DENTISTRY RESEARCH CENTER

The School of Dentistry Research Center is headed by the School of Denstistry's Assistant Dean. The Center has four major components: 1) Project RIPCOHD, to develop its infrastructure and conduct research in oral health disparities with emphasis in dental caries; 2) Project RAAHP, a colloboratirve effort with New York University to study oral cancer in minorities; 3) an Undergraduate Summer Research Program that places undergraduate students (6-8 weeks) in research intensive universities in the U.S.A.; and 4 thesis) research component for students pursuing a Master of Dental Sciences.

The Center's staff offers pre-doctoral dental students, as well as, residents in dental specialties courses in research methods, statistics, and epidemiology.

The School of Dentistry Research Center has conducted or supported several faculty research projects, among them: 1) an investigation of caries, fluorosis and other

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oral health conditions in a national (PR) stratified random sample of 12-year olds; 2) two oral health studies in the elderly in Puerto Rico; and 3) clinical trials of iodine and fluoride varnish interventions to minimize ECC prevalence. In addition, several corporate sponsored clinical trials to evaluate the effect of various therapeutics in toothpaste have been conducted.

SCHOOL OF PHARMACY

PHARMACOKINETICS AND PHARMACODYNAMICS LABORATORY

The Pharmacokinetics and Pharmacodynamics Laboratory of the School of Pharmacy was established with the purpose of characterizing the pharmacokinetics and pharmacodynamics of selected drugs in the Puerto Rican population. The objective is to determine if there are important differences between other populations and the island's requiring dosage adjustment to optimize efficacy and/or minimize toxicity.

Currently, there are various collaborative studies with faculty members of the School of Medicine and clinicians from several hospitals in the Puerto Rico Medical Center. The Laboratory offers the opportunity of expanding preclinical and clinical studies by adding the components of pharmacokinetics and pharmacodynamics study design, drug analysis, and data interpretation. In addition to investigation, the Pharmacokinetics and Pharmacodynamics Laboratory is used for teaching and for clinical services.

CENTER FOR PHARMACEUTICAL PROCESSING RESEARCH (CPPR-UPR)

The Center for Pharmaceutical Processing Research, established in 1995, is one of over 50 such Centers established by the National Science Foundation, and the only one devoted to pharmaceutical processing research. CPPR became a multi-university center with the addition of the University of Connecticut, and the University of Puerto Rico as academic partners. The mission of

the CPPR is to foster an interdisciplinary approach to pharmaceutical processing-related research, to catalyze interaction between industrial and academic scientists, and to make the application of a basic science approach to formulation and manufacture of drug products an integral part of graduate pharmaceutical education. Pharmaceuticals are foremost in the Puerto Rican industrial field. This industry is geared to the manufacturing and processing of both active and finished dosage forms, which is in line with the research focus of CPPR. In agreement with its mission, the CPPR's main goal is to establish an effective research program to support the pharmaceutical industry in Puerto Rico in the solution of manufacturing and processing problems. This goal is attained through the active participation of industry, and UPR faculty, and students in the submission of research proposals. CPPR has also established a collaboration alliance with INDUNIV (University/Industry Research Consortium) to facilitate the interaction between industry and UPR researchers, and to identify areas of research interest and opportunities within the pharmaceutical industry.

MEDICINAL PLANTS EXPERIMENTAL GARDEN

The School of Pharmacy, formerly the College of Pharmacy, established the Medicinal Plants Experimental Garden at the Río Piedras Campus in 1936. The Garden was transferred in 1949 to the University of Puerto Rico Experiment Station's Botanical Garden.

The Medicinal Garden was developed with research purposes and to provide information on the chemical content and pharmacological effects of natural products. The garden contains approximately 200 species of medicinal plants in an acre of land, thirty of them poisonous.

NATURAL PRODUCTS LABORATORY

The Natural Products Laboratory screens natural products for potential anti-HIV, anti-cancer, and anti-malarial bioactives. Through the National Institutes of Health Research Centers for Minority Institutions grant, **Research Facilities and Programs**

an AIDS Screening Laboratory was established in-house, being the only one of its kind in the Caribbean and Latin America. The laboratory is one of the few in the world dedicated to the broad screening of potential anti-HIV bioactives. Strong collaborative research links have been established with the College of Pharmacy, University of Illinois, Chicago; the Walter Reed Army Institute of Research; and the AIDS Center at Purdue University.

GRADUATE SCHOOL OF PUBLIC HEALTH

CENTER FOR HEALTH CARE SYSTEMS EVALUATION AND SOCIOMEDICAL RESEARCH

The goal of the Center for Health Care Systems Evaluation and Sociomedical Research of the Graduate School of Public Health is to promote and conduct research aimed at examining the main health problems that impact Latinos. The research generated by the Center is geared at improving the health conditions and quality of life of the Latino population. The experience in field studies undertaken by the Center during the past fifteen years has been of great help in obtaining successful grant applications from the National Institutes of Health, Center for Disease Control and Prevention, and in establishing various collaborative studies with other institutions. In addition to its publications, the Center disseminates information through workshops on evaluation research, methodology, and development of measurement instruments.

The research team brings a broad range of skills and experiences in the field of sociomedical research. It includes psychologists, sociologists, physicians, statisticians, health economists, and epidemiologists, among others. Researchers from other institutions serve as consultans. The Center also has trained interviewers, personnel skilled in coding and computer operations, and consultants in multivariate statistical analysis and in the construction of measurement instruments.

CENSUS DATA CENTER

The Graduate School of Public Health, in agreement with the U.S. Bureau of the Census and the Puerto Rico Planning Board, established the Census Data Center. The Center's main objective is to disseminate census and health data to the University community and the general public. According to the agreement, the Center makes census information available to the public, while the Bureau of the Census (through the Planning Board) provides the Center with all publications, tapes, and disks it produces.

Operated by the School's Demography Program, the Center has one of the largest collections of reports of all the censuses undertaken by the U.S. Bureau of the Census in the Island. The collection also includes data from censuses taken under the Spanish Regime. The Puerto Rico Vital Statistics Annual Report, as well as death and marriage survey tapes from the Department of Health, are part of the data inventory. Reports from other public agencies, such as the Department of Labor, are also available.

The Center conducts activities such as lectures, workshops, and technical assistance in accessing, interpreting, and using computerized and published data for research. Center staff produces a biannual publication called "Noticenso" which informs the community regarding census data and results of research work conducted by the faculty of the Demography Program and other researchers.

SCHOOL OF NURSING

NURSING RESEARCH CENTER ON HIV/AIDS HEALTH DISPARITIES

The Nursing Research Center on HIV/AIDS Health Disparities was funded by the National Institute of Health, National Institute of Nursing Research in 2002, linking the University of Puerto Rico School of Nursing with the School of Nursing at the University of California, San Francisco (UCSF). The project seeks to enhance the quantity and quality of Research on HIV/AIDS health disparities. The long-term goal of the Center is to ensure the independence of the SON (UPR) as a minority institution and serves as a demonstration center for other schools of nursing in Puerto Rico and the Caribbean.

The Center's goal is to enhance the knowledge base for nursing care in order to improve the health and quality of life of people living with and affected by HIV disease. This includes: 1) expanding the number of nurses involved in HIV/AIDS health disparities research; 2) increasing the number of research projects aimed at reducing health disparities in HIV disease; and 3) enhancing the career development of minority nurse investigators.

The Center provides funding workshops, mentorship, support and consulting in grants writing and publication of research articles to faculty, graduate students, and postdoctoral fellows from UCSF and UPR.



Service Programs

DEANSHIP FOR ACADEMIC AFFAIRS

FLORIDA CARIBBEAN AIDS EDUCATION AND TRAINING CENTER (PRAETC)

On July 1, 2002 the Puerto Rico AIDS Education and Training Center (PRAETC) becomes a partner with the Florida AIDS Education and Training Center to form together with the US Virgin Islands, the Florida /Caribbean AIDS Education and Training Center (AETC). The geographic region served encompasses the state of Florida, the Commonwealth of Puerto Rico, and the US Virgin Islands. The mission is to ensure that physicians, nurses, dentists, pharmacists, and other health professionals receive state-of-the-art information, training, and consultation on prevention and treatments for HIV and AIDS.

In Puerto Rico, the Florida/Caribbean AETC (F/C AETC) is under the Deanship for Academic Affairs of the Medical Sciences Campus (MSC), University of Puerto Rico (UPR) who is the lead agency. Training activities are offered island-wide in order to make them accessible to all health care providers. With this in mind, the Florida/ Caribbean AETC at UPR/MSC sub-contracted the Puerto Rico Academy of Medical Directors (PRAMD) to provide training, and clinical consultation in two geographical regions, Ponce and Caguas. The rest of the island is served by the F/C AETC at UPR/MSC.

The F/C AETC at UPR/MSC disseminates new treatment information and offers education in a variety of formats including workshops, hands-on supervised clinical training, clinical consultations, distance learning, and specialty conferences. The educational program is based on a wide-ranging needs assessment that includes surveys of health professionals who provide services to HIV/AIDS population. The educational programs are developed and provided by professionals with expertise on HIV/ AIDS.

Special emphasis is placed on training providers who offer services to HIV/AIDS population, and those who are located in community-based organizations, including rural hospitals, community and migrants health centers, public health clinics, AIDS services organizations, correctional facilities, and other non-profit organizations. Since year

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2002 to 2004 over 6,000 health providers have been trained in over 571 educational activities.

Some of the educational programs the F/C AETC at UPR/MSC has developed are: the mini-residency and preceptorship, which provides extensive clinical training and supervised experience in health care setting, and the clinical consultation (by phone or on site) in which the professionals can receive advice and support in the use of antiretroviral treatment and other issues related to HIV/AIDS clinical care. Also The Distance Learning Model allow the primary health providers can receive clinical training through four self-study modules. The available modules are: Clinical Management and Antiretroviral Therapy, Identification and Management of Opportunistic Infections, HIV Management of Pediatric Infection, and Adherence to Antiretroviral Treatment. The self-study modules can be access through our website. The address is http://faetc-pr.uprm.edu.

SCHOOL OF MEDICINE

HEREDITARY DISEASE PROGRAM

The Hereditary Disease Program (HDP) of the School of Medicine is a special multidisciplinary clinical unit which provides comprehensive health services, education, and research activities related to genetic diseases common in the Puerto Rican community. Its goal is to reduce the prevalence, morbidity, and mortality of hereditary diseases that affect relatively large segments of the population. It is part of the Hematology-Oncology Section of the Department of Pediatrics and is located at the University Pediatric Hospital.

The Hereditary Disease Program specialized services include the Newborn Screening Program (for hemoglobinopathies, hypothyroidism, phenylketonuria, and galactosemia), the Pediatric Comprehensive Hemophilia Program, the Sickle Cell Treatment Program, and the Primary Genetics Program.

Besides screening, diagnostic, and comprehensive services, the HDP conducts multiple clinical and educational activities, and conducts clinical and epidemiologic studies on genetic diseases. Basic research on genetic mutations of hemoglobin S and hemophilia is in progress. MSC - Catalog 2006-2008

The program has made a significant impact on the delivery of quality health care to patients with genetic diseases and has helped to advance education and research on genetics in Puerto Rico during the past fourteen years.

HEMOGLOBINOPATHY TREATMENT AND RESEARCH PROGRAM

The Hemoglobinopathy Program is an island-wide service conducted by the Hematology- Oncology Section of the Department of Pediatrics of the University of Puerto Rico School of Medicine. The objectives of this program are to improve awareness and education about sickle cell disease, to decrease the prevalence of hemoglobinopathies in Puerto Rico, and to decrease the morbidity and mortality of sickle cell disease in the island.

This health delivery program provides island-wide newborn screening for abnormal hemoglobins, and education and genetic counseling for individuals with sickle cell disease and traits of abnormal hemoglobin. It also delivers comprehensive health care to patients with symptomatic hemoglobinopathies.

Approximately 96% of all infants born in Puerto Rico are tested for abnormal hemoglobins. Positive cases are recalled for confirmatory testing and genetic counseling. Over 60% of all individuals identified with traits are advised regarding the meaning of this heterozygous condition. An average of sixteen (16) new patients with symptomatic hemoglobinopathies are diagnosed annually. Practically 100% of patients with symptomatic hemoglobinopathies, mostly sickle cell disease, are admitted to a comprehensive clinic, where education, genetic counseling, psychosocial services, and continuous health care are provided.

Clinical and basic science research on hemoglobin S is also being conducted. The main objective of this research is to correlate clinical manifestations of sickle cell patients with hemoglobin F levels, and hemoglobin S haplotypes.

The hemoglobinopathy program has had a strong positive impact on the quality of health care given to sickle cell patients in Puerto Rico.

PUERTO RICO GERIATRIC EDUCATION CENTER (EVENING PROGRAM)

Service Programs

The Puerto Rico Geriatric Education Center (P.R.G.E.C.) is located at the Medical Sciences Campus of the University of Puerto Rico, under the Department of Internal Medicine, School of Medicine. It is one of the 47 Geriatric Centers funded since 1985 by the Bureau of Health Professions, Health Resources and Services Administration, dedicated to the advancement of geriatric education in the United States.

The Geriatric Education Center's ultimate goal is to improve the quality of health care services for the elderly population islandwide. Adequate and humane treatment of the elderly, responding to their diverse needs is promoted by the Center.

To achieve the fulfillment of this goal, the training program is addressed to:

- academic and clinical faculty in health and behavioral sciences, in both the private and public university systems.
- health professionals and direct service providers working with the elderly population.
- practitioners and students of related disciplines, such as: Medicine, Dentistry, Public Health Professions, Pharmacy, Nursing, Social Work, and others.

Objectives

- To train academic and clinical faculty in the health professions, practitioners, and students in geriatrics, in order to promote and improve health and social services to the elderly.
- To promote and assist the faculty of selected public and private higher education institutions in the incorporation of geriatric content into the existing curricula.
- To provide train-the-trainer instruction to enable faculty participants to develop and implement a health promotion program for older adults in a community setting.
- To collect and disseminate educational information in geriatric and gerontology to sustain training

activities in those fields. Offer technical assistance when requested.

- To collaborate with state agencies and professional groups to improve communication and coordination for better utilization of resources available in their sites.
- To establish collaborative agreements with academic institutiions to develop and implement health promotion models for older adults.

Training Activities

The University of Puerto Rico Geriatric Education Center offers:

Two Certificates on:

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- Basic Aspects in Geriatrics
- Health Promotion and Maintenance for Older Adults

SCHOOL OF DENTISTRY

EXTRAMURAL TEAM PROGRAM

The Extramural Team Program of the School of Dentistry coordinates rotations for senior dental students designed to help them develop awareness and better understanding of dental health problems in Puerto Rico, as well as to develop positive attitudes and willingness to contribute to the solution of such problems.

Students offer services and apply the experiences gained, in order to refine, integrate, and enhance the knowledge, skills, and attitudes necessary to deliver comprehensive patient care.

The extramural clinical experience for senior dental students consists of planning and developing sound preventive and restorative services in dental clinic settings. Students rotate during a 5 week period at clinical sites in Mayagüez, Loíza, Río Piedras, Bayamón, Barceloneta, and Caguas. The rotations are designed to expose them to a variety of relevant health care experiences besides those available in the dental school environment. Is also provides didactic background and fundamental skills necessary in the delivery of health care to the population served by the program. Students not only acquire understanding and appreciation of dental techniques, but they also gain insight into the health needs of the community.

Students are exposed to an interdisciplinary experience in which they work as members of the health team in promoting the health of the individual, the family, and society.

INTRAMURAL FACULTY CLINIC

The Intramural Faculty Clinic offers dental services as a multidisciplinary faculty group. Difficult dental cases and patients requiring special treatments are seen at this clinic by School of Dentistry Faculty.

COMMUNITY ORAL HEALTH PROGRAM

The School of Dentistry Community Oral Health Program conducts a preventive oral health program in the community that seeks to increase the dental student's awareness of oral health needs of special groups. Among the groups served are substance abusers, inmates, children with disabilities, and the elderly.

Besides offering lectures and talks on oral health, the project sponsors a clinic at the San Gabriel School for the Deaf where fourth year students and pediatric dentistry residents offer preventive and restorative services. All activities are coordinated and supervised by faculty in the area of preventive dentistry.

SCHOOL OF PHARMACY

CHEMICAL FORENSIC LABORATORY

The Chemical Forensic Laboratory is dedicated to the analysis of drugs in biological matrices for forensic (legal) purposes. The various techniques employed range from classical chemical methods for physical characterization to the employment of the most advanced analytical area of prohibited and illegal drugs in equine and human samples. The highest degree of quality control is employed following guidelines of national (US HHS Substance Abuse and Mental Health Services Administration Guidelines for Laboratories) and international organizations (ISO 17025).

In equine testing, the laboratory is associated with

the Association of Official Racing Chemists and the Testing Integrity Program based at the University of Pennsylvania.

CENTER FOR ADVANCED PHARMACEUTICAL MANUFACTURING TRAINING (CAPMAT)

The extraordinary growth of the pharmaceutical industry on the island and the advanced technological development in the manufacturing of pharmaceutical products has generated a great demand for technical personnel of the highest quality. With the purpose of fulfilling this need, the School of Pharmacy of the University of Puerto Rico established the Center for Advanced Pharmaceutical Manufacturing Training (CAPMAT) in 1988. This Center provides training programs for new employees, programs to update knowledge and skills, seminars and workshops on advances in the pharmaceutical industry, and consulting and special services. CAPMAT has offered high quality training and consulting services to leading pharmaceutical companies in the island.

DRUG INFORMATION CENTER (CIM)

Established in 1973 at the School of Pharmacy, the Drug Information Center is the only existing drug information service available to all health care professionals in Puerto Rico, and one of the best of its kind in Latin America.

The Center provides assistance in the selection and proper use of drugs by providing fully computerized and international in scope information resources, reference books, and medical and pharmaceutical journals. Furthermore, the Center has an extensive group of consultants including pharmacologists, clinical pharmacists, and other health care professionals, in tune with the role of the pharmacist as a drug information advisor.

CIM provides telephone consultations and written reports about dosage, adverse reactions, foreign medications, poisonous plants, bioequivalence, and drug utilization criteria. Each consultation is offered by pharmacists with experience in the search of biomedical information. For additional information please contact:

> Rafaela Mena, R.Ph., M.A. (787) 758-2525, ext. 1516 Fax: (787) 763-0196 e-mail address: cimrcm@rcm.upr.edu

FDA-UPR PHARMACEUTICAL TRAINING PROGRAM

The FDA-UPR Pharmaceutical Training Program began in 2001. As a result of the Memorandum of Understanding between the FDA and the UPR, the Program offers intensive courses geared toward Good Manufacturing Practices. Sponsored by the Pan American Health Organization (PAHO), the Program contributes to the enhancement of regulatory systems, promoting harmonization and promotion of safe and effective medicines, especially in Latin American countries.

CONTINUING EDUCATION AND PROFESSIONAL SERVICES DIVISION (DECEP-FARMACIA)

Created in 1979 to foster the professional development of health professionals, the School of Pharmacy Continuing Education and Professional Studies Division (DECEP – Farmacia) sponsors and coordinates continuing education activities addressing current health issues and problems. DECEP is accredited by the American Council on Pharmaceutical Education (ACPE), the Health Professionals Examining Boards in the Island and the Puerto Rico Medical Board, as a continuing education provider for the majority of health professionals in the Island. For additional information, please contact:

Grace Miranda, M.P.H.E., C.H.E.S Tel./Fax: (787) 758-5875, Tel. (787) 758-2525 Exts: 5512, 5521, 5572, Monday – Friday 7:30 am – 4:00 pm

GRADUATE SCHOOL OF PUBLIC HEALTH

INSTITUTE ON DEVELOPMENTAL DISABILITIES

The Institute on Developmental Disabilities of the Graduate School of Public Health was established in 1991 under Public Law 101-496, amended in 1996 as 104-183. The program promotes the independence, productivity, integration and inclusion of individuals with developmental disabilities in society.

The Institute fulfills its role by addressing the needs of individuals with developmental disabilities through the core functions of bringing together the expertise of a higher education institution with service delivery systems. This is accomplished through interdisciplinary training and community-based services to individuals with disabilities and their families, in order to promote state-of-the-art

experiences for students in the field, and consequently, offering more meaningful training. The Institute also develops alliances with the community, agencies and groups, educates professionals, paraprofessionals, consumers and families, provides technical assistance and disseminates information and research findings. The Institute's main projects and programs include: The Graduate Certificate in Developmental Disabilities-Early Intervention Program, a course on Aging and Developmental Disabilities, a Core Course on Developmental Disabilities, the Child Development Day Care Center, the Transition from School to Work Project, the project on Community-Based Employment Readiness and Development of Self-Advocacy Skills of Youngsters with Severe Disabilities, and the Training Initiative Project on Aging and Developmental Disabilities. The Institute also has a collaborative agreement with the Puerto Rico Department of Health to jointly implement Part C of the individuals with Disabilities Education Act (IDEA, 1996), and has been designated lead agency for the Comprehensive System for Personnel Development (CSPD).

TITLE X FAMILY PLANNING PROGRAM

The Title X Family Planning Program provides comprehensive health services to women and men of reproductive age throughout Puerto Rico. The Graduate School of Public Health has been a Title X grantee since July 1969. In 1982, it was designated the sole Title X grantee within the Commonwealth of Puerto Rico. The Program receives, distributes, and monitors the utilization of Title X funds by contracted service in the Delegate Agencies. These Delegate Agencies provide comprehensive sex education and reproductive health services primarily to medically indigent patients in clinical sites serving 25 municipalities in Puerto Rico. Patients request the services on a voluntary basis. Their privacy and religious beliefs are fully respected.

Comprehensive family planning services include medical care, nursing, and health education, with emphasis on prevention and counseling. The Program's primary goal is to reduce the incidence of unintended pregnancies, especially among women and adolescents of low socio-economic means. By reducing the number of unintended pregnancies, the Program also aims to improve maternal and child health by reducing the low

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birth weight and infant morbidity and mortality, risk factors often associated with adolescent pregnancies or short interbirth intervals.

The Title X staff offers information on the use of contraceptive devices and female and male sterilizations. It also offers education, training, and technical assistance to health professionals in and outside the University setting.

Program goals include, among others, educating the Puerto Rican population on available family planning methods, aiding patients in the family planning decision-making process in tune with their beliefs and life styles, and extending the support offered to patients and their families in an attempt to deliver truly integrated and effective family planning services.

SCHOOL OF HEALTH PROFESSIONS

PROJECT OF EXCELLENCE IN INTERDISCIPLINARY SERVICES

The Project of Excellence in Interdisciplinary Services (PEIS), provides evaluation, treatment, consultation, and technical assistance to children and youth with special needs. Services are offered in an interdisciplinary manner.

The Project's philosophy promotes a holistic view of the child, with emphasis in his/her strengths and addressing his/her needs for educational and health services.

The PEIS has three main components. These are: a collaborative teamwork with teachers, parents, and health care providers in public schools; direct services at Project facilities; and a training institute for teachers, parents and health care providers.

RESEARCH INSTITUTE FOR GLOBAL HEALTH PROMOTION AND HEALTH EDUCATION

The Research Institute for Global Health Promotion and Health Education is based on the concept of Global Health Promotion. It was established for the development of interdisciplinary research and collaborations, recognizing that an interdisciplinary nature strengthens the exchange of knowledge between professionals, in health and other areas. The main objective of the Research Institute is to work with multiple risk behaviors, as defined by the Centers for Disease Control and Prevention (CDC): intentional and non-intentional injuries, alcohol and other drug use, smoking, sexual activity, nutrition, and lack of physical activity. The Institute is recognized as an initiative for new research in health promotion and education, and was recognized in June 2000 by the Inter-American Consortium of Universities and Training Centers in Health Promotion and Health Education, of the Pan-American Health Organization.

INTRAMURAL PRACTICE PLAN

Faculty members provide health services to the community in the Intramural Practice Plan. These services are available to the general public, to private, and public institutions. Students are exposed to an efficient, ethical, modern, and high quality model of professional practice.

Audiology clinics and Medical Review Officer (MRO) servicies are offered to the community. MRO services are intended to revise the results of detection tests for controlled substances. Nutrition and Speech-Language Pathology services are available since academic year 2003-2004.

SAN GABRIEL SCHOOL FOR THE DEAF PROJECT

The Speech-Language Pathology Program of the School of Health Professions has established arrangements with the San Gabriel School for the Deaf for the clinical practice of its students. Students are involved in assessment and intervention activities that help them develop skills in monitoring, evaluating, and utilizing amplification systems, orienting and advising teachers and parents of deaf children, and in collaborating in early intervention programs for the deaf.

COMMUNICATION FOR ADULTS PROJECT

The Communication for Adults Project of the Speech-Language Pathology/Program of the School of Health Professions, serves individuals eighteen years or older suffering from communication problems arising from stroke, trauma, dementia, and neuromuscular diseases.

Service Programs

The Project's activities are geared to promoting socially functional communication skills and helping patients retain their communication skills as long as possible.

SCHOOL OF NURSING

COMMUNITY CENTERS

The faculty of the School of Nursing coordinates rotations for baccalaureate and master's students in community settings. The community centers are geared to health promotion and illness prevention in the community. Interdisciplinary assessment and intervention activities are provided in an effort to find solutions to the health needs of the community.

Admissions, Registration, and

Graduation Procedures



ADMISSIONS

The Medical Sciences Campus encourages all applicants to seek the broadest intellectual and cultural formation prior to their training in the health professions. Candidates are admitted on a competitive basis. Therefore, applicants must present evidence of successful completion of all admission requirements for the program in which they are interested. In most programs, an admissions committee will also consider nonacademic factors as additional criteria in screening applicants. An application fee has been established for all applicants, but amounts vary by programs.

All applications must be addressed to:

Admissions Officer, Central Office of Admissions Medical Sciences Campus, UPR, P.O. Box 365067 San Juan, Puerto Rico 00936-5067

TRANSFERS

A student from another institution of higher learning who applies for admission to the University of Puerto Rico, or a student who has previously been enrolled as a transient student and meets the admission requirements for a given program, will be considered a transfer student. The student who transfers from any other university to the University of Puerto Rico and who has completed less than 30 credits, will also be considered a transfer student if he/she wishes to apply to a campus of the University of Puerto Rico System.

Applications of transfer students will be processed by the Office of Admissions. Applicants must have satisfactorily completed the requirements established by the program they are applying to, but should submit their applications directly to the Central Office of Admissions.

Admissions, Registration, Graduation Procedures

INTERNAL TRANSFERS

Internal transfers or in-transfers refer to those students who transfer from one unit of the University of Puerto Rico System to another.

All programs leading to an associate or bachelor's degree accept most students as in-transfers. Students take introductory courses at various units of the University of Puerto Rico System and then transfer to the Medical Sciences Campus to pursue their professional education. The School of Health Professions and the School of Nursing accept in-transfer students.

The selection of students from the University System who apply for transfers is made based on an academic average formula determined by the program. All applicants must comply with application deadlines and meet the following requirements:

- File an application at the Office of the Registrar of their unit of origin, which will submit the application to the registrar of the appropriate unit. Applications sent directly by students will not be considered.
- Have approved the minimum number of credits required by the specific program. Meet the general academic index requirements of the unit to which transfer is being requested, as well as other requirements of the unit, college, or department.
- Pay a nonrefundable \$20.00 fee plus 5.40 for the cost of transcripts, \$30.00 plus 5.40 for late applications, \$33.00 plus 2.70 for readmission-transfer of inactive students, and \$49.50 plus 2.70 for late readmission-transfer of inactive students.

Applications for transfer will be considered only for the first term of each academic year unless otherwise announced for a particular degree program.

Transfer regulations are established in Certification No. 115, 1996-97 of the Board of Trustees.

READMISSIONS

Students who interrupt their studies may apply for readmission by filing an application for readmission at the Office of the Registrar before the deadline set for the academic term. The Office of the Registrar will send the application to the corresponding school or division for the Dean's consideration. The Dean will make a decision considering, among other things, previously established time limits for each program. The Registrar will be notified of the decision within thirty days prior to the academic session for which readmission is being sought.

The School will notify the student of the decision made by the Dean or Program Director. Readmission of candidates will be governed by the following regulations:

- First-year students who interrupt their studies before the end of the first academic session must comply with the admission requirements in effect during the year in which they apply for readmission.
- First-year students who complete the first academic session but who do not register for the second one, or who have withdrawn their registration before completing the session, must comply with the minimum grade point average required of first year students at the end of the academic year. If this requirement is not fulfilled, readmission, if granted, will be provisional.
- Students who satisfactorily complete their first year of studies or more, and graduate students who interrupt their studies voluntarily, may apply for readmission to any academic session subject to all general regulations.
- Students suspended for disciplinary reasons may apply for readmission for the academic session following the end of the suspension period. The Dean of their school, upon recommendation of the Dean of Students, will decide as to the student's readmission.

- Readmission may not be granted if the student has violated institutional regulations during the period in which he/she has been suspended.
- Students from other accredited institutions who have previously been admitted as transient students may only apply for readmission as special students. They must submit authorization letters from the Dean of their school and the Registrar of their institution of origin. They should also submit official academic transcripts from all university level institutions they have attended. The Dean of the school will decide as to readmission in these cases. Students who wish to be classified as regular students must meet all requirements for admission by transfer and submit their admission application form to the program selected.
- Students who have been suspended for poor scholastic standing may apply for readmission after the minimum waiting period established by the department. The Dean of the school will decide as to readmission in those cases.
- The Registrar (or the Director of Admissions in some cases) will be responsible for compliance with the rules hereby established.

REGISTRATION

The following rules govern registration procedures:

- The Registrar is responsible for the enforcement and implementation of all rules and procedures which govern the registration process.
- Class programs will only be validated by the Registrar.
- Students must comply with the registration deadlines established for the academic year.
- The Registrar may allow a person authorized by the student to process his/her registration. The person will present written authorization from the student and personal identification. In such cases, the student identification card will be validated after registration is completed.

- Late registration carries a penalty of \$13.00.
- The student is responsible for completing all the required registration forms.
- Registration will not be complete until all tuition, special fees, and deposits are paid.
- In order to be eligible for registration, the student must pay all debts previously contracted with the University.
- Late registration must be recommended to the Registrar by the Dean of the particular faculty or college to which the student belongs.

TUITION AND FEES

Tuition, fees, and other charges applicable to programs in the Medical Sciences Campus are described as approved by the Board of Trustees at the date of publication of this Bulletin. Additional expenses may be incurred, depending on the program. All amounts and fees are subject to change. Tuition and fees are to be paid by the student at the time of registration.

Students with honor registration, University employees, and the children and spouses of permanent University employees do not pay tuition fees.

TUITION FEES

to Rico)
\$6,650.00/year
\$6,650.00/year
\$3,703.00/year
\$4,030.00/year
\$3,812.00/year

Graduate Programs and Graduate Certificates Semester Courses \$100.00/credit

Trimester Courses \$67.00/credit Master of Science in Pharmacy \$120.00/ credit Post-Baccalaureate

Certificate Programs	\$1,330.00/ year
Baccalaureate Programs	\$40.00/credit ¹
Associate Degree Programs	\$40.00/credit ¹
	1.00/academic year
Laboratory Fees	\$33.00/laboratory
Technology Fees	\$75.00/year
recimology rees	\$25.00/sem
	\$21.00/first trim
	\$18.00/other
Diploma	\$27.00
Identification Card	\$5.00
Duplicates of payment card or	·
enrollment card	\$1.35
Internal transfers	\$20.00
Study certificates or grades	\$1.35
Admission Fee	
	\$20.00
Readmission Fee	\$33.00
Transfer from other universities	\$33.00
Academic Unit transfers	\$20.00
Audit fee (Baccalaureate)	\$25.00
Audit fee (Graduate)	\$50.00
Late registration fee	\$13.00 ²
Official transcript of academic	record \$1.35
Duplicate of the admission lette	r or
class program	\$1.35
Identification Card duplicate	\$3.00
Medical Services - May vary	
according to negotiations with	insurance companies
and type of coverage.	

Admissions, Registration, Graduation Procedures

¹ Semester credit.

²Must be paid by all students who register after established deadlines.

NONRESIDENT STUDENTS: U.S. CITIZENS

Nonresident students who are U.S. citizens pay fees equal to the amount they would pay at their home state university.

NONRESIDENT STUDENTS: FOREIGN CITIZENS

Nonresident students who are foreign citizens pay \$3,192.00 per year as undergraduates, \$4,655.00 per

year as graduate students, and \$13,965.00 per year as medical and dental students.

HONOR REGISTRATION

Honor registration is a special tuition exemption granted by the Board of Trustees to students who have demonstrated academic excellence. The following rules govern honor registration:

- Regular students, except first year undergraduate and first year graduate students, may benefit from tuition exemption if they are in the upper 5% of their class and their grade point average is 3.5 or higher.
- Students with full-time programs who have completed a minimum of two semesters or the trimester equivalent, who have a grade point average of 3.5 or higher, and who are within the upper 5% of their class, are eligible for exemption from tuition payments.
- Students who reenter the University after having interrupted their studies for one academic session or more, who have maintained their status as regular students at the institution, who have a grade point average of 3.5 or higher, and who are within the upper 5% of their class, are eligible for exemption from tuition payments.

STUDENT CLASSIFICATION

Students are classified as follows:

Full-time Student

One who has fulfilled admission requirements, has the express authorization from the Dean, and is registered in any of the regular academic programs of the Medical Sciences Campus for at least the number of credits established as full-time load for the particular program. The student may be a candidate for a degree, diploma, or certificate as long as he/she maintains the retention index established by the school or division.

Part-time Student

One who has fulfilled admission requirements,

is a candidate for a degree, diploma, or certificate, and carries less than the number of credits established as full-time load for the particular program.

• Transient Student (Special Permit)

One who is a student from another accredited university or college, who applies for the first time, and who takes courses with the intention of transferring the credits to his/her institution.

• Visiting Student (Audit)

One who has not fulfilled admission requirements and is not a candidate for a degree, diploma, or certificate. A visiting student audits classes with the consent of the Department Director and pays applicable fees, but may not receive a grade for the course.

• Special Student

One who has already received a degree and is enrolled in a course of his/her interest.

• Exchange Student

A student who comes from another institution which maintains formal student exchange arrangements with programs on campus. Exchange students pursue studies for a preestablished period of time.

GRADING SYSTEM

Unit of Instruction

One credit is equal to twelve (12) hours of instruction in the trimester calendar and eighteen (18) hours of instruction in the semester calendar. Some programs do not grant credits because they operate in blocks, hours, rotations, or other time units.

Attendance and Evaluation Procedures

Professors are responsible for implementing the necessary mechanisms to verify the attendance of students and how this is to be taken into consideration for the final grade.

Written final examinations must be given in all courses

unless other evaluation instruments are designed for the course. Professors must evaluate the work rendered by the student using the method they deem most appropriate, provided their objectivity in determining grades may be demonstrated.

Grades

The Medical Sciences Campus programs use the University of Puerto Rico grading system as follows:

А	Excellent
В	Good
С	Fair
D	Deficient
F	Failed
Р	Passing but not considered in
	computing the grade point
	average
\vee	Withdrawal
I	Incomplete
EP	In progress
NP	Not passed
NR	No grade reported

The grade point average is calculated on a 0 to 4 scale in which A = 4.

Incomplete

A student may receive an incomplete when the professor considers there has been a justifiable reason for the student's failure to comply with all course requirements. If the student does not make up the deficiency before the end of the following academic session, or after special arrangements are made in programs operating in other time units, an F will be recorded.

Grade Point Average

The grade point average is the measure of the student's academic achievement. It is computed by dividing the total number of honor points by the total number of credit Admissions, Registration, Graduation Procedures

units in those courses in which the student has received a final grade. When computing the graduation average, only required and elective courses in a program of study will be considered. Honor points for each grade are as follows: A=4, B=3, C=2, D=1, and F=0.

Courses marked W, NP, EP, I, or NR are not counted. Grades for the summer session are considered for the grade point average of the following year.

Withdrawals

Students may withdraw from courses during the period established by the Registrar after officially notifying the professor and obtaining permission from the Department Director and the Dean. The Registrar will post a "W" on the student's permanent record and no grade will be given for any work performed in the course.

A student may totally withdraw from the University of Puerto Rico at any time up to the last day of classes. He/she must obtain written permission from the Dean. The Registrar will post a "W" on all courses for that session.

STUDENT PROMOTION

The Promotions Committee of each school, or any other body charged with this responsibility at the particular school, evaluates the student's academic performance. Students who meet all criteria and requirements stated in the promotions rules and regulations for that school will be promoted.

If the student does not meet the established criteria and/or requirements, the Committee will make specific recommendations to the Dean. These may include a probationary period, retaking courses, or suspension due to academic deficiencies.

Study benefits for veterans will cease once the student completes the minimum number of required credits.

GRADUATION

The University of Puerto Rico reserves the right to make changes in program and degree requirements. As a rule, a student is entitled to graduate when he/she meets the curriculum requirements in effect at the time of his/her admission to the institution. Students who do not satisfy the graduation requirements within the period of time established for their program of study and students who reenroll after a period of absence, will be governed by the requirements applicable to the class with which they graduate.

In order to receive a degree, diploma, or certificate from the University of Puerto Rico, candidates must satisfy the following general requirements:

- Candidates must have completed the program of study with the minimum grade point average established for the particular program.
- Remedial courses are not considered regular courses of a program and are not considered towards earning a degree.
- Undergraduate students and students from the School of Dentistry, Medicine, and Doctor of Pharmacy with a grade point average of 3.30 to 3.49 inclusive, graduate "Cum Laude", with 3.50 to 3.99 they graduate "Magna Cum Laude", and those with a grade point average of 4.00 graduate "Summa Cum Laude". Only courses required for graduation at the Medical Sciences Campus will be considered in computing the grade point average. Candidates must have taken the final 28 credits for the degree, diploma, or certificate at the University of Puerto Rico, with the understanding that these credits are required for the last phase of their program of studies. In exceptional cases, this requirement may be waived by authorization of a committee composed of the Dean of the school or division, the Dean for Academic Affairs, and the Registrar.

- Studies towards the degree, diploma, or certificate must be completed within the maximum time limit established by the particular program. If the student exceeds these limits, the University may require him/her to retake those courses which, according to his/her Dean, require reviewing. In these cases, the student must obtain a written authorization from the Dean that shall include the list of courses which are to be retaken, this must be confirm by the Registrar.
- Graduating students must have satisfied all financial obligations with the University of Puerto Rico.
- An application for a degree, diploma, or certificate must be filed at the Office of the Registrar during the registration period of the session in which academic requirements are to be completed and in no case later than the date established in the academic calendar. This also applies to summer session candidates. The application will only be valid if the student has paid diploma fees to the Bursar's Office.
- Students must be recommended for the degree, diploma, or certificate by the Dean of the school.
- The student will receive the degree during the academic year in which the requirements are completed and graduation is requested.

ALL RULES AND REGULATIONS OF THE OFFICE OF THE REGISTRAR MAY BE EVALUATED BY THE ACADEMIC SENATE AND ARE SUBJECT TO CHANGE. UNIVERSITY OF PUERTO RICO - MEDICAL SCIENCES CAMPUS

Student Services



DEANSHIP FOR STUDENT AFFAIRS

The Deanship for Student Affairs is responsible for the development, coordination, and supervision of programmed activities for students. The Deanship comprises the Offices of Admissions, Guidance and Counseling, Financial Aid, Student Health Services, Quality of Life, and Cultural Activities. Specifically, the Deanship for Student Affairs oversees the following:

- Coordinates and supervises all processes of admission to the academic programs.
- Develops, coordinates, and supervises financial aid programs for students.
- Provides, coordinates, and supervises the Student Health Services and Quality of Life Office.
- Through its Guidance and Counseling Office, it promotes the Medical Sciences Campus academic offerings among potential students, faculty, and counselors at public and private universities, high schools, and colleges throughout the island.
- Provides and supervises counseling services to Medical Sciences Campus students.
- Organizes and supervises the election of official student bodies such as student councils, student representatives to the University Board, and student representatives to the Academic Senate.
- Provides official recognition and support services to the various student organizations.
- Promotes and coordinates student exchange programs with other institutions.
- Develops, organizes, and supervises social, cultural, and sports activities.
- Coordinates and promotes the AIDS Prevention and oversees compliance with the Alcohol and Drug Abuse, Student Right to Know, and the Jean Clery Security Act policies.

OFFICE OF ADMISSIONS

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The Central Office of Admissions' main responsibilities are to offer information regarding admission requirements and procedures, distribute and collect admission applications, pre-screen completed applications, and refer them to the schools' admissions committees for consideration. Six admissions officers give individual attention to applicants for the six campus schools in order to facilitate the process.

For details on admissions procedures, refer to the Admissions, Registration, and Graduation Procedures section in this Catalog.

FINANCIAL AID OFFICE

The Financial Aid Office is in charge of providing financial aid to qualified students whose financial resources are not sufficient to cover their educational expenses.

There are three types of financial aid programs available to Medical Sciences Campus students: scholarships, work-study, and loans. Scholarships provide students financial aid and requires no repayment. In the work-study program, students work at available jobs on or off-campus, receiving payment for the services rendered. Students who receive loans must repay all the monies received, although favorable repayment conditions are available. Some of the financial aid programs are:

- Financial Aid Programs for Undergraduate Students
- Federal Pell Grants
- Federal Supplemental Educational Opportunity Grants (SEOG)
- State Supplemental Incentive Grants (SSIG)
- Legislative Scholarships
- Scholarhips for Disadvantaged Students in Nursing, Occupational Therapy, and Medical Technology
- Subsidized and Unsubsidized Federal Stafford Loans
- College-Work Study Program
- Financial Aid Programs for Graduate Students
- Legislative Scholarship/Loans for Medical, Dentistry, and Veterinary Students
- Scholarships for Disadvantaged Students in Medicine, Master of Public Health, and Master of Science in Nursing
- Private Scholarships, Grants, and Emergency Loans

Information regarding the availability of these programs must be obtained directly from the Assistant Dean for Student Affairs of each participating school. After hour services are offered Monday through Thursday from 3:30 to 5:00 pm at the Dean of Students Office and from 4:00 to 5:00 pm at the Offices of the Registrar, Admissions, Financial Aid, and the Campus Bursar.

Study benefits for veterans will cease once the student completes the minimum number of required credits.

GUIDANCE AND COUNSELING OFFICE

The Guidance and Counseling Office contributes to the physical, mental, social, and emotional development of students. Services are directed to help students adapt to campus life, help them define personal and professional goals, and promote self-knowledge and healthy life styles.

Each of the six schools at the Medical Sciences Campus has an Office for Student Affairs staffed by professional counselors, and in some cases psychologists, who offer services to students. The Guidance and Counseling Office serves as liaison with school student services offices. Located at the Pharmacy and Deanship for Student Affairs building, the office coordinates the recruitment program, orientation to incoming students, job fairs, and other activities to serve the student population or a specific need of a student group.

The Career Information Center is another campus-wide service offered by the Guidance and Counseling Office. It provides information and guidance on graduate and undergraduate studies, job training, opportunities on part-time jobs, and labor market trends. Services include the arrangement of campus student interviews with prospective employers, workshops to develop job search strategies, resume preparation, and interviewing skills. The office holds an annual job fair on campus as one of its activities.

The Medical Sciences Campus does not provide student housing or dormitories. However, the Guidance and Counseling Office has compiled a list of boarding houses in the vicinity. This list is available upon request.

STUDENT HEALTH SERVICES

The Student Health Services Office is located on the third floor of the main building of the Medical Sciences Campus. These services are offered to all students from 8:00 am to 5:00 pm, on Mondays through Thursdays and on Fridays, from 8:00 am to 3:00 pm. Health services are offered by a board certified family physician and a registered nurse. Dental emergency services are offered in coordination with the dental clinic of the School of Dentistry.

Student Services

Primary care is available at the Student Health Clinic. Students needing acute emergency care are referred to the Emergency Room of the Puerto Rico Medical Center, or to private hospitals in the community.

During nonworking hours, students are instructed to seek medical emergency care or hospitalization at affiliated hospitals or at the offices of participating physicians.

The University of Puerto Rico requires that students carry medical insurance coverage. The institution provides low cost health insurance which covers ambulatory medical and surgical services, hospitalization, laboratory, and maternity care. Pharmacy coverage is optional. Students may also carry other health insurance plans in order to comply with this requirement.

CULTURAL ACTIVITIES OFFICE

The Cultural Activities Office of the Deanship for Student Affairs provides activities for the cultural development of students and the campus community. These include concerts, conferences, dances, lectures, films, variety shows, and plays offered throughout the academic year.

Art exhibits are displayed at the main building. Leading local painters and sculptors have exhibited their work on campus.

OTHER SERVICES AND ACTIVITIES

Medical Sciencies Campus Choir

The Medical Sciences Campus Choir brings together

members of the academic community, professors, students, and staff. The choir participates in official institutional activities on and off-campus and in the community.

Athletic Activities

The campus gymnasium is located on the second floor of the School of Pharmacy and Deanship for Student Affairs Building. It has facilities for intramural sports, workout area, locker rooms, and a capacity for 1,000 persons. Students must apply directly to the Athletic Activities Coordinator for use of the facilities. The office is located on the second floor of the Student Center.

Quality of Life Office

The Deanship of Student Affairs promotes quality of life and wellness among students through various activities, most of which are coordinated by the Quality of Life Office. These include, but are not limited to, fitness and aerobic classes, psychological counseling, workshops, special interest conferences, and participatory training, according to the students' identified needs during each academic year. All activities are offered free of charge to the campus community.

The Quality of Life Office promotes wellness, drug and alcohol prevention, crime and violence prevention, and prevention of sexual assault and sexual harassment. The office also collaborates actively to ensure MSC compliance with federal regulations such as the Drug Free Schools and Campuses Act, the Campus Security Act, and the Sexual Assault Program of the U.S. Department of Education.

Services are usually offered Monday through Friday between 8:00 am and 4:30 pm, although service hours may be extended as needed. Psychological counseling is available Monday through Friday from 8:00 am to 4:00 pm. Students are usually seen by appointment, but exceptions are made as needed.

The Athletic Activities Coordinator Office organizes volleyball, basketball, and baseball tournaments throughout the academic year, as well as yearly marathons and other competitions. This Office also oversees the facilities of the Student Center and acts as liaison between the student councils and the Dean's Office.

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Student Center

The student center is located on the upper level of the parking building adjacent to the campus main building. School student councils and the General Student Council have offices on the second floor of the center. There is a multipurpose area that is used for social, religious, and other activities.

CAMPUS GOVERNMENT AND STUDENT REPRESENTATION

Each year, Medical Sciences Campus students meet for the purpose of electing class boards, school student councils, and the General Student Council, as well as for appointing representatives to institutional bodies.

Class Boards

Students elect class boards to serve as liaisons between the students and the administration. They also organize social, athletic, and other activities.

School Student Councils

Student councils are elected by the students of each school. Their members are the official student representatives and spokespersons.

• General Student Council

The General Student Council is composed of its President, two members from each school student council, the student representatives to the Academic Senate, and the student representative to the University Board.

• Disciplinary Board

Students select two representatives to the Disciplinary Board through the General Student Council, thus insuring student representation in disciplinary actions.

• Faculty Meetings

Students in each school have the right to elect a number of students that may be present during faculty meetings. This number may not exceed 10 percent of the total number of faculty members at the school.

Faculty Standing Committees

There are some standing committees in which students have representation, including curriculum, admissions, and books and instruments. Representation may vary at each school depending on existing committees. Academic Senate

Students from each school elect one student who represents them in the Academic Senate. The President of the General Student Council is also a student representative to this body.

• Administrative Board

Students elect a representative to the Administrative Board through the General Student Council.

University Board

Students of the Medical Sciences Campus elect one student representative to the University Board.

STUDENT MEMBERSHIP IN PROFESSIONAL ASSOCIATIONS

American Medical Student Association (AMSA)

The American Medical Student Association is affiliated to the American Medical Association. Its activities include an annual convention, freshmen orientation, open houses, and scientific as well as social, cultural, sports, and community health programs.

American Medical Association (AMA) Puerto Rico Chapter-Student Section

The student section of the American Medical Association participates in educational activities and conventions. Members also receive educational materials and publications.

Family Medicine Interest Group

The Family Medicine Interest Group is affiliated with the American Academy of Family Physicians (AAFP). The group promotes activities directed toward increasing student and community knowledge about family medicine and primary care. Activities regularly sponsored include freshmen orientation, community education and service activities, and visits to settings in which family physicians practice.

American Student Dental Association

The objective of the American Student Dental Association is to promote the dissemination of dental knowledge among its members, to foster an appreciation of the benefits of dental organizations in the profession, and to sustain and improve the professional character and education of dental students. Membership is voluntary and open to all dental students, including those in graduate programs.

International Association of Dental Students (I.A.D.S.)

The International Association of Dental Students promotes student exchange programs with numerous countries. It reviews and compares dental education worldwide. It represents dental students in health organizations and promotes and develops voluntary programs in underdeveloped nations. Membership is paid by the School of Dentistry, so each student is automatically a full member.

American Pharmaceutical Association Academy of Students of Pharmacy

The American Pharmaceutical Association's (APhA) Academy of Students of Pharmacy (ASP) represents student members in chapters in every school and college of pharmacy throughout the United States and Puerto Rico. Its mission is to promote the interests of pharmacy students and the profession of pharmacy, as well as provide them services and information concerning pertinent issues faced by APhA and the profession. Membership in the local chapter is voluntary and open to all pharmacy students.

As members of APhA-ASP, students receive monthly copies of the Journal of the American Pharmaceutical Association and quarterly issues of Pharmacy Student, discounts on professional books and educational materials, discounts on insurance coverage, and financial services programs. They also have the opportunity to participate in professional and policy-making activities, such as the annual Patient Counseling Competition, regional meetings, and national conventions. For additional information, please contact Dr. Homero A. Monsanto (hmonsanto@ rcm.upr.edu) at (787) 758-2525, ext. 5321.

Puerto Rico Association of Speech Pathology and Audiology - Student Chapter (OPPHLA)

The Student Chapter of the Puerto Rico Association of Speech Pathology and Audiology (Organización

Student Services

National Student Nurses Association

The National Student Nurses Association is a preprofessional association for nursing students which prepares students for involvement in professional associations upon graduation. It represents and mentors students preparing for initial licensure as registered nurses, as well as those nurses enrolled in baccalaureate completion programs.

PROFESSIONAL FRATERNAL ORGANIZATIONS

Alpha Omega Alpha (AOA)

The Puerto Rico Chapter of Alpha Omega Alpha was established at the School of Medicine in 1956. Alpha Omega Alpha is a medical honor society and election to it is based on peer evaluation in the areas of leadership and participation of the nominees in student affairs. Approximately 10% of the senior class is elected to AOA, either late in the third year or early in the fourth year of studies. The Puerto Rico Chapter sponsors lectures and other activities for AOA faculty and students.

Omicron Kappa Upsilon

The Beta Gamma Chapter of the honorary dental professional fraternity Omicron Kappa Upsilon was established at the School of Dentistry in 1961. Membership is one of the highest honors that the profession of dentistry bestows on a graduating senior. Active members of the fraternity confer this honor to those students who have demonstrated superior achievement during their four years of study in dental school.

Phi Lambda Sigma

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The Beta Theta Chapter of the national pharmacy leadership society Phi Lambda Sigma was installed at the School of Pharmacy in 1994. The society promotes the development of leadership qualities among pharmacy students. Through peer recognition, it fosters and enhances self-confidence among its members and promotes the advancement of pharmacy. Prospective members are nominated on the basis of their dedication, service, and leadership in the advancement of the profession. The local chapter collaborates with the school in planning an annual leadership workshop for pharmacy students. The society has its annual convention during the American Pharmaceutical Association Annual Meeting. For additional information, please contact Dr. Homero A. Monsanto (hmonsanto@rcm.upr.edu) at (787) 758-2525, ext. 5321.

Rho Chi Society

The Gamma Eta Chapter of the Rho Chi Society was established at the School of Pharmacy in 1986. Membership represents an honor bestowed on junior and senior pharmacy students. The organization promotes scholarship, friendship, and accomplishments in the Pharmacy profession. For additional information, please contact Dr. Jennifer Guzmán (jrguzman@rcm.upr.edu) at (787) 758-2525, ext. 5408.

OTHER ORGANIZATIONS

Catholic Student Association

The Catholic Student Association promotes the spiritual and intelectual formation of the Catholic faith among students and other members of the academic community. The association sponsors a weekly mass on campus. For additional information, please contact Dorlizca Irizarry, R.Ph. at (787) 758-2525, ext. 1012.

Christian Interdenominational Fraternity

This association offers spiritual and emotional support for those in need. It promotes spiritual growth and a harmonious environment among students. For additional information, please contact Dr. Elga Vega (eevega@rcm. upr.edu) at (787) 758-2525, ext. 5312.

Student Counselers Association

This association helps new students in their integration to the School of Pharmacy. It promotes the academic, ethical and social principles of the profession of pharmacy. It sponsors an orientation week on an annual basis. For additional information, please contact Prof. Zayra M. Reyes, MRC (zmreyes@rcm.upr.edu) at (787) 758-2525, ext. 5424.













Academic

Programs



School of Medicine





VISION, MISSION, AND INSTITUTIONAL VALUES

The School of Medicine of the University of Puerto Rico is an institution that is ready and able to reconfigure itself by active learning, experimentation and innovation in response to scientific, social and economic changes, while maintaining and safeguarding its timeless core mission and values.

The School's mission is to provide undergraduate, graduate, and continued medical education in order to train competent and compassionate physicians able to serve the underserved. The school also trains basic and clinical research scientists, sensitive to social and health issues and provides high quality clinical services to significantly enhance the health status of Puerto Ricans.

The School has established the following goals: promote the highest standards in the acquisition of knowledge, cognitive skills, and professionalism in medical education. Develop and maintain a learning environment based on active learning and the development of life-long learning habits and problem solving skills. Develop professionals who assume great responsibility and acknowledge the uncertainties in medicine. Serve the public interest by providing quality health care, research programs, and public education in accordance with the health, concerns and needs of society. Be accountable to society for all fiscal resources received.

In the context of this mission and goals, the faculty of the School of Medicine has the institutional responsibility of training medical professionals through its Doctor of Medicine Program, as well as training scientists through its master's and doctoral programs in Biomedical Sciences. It also offers continued educational experiences to physicians and the opportunity to keep abreast of their profession.

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ORGANIZATION AND ADMINISTRATION

The Dean of Medicine exercises the administrative and academic authority within the School of Medicine. He/she is responsible to the Chancellor for the implementation of institutional policy, the academic programs, and campus administrative regulations.

There are eighteen departments in the School of Medicine. The thirteen clinical departments are: Internal Medicine; Pediatrics; Surgery; Obstetrics and Gynecology; Psychiatry; Family Medicine; Pathology; Dermatology; Anesthesiology; Ophthalmology; Radiological Sciences; Physical Medicine; Rehabilitation and Sports Healths; and Emergency Medicine. The five basic sciences departments are: Anatomy, Biochemistry, Microbiology and Medical Zoology, Pharmacology and Toxicology, and Physiology.

The School's major clinical teaching facilities are the University Hospital, the University Pediatric Hospital, the San Juan Veterans Administration Hospital, and the University of Puerto Rico Hospital at Carolina. Other branch clinical sites include: the San Juan City Hospital, the Pavía Hospital, and the San Pablo Hospital in the San Juan Metropolitan Area; and the Mayagüez Medical Center, La Concepción Hospital, San Antonio Hospital, and the Perea Hospital located in the west coast of Puerto Rico.

The School offers a Doctor of Medicine, Doctor of Philosophy, and Master of Science degrees. The Doctor of Philosophy and Master of Science degrees are granted by the Graduate Programs of the Division of Biomedical Sciences. In addition, the School offers the MD/PhD degree in agreement with the Mayo Clinic and Foundation Graduate School. The School also oversees 13 postgraduate medical training programs, with 21 subspecialties.

DOCTOR OF MEDICINE DEGREE PROGRAM

The curriculum of the program leading to the Doctor of Medicine degree is designed following the trends of modern medical education and takes into consideration the health needs of the community. It is divided into two major components: two years of required basic sciences and two years of clinical clerkships. The clinical component covers contents and skills deemed essential for every medical student regardless of background or ultimate career direction. It consists of a series of courses and clinical clerkships programmed sequentially and longitudinally under departmental responsibility. There are several courses designed and delivered by an interdepartmental faculty, e.g., Human Development; Mechanisms of Disease; Fundamentals of Clinical Diagnosis; Basic Clinical Clerkship; Neurosciences; and Public Health, Ethics, and Legal Aspects.

The coordination of courses within each year of study is the responsibility of a faculty committee, while the coordination of all four years of study is the responsibility of the Curriculum Committee. The Curriculum Committee is an advisory committee to the Dean on curricular affairs and is composed of administrative, faculty, and student representatives.

The Curriculum Office and the Office of Evaluation and Research in Medical Education, under the Office of the Associate Dean for Academic Affairs, also aid in the assessment and coordination of courses by offering input relevant to these processes.

At the fourth-year level, a number of required hours must be completed through electives. This provides the student the opportunity to develop further along the lines of his/her individual interests. There is a wide variety of educational experiences to select from and to suit the needs of students according to their background, ability, and career objectives. Some elective courses may be pursued abroad in accredited institutions in the mainland.

The curriculum is flexible enough so as to allow variations in its scope and duration. Input from students to faculty is received regularly, particularly through evaluations at the end of each course or block. Faculty-administrative meetings are scheduled throughout the year to evaluate the curriculum cross-sectionally as well as longitudinally. At the end of each academic year, students, faculty, and administrators meet to discuss and evaluate findings as well as initiate changes and establish schedules for the next year.

Teaching methods vary according to content of the courses. During the first two years, the topics of biomedical and behavioral sciences are covered through lectures, reading assignments, computer simulations, clinical correlations, group discussions, review sessions, and laboratory exercises. The Problem Based Learning Academic Programs - School of Medicine

Program facilitates the integration of basic science, ethical issues, and behavioral sciences concepts, principles and facts by means of the analysis of clinical cases. Basic clinical knowledge and skills are introduced during the second year. It is expected that the students' active participation in the learning process will motivate them to develop lifelong learning techniques.

All core courses emphasize the preventive aspects of medicine and present the health programs available and needed in the community in the specific area or subject matter under discussion. They also stress the biopsychosocial aspects of illness vs. disease, the concept of the patient as a whole, and the core knowledge and skills necessary to perform as primary physicians in a community setting. Thus, ample exposure to hospitalized and ambulatory patients is offered during the clinical years clerkships. Students also become familiar with the secondary and tertiary levels of health care delivery.

OBJECTIVES OF THE M.D. PROGRAM

- Integrate the concepts, rules and principles that pertain to the medical sciences.
- Apply basic clinical experiences in primary, secondary, and tertiary health care.
- Continue further development of personal and professional interests.
- Actively participate in educational experiences requiring independent learning and analysis.
- Value the importance of changing community health needs and participate in practical experiences in preventive medicine, as well as in the solution of community health problems.
- Exhibit skills and attitudes needed to perform effectively as a member of an interdisciplinary health team.
- Exhibit humanistic attitudes and behaviors when dealing with ethical decision making in the formative years and in the practice of the profession.
- Value the importance of participating in basic and clinical research programs.
- Exhibit leadership, teaching and administrative skills.
- Manage effectively stressful situations associated with the study and practice of medicine.

- Integrate the acquired knowledge and skills to be competitive in internal and external evaluations.
- Communicate effectively with patients, family and the community.
- Solve situations using both the critical thinking and decision-making processes.
- Value personal feelings, capabilities, and limitations in an environment conducive to perform competently in the medical profession.

CLINICAL CLERKSHIP ASSIGNMENTS ABROAD

Medical students are allowed to take elective clerkships at other LCME accredited institutions. Students must obtain the approvals of the Department Chair and of the Curriculum Office Director prior to submitting the application and registering. Upon completion of the clerkship, the host institution must submit a student performance appraisal and report using the evaluation format of the University of Puerto Rico School of Medicine.

ADMISSION REQUIREMENTS

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The School of Medicine endorses the general policy of the Medical Sciences Campus in encouraging its applicants to seek the broadest cultural formation available prior to their training in the field of the health professions. Candidates are admitted to the freshman class on a competitive basis. The applicant must comply and present evidence of successful completion of the following requirements for admission:

- Minimum of two full academic years of work in a college or university accredited by the Council of Higher Education or the corresponding U.S. accrediting agency, although a bachelor's degree is strongly recommended.
- Minimum general grade point average of 2.50, based on an A=4.00 scale, (includes all courses taken at college/university level).
- Minimum science grade point average of 2.50, based on an A=4.00 scale, (includes all courses in Biology, Chemistry, Physics, and Mathematics taken at college/university level).

 Total course work must comprise not less than 90 semester hours or 135 quarter hours, including the following:

General Chemistry

8 semester hours or 12 quarter hours Organic Chemistry

8 semester hours or 12 quarter hours Physics

8 semester hours or 12 quarter hours Biology

8 semester hours or 12 quarter hours Behavioral and Social Sciences

12 semester hours or 18 quarter hours (Courses must be in Sociology, Psychology, Political Sciences, Economics, or Anthropology) Spanish

12 semester hours or 18 quarter hours English

12 semester hours or 18 quarter hours

In addition to the above requirements, course work in biochemistry, anatomy, cell biology, liberal arts and humanities are strongly recommended.

These requirements are in addition to the basic introductory courses required at some colleges or universities. Basic introductory courses in the Physical Sciences, Biological Sciences, and Social Sciences may not be substituted for the particular credit hours stipulated in this list.

Six semester hours in advanced or honor courses in English and Spanish acceptable to the Admissions Committee and approved with a grade of B or above per semester may substitute for the twelve semester hours required. Nevertheless, the total minimum number of 90 semester hours will still apply.

For applicants who began their college/university work before June 1996, the Behavioral and Social Sciences requirements is 6 semester hours or 9 quarter hours.

All academic requirements must be completed not later than the end of the second semester of the academic year preceding admission, excluding the summer session of that year. Admitted candidates will have their admission revoked if they fail to comply with this requirement. Courses are conducted in English and Spanish, and patient interactions are nearly always conducted in Spanish, therefore, demonstrated fluency in speaking, reading and writing both languages is required. Applicants must select language courses which develop writing and reading comprehension skills.

Working knowledge in computers and their applications (computer literacy) is required, given the integration of computer technology in the medical curriculum.

The Medical College Admission Test (MCAT) must be taken not later than August of the year before admission. An MCAT taken after that date will not be considered in the selection process for the entering class of a given year. The test will be valid for three (3) years (www. aamc.org/mcat).

APPLICATION PROCESS

American Medical College Application Service (AMCAS):

Applications to the School of Medicine are processed through the American Medical College Application Services (AMCAS), a centralized application service for applicants to first year classes at participating U.S. medical schools. The AMCAS application is only available via the AMCAS web site www.aamc.org/students/amcas. AMCAS no longer offers paper or diskette versions of the application.

The complete application must be processed by AMCAS between June 1st and December 1st of the year preceding to admission. The School urges candidates to submit the AMCAS Web application with enough time in order to be considered before December 1st, the absolute deadline. DEADLINE EXTENSIONS WILL NOT BE GRANTED.

University of Puerto Rico - Medical Sciences Campus Supplementary Application:

In addition to the AMCAS application, all applicants who are permanent residents of Puerto Rico must complete and submit between the June 1st and December 1st Academic Programs - School of Medicine

deadline the University of Puerto Rico-Medical Sciences Campus Supplementary Application Form, along with a \$20.00 non-refundable application fee. Payment should be made by certified check or money order payable to the University of Puerto Rico. If payment is made directly to the Bursar's Office, VISA, Master Card, or ATM may also be used. Supplementary applications may be requested at the following address:

Web site.http://rcm-medicine.upr.clu.edu Central Office of Admissions - Medicine Medical Sciences Campus University of Puerto Rico PO Box 365067 - San Juan, PR 00936-5067 Telephone (787)758-2525 Ext. 5213, 5211, and 5215 - FAX (787)282-7117 E-mail: marrivera@rcm.upr.edu

APPLICATIONS SUBMITTED AFTER THE DECEMBER 1ST DEADLINE WILL NOT BE CONSIDERED. DEADLINE EXTENSIONS WILL NOT BE GRANTED.

Upon a preliminary screening by the Admissions Committee, highly qualified non-residents who demonstrate "strong ties" to Puerto Rico, as defined in the Selection Criteria section, will be forwarded supplementary applications. Since the Supplementary Application deadline is also December 1st, qualified non- residents are strongly urged to submit their AMCAS application within the first three months of the application period.

Other Required Documents:

- A complete official transcript from each college attended should be sent directly to the Central Office of Admissions no later than December 1st of the year prior to admission, the absolute deadline.
- One completed Pre-medical Evaluation Form from the Premedical Committee of the college of attendance or three recommendations from current professors to be sent directly to the Central Office of Admissions no later than the December 1st

deadline. The school's official format designed for this purpose must be used.

 An official transcript including the current academic year's first semester grades must be received at the Central Office of Admissions before February 15th of the year in which the applicant is seeking admission. A copy of the personal grade report should be sent as soon as it is available at the end of the first semester, pending the official transcript.

FAILURE TO COMPLY WITH ANY OF THE ABOVE MENTIONED REQUIREMENTS AND DOCUMENTS BY THE ESTABLISHED DEADLINES WILL LEAD TO AN ADMINISTRATIVE REJECTION.

SELECTION CRITERIA

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Since the University of Puerto Rico School of Medicine is a state supported institution, strong first preference will be given to qualified applicants who are legal residents of Puerto Rico.

Highly qualified non-residents must demonstrate strong ties to Puerto Rico. To determine strong residential ties to Puerto Rico, the Committee on Admission will review the applicant's birthplace, high school attended, college attended, and parents' legal residence. An applicant who meets three of the four categories will demonstrate strong ties to Puerto Rico.

Foreign national applicants with an established legal residence in Puerto Rico will only be considered if, at the time of application, they are either U.S. citizens or have been granted a permanent resident visa in the United States.

The Admissions Committee of the School of Medicine will consider the following selection factors in screening qualified applicants, according to a formula established and approved by the Academic Senate of the Medical Sciences Campus.

Academic Performance will be determined by:

- General and Science Grade Point Average Science and Mathematics courses, in addition to the required ones, approved with a grade of B or higher.
- Consistency in general grade point average The number of withdrawals as evidenced in the official transcript.
- Medical College Admission Test (MCAT) All test areas of assessment, including the Writing Sample, will be taken into consideration.

Non-academic factors, expressed in numerical indices derived from two source:

- Recommendation from the Premedical Committee or three recommendations from current professors.
- After an initial screening of all other selection factors, the Admissions Committee will determine which candidates will be invited for a personal interview.

ACCEPTANCE

To guarantee enrollment upon acceptance, the candidate must pay a \$100.00 non-refundable fee within 15 days of receipt of notice, and send a written acknowledgement. The student must comply with the requirements specified in the letter of admission, and abide by the recommendations of the Association of American Medical Colleges (AAMC) as stated in the current edition of the "Medical School Admission Requirements" book.

PROGRAM OF STUDIES

The School offers a highly dynamic curriculum that calls for frequent changes and updates in core areas. This assures the up-to-datedness of the students' skills upon graduation. Total Hours = 4,912. (May increase with additional hours in elective courses).

DOCTOR OF MEDICINE (M.D.) TOTAL HOURS: 4,912

BASIC SCIENCE COMPONENT - FIRST AND SECOND LEVEL

First Level 835 – 1,017 Hours

		Hours
MPRI 7115	Medical Gross Anatomy	140-170
MPRI 7116	Medical Embryology	18-22
MPRI 7117	Medical Histology	82-100
MPRI 7119	Biochemistry and	
	Molecular Biology	99-121
MPRI 7120	Human Physiology	144-176
MPRI 7127	Public Health and	
	Preventive Medicine	18-22
MPRI 7130	Integration Seminar I	54-66
MPRI 7136	Neurosciences	99-121
MPRI 7137	Human Behavior	45-55
MPRI 7138	Introduction to Clinical	
	Skills	68-82
MPRI 7139	Human Development	
	Course	68-82

Second Level 695-847 Hours*

MSEG 7215	Pathology and Introduction	
	to Laboratory Medicine	146-178
MSEG 7216	Infectious Diseases	126-154
MSEG 7217	Introduction to Medical	
	Pharmacology	99-121
MSEG 7218	Fundamentals of Clinical	
	Diagnosis	90-110
MSEG 7237	Fundamentals of Public	
	Health and Preventive	
	Medicine II	36-44
MSEG 7229	Psychopathology	36-44
MSEG 7230	Mechanisms of Disease	113-137
MSEG 7236	Integration Seminar II	49-59
Elective Cours	ses	160 - 320

Academic Programs - School of Medicine

CLINICAL SCIENCE COMPONENT - THIRD AND FOURTH LEVEL

Third Level 1,400 - 2,440 Hours

		Hours
MTER 7310	Psychiatry	80-240
MTER 7325	Clinical Internal	40 DE F
	Medicine	400-560
MTER 7316	Pediatrics Clerkship	320-480
MTER 7326	Surgical Clinical	
	Internship	320-480
MTER 7318	Obstetrics and	
	Gynecology	160-320
MTER 7319	Family Medicine	
	Third Year Clerkship	80-240
MTER 7320	Introduction to	
	Diagnostic Radio-	
	Nuclear Medicine	40-120
Elective Cours	ses	160-320
Fourth Level	540 – 1,296 Hours	
MCUA 7427	Public Health	108-160
MCUA 7437	Introduction to Clinical	
	Physiatry	40-80
MCUA 7438	Dermatology	40-80
Elective Cours	ses	
(Clinical and	Basic Areas)	720
(minimum req	uired)	
Junior Interns	nip	160
Select one co	urse of the following prima	rv areas:

Select one course of the following primary areas:

MMED 7010	Clinical Clerkship in Medicine	80-240
MOBG 7010	Applied General	
	Obstetrics and Gynecology	80-240
MPED 7010	General Pediatrics	80-240
MMFA 7010	Clinical Clerkship	
	in Family Medicine	80-240
Selective Junio	or Internship	160

*Total hours excluding hours of elective courses.

The student may select, with the approval of the Committee for the Clinical Component, another course among the primary areas of the Junior Internship, or in areas such as Surgery, Psychiatry, and Emergency Medicine, or in another area of the student's interest.

POSTGRADUATE CLINICAL TRAINING PROGRAMS

Residency Programs are offered by the University of Puerto Rico School of Medicine at several affiliated hospitals. Applicants to these programs must be graduates of LCME accredited medical schools and have approved USMLE part I as requisite for admission. Graduates of foreign medical schools must have USMLE part 1 & 2 and a valid ECFMG certificate.

Accredited Residency Programs: Dermatology **Emergency Medicine Family Medicine** Geriatrics **General Surgery** Neurological Surgery Orthopaedic Otolaryngology Urology Internal Medicine Cardiology Endocrinology Gastroenterology Geriatrics Infectious Diseases Nephrology Neurology **Pulmonary Disease** Rheumatology Hematology/Oncology Obstetrics and Gynecology Ophthalmology Orthopaedics Pathology Pediatrics **Critical Care Medicine** Hematology/Oncology Neonatal Physical Medicine and Rehabilitation 52

Psychiatry Child and Adolescent Psychiatry Radiology Nuclear Medicine Applicants should contact the Deanship of Graduate Medical Education at the following address: Graduate Medical Education Office Suite A-209 School of Medicine Medical Sciences Campus, UPR

P.O. Box 365067, San Juan, Puerto Rico 00936-5067

BIOMEDICAL SCIENCES DIVISION GRADUATE PROGRAMS

The Biomedical Sciences Division offers programs leading to the Master of Science and Doctor of Philosophy degrees with specialties in anatomy, biochemistry, microbiology, pharmacology, physiology, and toxicology. The Master of Science program takes at least two years of study, whereas the Ph.D. program takes at least four. In the master's program, the required courses are completed during the first two or three semesters, leaving the final year for required credits in research and for completion of the thesis. At the end of the second or third semester or after completion of required courses, doctoral students must pass a qualifying examination. Before the end of the second year, the student must present and successfully defend his or her thesis proposal before a committee of the graduate faculty. Students participate in a wide variety of seminars, workshops, and similar activities scheduled by the departments. They may also participate in clinical activities that may be germane to their research topic. The graduate faculty fosters interdisciplinary collaboration between basic and clinical scientists in an effort to broaden the exposure of students beyond what is traditionally expected in biomedical research.

The Division cosponsors an intercampus Ph.D. program with specialty in Biology with the Department of Biology of the Río Piedras Campus. The intercampus program allows students to benefit from the scientists, facilities, equipment, and course offerings at the two largest research institutions in the Caribbean.

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RESEARCH FACILITIES

The Division's facilities are housed in the Medical Sciences Campus building, with ancillary facilities at the:

> Institute of Neurobiology Caribbean Primate Research Center Cancer Center Latin American Center for the Study of Sexually Transmitted Diseases Center for Energy and Environmental Research Veterans Administration Hospital University Hospital University Pediatric Hospital other affiliated hospitals

Facilities house research and teaching laboratories, faculty offices, lecture rooms, and specialized libraries. A central library serves the general needs of the academic community, with linkages to other local and national libraries. Each department has its own laboratories and office space for faculty and students, as well as specialized equipment.

A system of core laboratories serves the needs of several departments, providing facilities for tissue culture, electron microscopy, flow cytometry and cell sorting, histocompatibility testing, and hybridoma preparation, as well as a BL3 virology laboratory, an AIDS Clinical Trials Group (ACTG) certified laboratory, facilities for molecular biology and molecular parasitology, and state-of-the-art animal facilities, including BL3 areas for nonhuman primates.

Students are granted access to the resources they may need to carry out their research program.

Admission Requirements

Applicants for the Master of Science degree should hold a bachelor's degree or its equivalent in biology, chemistry, or physics, with an overall grade index of at least 3.00 in science subjects (on a 4.00 scale). The applicant must also be proficient in English and Spanish and must submit scores on the GRE General Test and the Subject Test in biology, chemistry, physics or related areas. Three letters of recommendation, two from professors in the major field and one from a professor in another department, must also be submitted. The graduate faculty of the department will personally interview applicants. Academic Programs - School of Medicine

Requirements for admission to the Ph.D. program include demonstrated ability in research; scores on the GRE General Test and the Subject Test in biology, chemistry, physics or related areas; knowledge of both English and Spanish; letters of recommendation; a minimum grade index of 3.00 (4.00 scale); and a personal interview. Application deadlines are: February 15th for admission in August and September 15th for admission in January. Requests for more information and application forms should be addressed to:

> Division of Graduate Studies, Suite A-847 School of Medicine, Medical Sciences Campus, UPR P.O. Box 365067 San Juan, Puerto Rico 00936-5067

Sequential Curriculum Models

Students may complete a graduate curriculum or doctoral track enriched in interdisciplinary areas of study such as: Neuroscience, Molecular Genetics, Microbial Molecular Biology and Pathogenesis; Immunology and Virology; Exercise Physiology; and Cardiovascular Biology. There is also an option for a combined M.D.-Ph.D. degree at the institution or in the joint program with Mayo Clinic.

ACADEMIC PROGRAMS

DEPARTMENT OF ANATOMY AND NEUROBIOLOGY

MASTER OF SCIENCE WITH SPECIALTY IN ANATOMY (M.S.)

TOTAL SEMESTER CREDIT-HOURS: 37

First Year: 24 Credit-Hours

ANAT 8501	Graduate Course in Human	
	Gross Anatomy	8
ANAT 8503	Graduate Course in Human	
	Embryology	2
ANAT 8504	Graduate Course in Human	
	Cell Biology and Microscopic	
	Anatomy	4

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Second Year: 13 Credit-Hours

CBIO 8500	Statistics for the Biomedical	
	Sciences	3
ANAT 8525	Practice in Teaching	2
ANAT 8532	Combined Seminar	
	and Journal Club	1
ANAT 8532	Combined Seminar and	
	Journal Club	1
ANAT 8595	Master's Thesis Research	6

DOCTOR OF PHILOSOPHY WITH SPECIALTY IN ANATOMY (Ph.D.)

TOTAL SEMESTER CREDIT-HOURS: 61

First Year: 23 Credit-Hours

ANAT 8501	Graduate Course in Human	
	Gross Anatomy	8
ANAT 8503	Graduate Course in Human	
	Embryology	2
ANAT 8504	Graduate Course in Human	
	Cell Biology and Microscopic	
	Anatomy	4
ANAT 8532	Combined Seminar and	
	Journal Club	1
ANAT 8505	Graduate Course in Human	
X	Neuroanatomy and	
	Neuroscience	5
ANAT 8528	Topics in Anatomy	2
ANAT 8532	Combined Seminar and	\sim
	Journal Club	1
Second Year:	19 Credit-Hours	
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Academic Programs - School of Medicine

BCHM 8500	Biochemistry	6
FISA 8601	Vertebrate Physiology I	3
CBIO 8500	Statistics for the Biomedical	
	Sciences	3
ANAT 8532	Combined Seminar and	
	Journal Club	1
FISA 8602	Vertebrate Physiology II	3
ANAT 8532	Combined Seminar and	
	Journal Club	1
ANAT 8525	Practice in Teaching	2

Third and Fourth Years: 19 Credit-Hours

ANAT 8532	Combined Seminar and	
	Journal Club	1
ANAT 8532	Combined Seminar and	
	Journal Club	1
ANAT 8532	Combined Seminar and	
	Journal Club	1
ANAT 8532	Combined Seminar and	
	Journal Club	1
ANAT 8599	Doctoral Dissertation Research	15

DEPARTMENT OF BIOCHEMISTRY

MASTER OF SCIENCE WITH SPECIALTY IN BIOCHEMISTRY (M.S.)

TOTAL SEMESTER CREDIT-HOURS: 33

First Year: 24 Credit-Hours

BCHM 8500	Biochemistry	6
BCHM 8551	Methods in Protein and	
	Nucleic Acid Biochemistry	2
BCHM 8552	Methods in Lipid and	
	Carbohydrates Biochemistry,	
	Nutrition, and Biochemical	
	Pharmacology	2
BCHM 8531	Research Seminar Series I	1
CBIO 8500	Statistics for the Biomedical	
	Sciences	3
BCHM 8532	Research Seminar Series II	1
BCHM 8507	Special Biomedical Laboratory	
	Techniques I	3
BCHM 8504	Biochemistry of Proteins	3

BCHW 8205	Molecular Biology or Equivalent Molecular Biology Course recommended by the Department	3
Second Year:	9 Credit-Hours	
BCHM 8595	Research for Master's Thesis	6
Electives		3
	HILOSOPHY WITH SPECIALTY II ((Ph.D.)	N
TOTAL SEMEST	ER CREDIT-HOURS: 63	
First Year: 24	Credit-Hours	
BCHM 8500	Biochemistry	6
BCHM 8551	Methods in Protein and	2
BCHM 8552	Nucleic Acid Biochemistry Methods in Lipid and Carbohydrates Biochemistry,	2
	Nutrition, and Biochemical Pharmacology	2
BCHM 8531	Research Seminar Series I	1
CBIO 8500	Statistics for the Biomedical	2
BCHM 8532	Sciences Research Seminar Series II	3 1
BCHM 8504	Biochemistry of Proteins	3
BCHM 8502	Molecular Biology	3
BCHM 8507	Special Biomedical	
	Laboratory Techniques I	
	or Elective recommended	~
	by the Department	3
Second Year: 2	21 Credit-Hours	
BCHM 8533	Research Seminar Series III	1
BCHM 8515	Enzyme Kinetics and	~
	Mechanism Rhusiant Chamistan of	2
BCHM 8517	Physical Chemistry of Macromolecules (Enzyme	
	Reaction Mechanism)	3
BCHM 8534	Research Seminar Series IV	1
BCHM 8525	Recent Advances in	

Academic Programs - School of Medicine Biochemistry and Molecular Biology BCHM 8530 Regulation of Gene Expression in Eucaryotes BCHM 8526 Special Topics in Biochemistry 3 Electives recommended by the Department Electives a 3

Third and Fourth Years: 18 Credit-Hours

ВСНМ 8526 ВСНМ 8599	Special Topics in Biochemistry (Thesis Proposal and Comprehensive Examination) Research for Doctoral Thesis	3 1 <i>5</i>
DEPARTMENT	OF MICROBIOLOGY	
MASTER OF SCIENCE WITH SPECIALTY IN MICROBIOLOGY (M.S.)		
TOTAL SEMEST	ER CREDIT-HOURS: 35	
First Year: 24 Credit-Hours		
MICR 8499	Introduction to Medical	,
	Microbiology Bis shamistry	6 6
BCHM 8500 MICR 8540	Biochemistry Principles of Immunology	о 3
ZOME 8502	Introduction to Parasitology	3
Electives	Two Department courses	6
Second Year: 11 Credit-Hours		
CBIO 8500	Statistics for the	•
	Biomedical Sciences	3
MICR 8590	Teaching Practice	1

Graduate Seminar

Master's Thesis

DOCTOR OF PHILOSOPHY WITH

MICR 8580

MICR 8595

1

6

SPECIALTY IN MICROBIOLOGY (Ph.D.)

TOTAL SEMESTER CREDIT-HOURS: 62

First Year: 25 Credit-Hours

MICR 8499	Introduction to Medical	
	Microbiology	6
BCHM 8500	Biochemistry	6
MICR 8580	Graduate Seminar	1
MICR 8540	Principles of Immunology	3
ZOME 8502	Introduction to Parasitology	3
Electives	Two Department courses 6	

Second Year: 18 Credit-Hours

CBIO 8500	Statistics for the Biomedical	
	Sciences	3
MICR 8580	Graduate Seminar	1
MICR 8590	Teaching Practice	1
BCHM 8551	Methods in Protein and	
	Nucleic Acid Biochemistry	2
BCHM 8552	Methods in Lipid and	
	Carbohydrates Biochemistry,	
	Nutrition, and Biochemical	
	Pharmacology	2
Advanced Topic	s in Area of Specialization	3

Two Department courses

6

Third and Fourth Years: 19 Credit-Hours

Electives

1.1

MICR 8580 Graduate Seminar Advanced Topics in Area of Specialization MICR 8599 Doctoral Dissertation	1 3 15

DEPARTMENT OF PHYSIOLOGY

MASTER OF SCIENCE WITH SPECIALTY IN PHYSIOLOGY (M.S.)

TOTAL SEMESTER CREDIT-HOURS: 33

First Year: 23 Credit-Hours

FISA 8601	Vertebrate Physiology I	3
BCHM 8500	Biochemistry	6
BCHM 8551	Methods in Protein and	
	Nucleic Acid Biochemistry	2
BCHM 8552	Methods in Lipid and	
	Carbohydrates Biochemistry,	
	Nutrition, and Biochemical	
	Pharmacology	2
FISA 8503	Seminar in Physiology	1
FISA 8602	Vertebrate Physiology II	3
FISA 8532	Advanced Physical	
	Instrumentation	3
FISA 8540	Cellular Molecular Physiology	3
Second Year: 1	0 Credit-Hours	
CBIO 8500	Statistics for the Biomedical	
	Sciences	3
FISA 8503	Seminar in Physiology	1
FISA 8595	Master's Thesis	6

DOCTOR OF PHILOSOPHY WITH SPECIALTY IN PHYSIOLOGY (Ph.D.)

TOTAL SEMESTER CREDIT-HOURS: 63

First Year: 23 Credit-Hours

BCHM 8500	Biochemistry	6
FISA 8601	Vertebrate Physiology I	3
BCHM 8551	Methods in Protein and	
	Nucleic Acid Biochemistry	2
BCHM 8552	Methods in Lipid and	
	Carbohydrates Biochemistry,	
	Nutrition, and Biochemical	
	Pharmacology	2
FISA 8602	Vertebrate Physiology II	3
FISA 8532	Advanced Physical	
	Instrumentation	3

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FISA 8540	Cellular Molecular Physiology	3
FISA 8503	Seminar in Physiology	1

Second Year: 20 Credit-Hours

CBIO 8500	Statistics for the Biomedical	
	Sciences	3
FISA 8541	Problems in Physiology I	3
FISA 8542	Directed Reading	1
FISA 8503	Seminar in Physiology	1
Electives	Department Courses	6
Electives	Department Courses	6

Third and Fourth Years: 20 Credit-Hours

FISA 8585	Preparation of Physiology	
	Proposal	3
FISA 8503	Seminar in Physiology	1
FISA 8503	Seminar in Physiology	1
FISA 8599	Doctoral Thesis	15

DEPARTMENT OF PHARMACOLOGY AND TOXICOLOGY

MASTER OF SCIENCE WITH SPECIALTY IN PHARMACOLOGY (M.S.) (Typical sequence)

TOTAL SEMESTER CREDIT-HOURS: 33

First Year: 18 Credit-Hours

BCHM 8500	Biochemistry	6
FISA 8601	Vertebrate Physiology I	3
PHAR 8513	Pharmacology Seminar	1
BCHM 8551	Methods in Protein and	
	Nucleic Acid Biochemistry	2
or		
BCHM 8552	Methods in Lipid and	
	Carbohydrates Biochemistry,	
	Nutrition, and Biochemical	
	Pharmacology	2
PHAR 8*	Basic Concepts of	
	Pharmacology	3
FISA 8602	Vertebrate Physiology II	3

Academic Programs - School of Medicine Second and Third Year: 15 Credit-Hours PHAR 8500 Pharmacology Pharmacology Seminar PHAR 8513 Statistics for the Biomedical **CBIO 8500** Sciences 3 **Master's Thesis** PHAR 8595 * Course to be coded. DOCTOR OF PHILOSOPHY WITH SPECIALTY IN PHARMACOLOGY (Ph.D.) (Typical sequence) **TOTAL SEMESTER CREDIT-HOURS: 61** First Year: 22 Credit-Hours BCHM 8500 Biochemistry 6 FISA 8601 Vertebrate Physiology I 3 PHAR 8513 Pharmacology Seminar 1 BCHM 8551 Methods in Protein and Nucleic Acid Biochemistry 2 BCHM 8552 Methods in Lipid and Carbohydrates Biochemistry, Nutrition, and Biochemical Pharmacology 2 PHAR 8 * Basic Concepts of 3 Pharmacology FISA 8602 Vertebrate Physiology II 3 Electives 2 Second Year: 22 Credit-Hours PHAR 8500 Pharmacology 5 PHAR 8513 Pharmacology Seminar 1 PHAR 8525 Pharmacological Methods 3 CBIO 8500 Statistics for the Biomedical Sciences 3 PHAR 8 * Survival Skills 3 Electives in Physiology (FISA) 2

Third and Fourth Years: 17 Credit-Hours

Electives

Electives		2
PHAR 8599	Doctoral Dissertation	15
* Courses to b	e coded.	

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MASTER OF SCIENCE WITH SPECIALTY IN

TOXICOLOGY (M.S.)

TOTAL SEMESTER CREDIT-HOURS: 31

First Year: 20 Credit-Hours

Biochemistry	6
Vertebrate Physiology I	3
Basic Toxicology	3
Seminar in Toxicology	1
Vertebrate Physiology II	3
Special Topics*	2
Special Topics*	2
	Vertebrate Physiology I Basic Toxicology Seminar in Toxicology Vertebrate Physiology II Special Topics*

Second Year: 11 Credit-Hours

TOXI 8515	Special Topics*	2
CBIO 8500	Statistics for the Biomedical	
	Sciences	3
TOXI 8595	Research for Master's	
	Thesis	6

* Special topics in different areas.

DOCTOR OF PHILOSOPHY WITH SPECIALTY IN TOXICOLOGY (Ph.D.)

TOTAL SEMESTER CREDIT-HOURS: 61

First Year: 26 Credit-Hours

BCH	IM 8500	Biochemistry	6
FIS/	4 8601	Vertebrate Physiology I	3
TO	KI 8501	Basic Toxicology	3
TO	KI 8509	Seminar in Toxicology	1
FIS/	4 8602	Vertebrate Physiology II	3
TO	KI 8515	Special Topics*	2
TO	XI 8**	Bioinformatics	3
PHA	AR 8500	Pharmacology	5

Second Year: 18 Credit-Hours

OXI 8502

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Advanced Toxicology

3

CBIO 8500 Statistics for the Biomedical

Sciences

TOXI 8509	Seminar in Toxicology	1
TOXI 8515	Special Topics*	2
TOXI 8508	Problems in Forensic	
	Toxicology	5
Electives	Courses from the Department	5

Third and Fourth Years: 17 Credit-Hours

TOXI 8509	Seminar in Toxicology	1
TOXI 8509	Seminar in Toxicology	1
TOXI 8599	Doctoral Dissertation	15

* Special topics in different areas.

** Course to be coded.

JOINT EFFORT PROGRAMS

The Post-Doctoral Master of Science and the Graduate Certificate in Clinical Research represent a joint effort, of the School of Medicine and the School of Health Professions of the Medical Sciences Campus of the University of Puerto Rico, to offer two multidisciplinary didactic training programs to meet the need among minority health professionals for formalized academic training in the principles of clinical research. These programs were developed with the support of the other four academic schools of our campus; Graduate School of Public Health, School of Dentistry, School of Pharmacy and School of Nursing. These academic programs also joined in the partnership with the graduate clinical research program, K - 30, at Mayo Clinic - Rochester, MN, the San Juan Veterans Administration Medical Center and the Puerto Rico Department of Health to increase the depth and breadth of training opportunities and improve the overall quality of the education.

GRADUATE CERTIFICATE IN CLINICAL RESEARCH

The objectives of the Graduate Certificate program are to increase knowledge and skills in clinical research and improve the attitudes toward clinical research through completion of the didactic component. The curriculum consists of one year of didactic courses for a total of 24 semester credit hours. After completion of the program requisites, the graduate will have acquired knowledge in study design, analysis, interpretation and evaluation of clinical research, biostatistics methods appropriate to clinical research and legal, ethical and regulatory issues related to clinical research. The graduates will also develop skills in problem solving, analysis and critical thinking strategies for the design, implementation and management of clinical projects, effective oral and written communication and use of technology for seeking information and data processing purposes. The graduates will exhibit an ethical responsible conduct in clinical research, recognize the importance of collaborative work and the importance of communicating scientific knowledge and findings.

Admission Requirements

The program will competitively evaluate all interested candidates from accredited institutions across the island. Applicants meeting all requirements will be interviewed and recommend the top ranked candidates.

- 1. Hold a master degree
- 2. Minimum master general grade point average of 3.00
- Submission of the official application and all required documents prior to the deadline established by the program
- 4. Curriculum Vitae
- 5. Transcript from the institution granting the master degree
- Two (2) letters of recommendation from individuals familiar with the applicants scienceresearch related activities
- 7. Personal statement detailing how this program will contribute to the candidate career goals

Graduation Requirements

A Graduate Certificate in Clinical Research degree will be awarded to those students admitted to the certificate program that complete successfully the 24 semester credits of the didactic component and attendance to seminar series.

Academic Programs - School of Medicine

GRADUATE CERTIFICATE IN CLINICAL RESEARCH TOTAL SEMESTER CREDIT-HOURS: 24

INCL 6005	Introduction to Clinical Researc	:h 1	
INCL 6006	Introduction to Health Service:	5	
	Research	1	
INCL 6016	Application of Informatics in		
	Research		DE
INCL 6025	Bioethics and Regalatory	U	
	Issues in Clinical Research	2	
INCL 6035	Epidemiology in Clinical		
	Research I	2	
INCL 6041	Biostatistic in Clinical		
	Research I	2	
INCL 6042	Biostatistic in Clinical		
	Research II	2	
INCL 6046	Epidemiology in Clinical		
	Research II	2	
INCL 6055	Clinical Trials	2	
INCL 6056	Clinical Research Protocol		
	Development	2	
INCL 6065	Scientific Communication	2	
INCL 6075	Bioanalytical Methods		
	in Clinical Research	2	
INCL 6085	New Frontiers in Clinical		
	Research	1	
	ommended by the Program Gender Considerations		
INCL 6007	in Clinical Research	1	
		I	
INCL 6045	Introduction to Bioinformatics	1	
	and Medical Genomics	I	

MASTER OF SCIENCE IN CLINICAL RESEARCH

The post-doctoral master program is designed to meet the need for formal academic training in quantitative, qualitative, and other methodological principles of clinical research, including patient-oriented research, epidemiologic and behavioral studies, outcomes research, and health services research. Graduates of the postdoctoral program will be trained to plan original clinical research with adequate sample size, sampling methods, well-defined diagnostic criteria, and effective control of confounding variables. The post-doctoral master program consists of a two-year competency-based curriculum with two major components: didactic courses and a mentored research project (research component).

The program's mission is to promote the development of multidisciplinary clinical scientific teams working in collaboration toward the attainment of two common goals: improvement in quality of life and decrease health disparities. In the research component the program will target specific health conditions of high priority to the Hispanic population as delineated by Healthy People 2010 and based on the mortality and morbidity trends in Puerto Rico. The research component will focus on HIV, cancer, cardiovascular and respiratory diseases, diabetes, oral health, issues related to aging, mental health/ psychiatric disorders, and drug abuse and addiction.

The graduates are expected to become independently funded and committed clinical researchers that will be able to develop culturally appropriate research aimed at reducing health disparities in Hispanic populations, conduct ethically responsible clinical research, build and lead effective collaborative networks in their area(s) of clinical research interest, communicate effectively in writing and orally (unless a handicap precludes one of these forms of communication), be able to work collaboratively, interdependently and effectively with other disciplines on the clinical research team and become a lifelong self-directed learner.

Admission Requirements

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The program will competitively evaluate all interested candidates from accredited institutions across the island. Recruitment of post-doctoral candidates will include: Junior Faculty (7 years or less of their first faculty appointment or 7 years or less since the date that they received their doctoral degree); fellows, residents, interns and outstanding University of Puerto Rico, Medical Sciences Campus (UPR-MSC) 4th year medical students. Have a doctoral degree or formal doctoral studies in progress in a health field, such as MD, DDS, DMD, DO, Ph.D., ScD., Pharm. D or an entry level degree in a health - related discipline and a doctoral degree. Minimum doctoral general grade point average of 3.0 or the GPA of the most recen degree.

- Two Formal Commitment Letters from Dean/ Director of Unit and Immediate Supervisor (Department Chair, Division Director, Program Director) for release time to attend this program.
- 4. Submission of the official application and all required documents prior to the dead line established by the program.
- 5. Curriculum Vitae.
- 6. Transcript from the institution granting the doctoral degree.
- Two letters of recommendation from individuals familiar with the applicants scienceresearch related activities.
- 8. Personal statement detailing how this program will contribute to the candidate career goals.
- 9. A one-page research letter in one of the clinically relevant health areas.

Graduation Requirements

A Master of Science in Clinical Research degree will be awarded to those scholars that complete successfully the 24 semester credits of the didactic component and the following clinical research requirements:

- Approval of a research proposal.
- Preparation and submission of an abstract for an oral or poster presentation in a national/ international scientific forum/ meeting/congress.
- Completion of clinical research project.
- Preparation of a manuscript ready for submission to a peer-reviewed scientific journal.
- Approval of oral presentation of research findings.
- Attendance to seminar series.

MASTER OF SCIENCE IN CLINICAL RESEARCH

TOTAL SEMESTER CREDIT-HOURS 30

INCL 6005 INCL 6006	Introduction to Clinical Research Introduction to Health Services	1
	Research	1
INCL 6016	Application of Informatics in Research	1
INCL 6025	Bioethics and Regalatory	
	Issues in Clinical Research	2
INCL 6035	Epidemiology in Clinical	-
	Research I	2
INCL 6041	Biostatistic in Clinical	
	Research I	2
INCL 6042	Biostatistic in Clinical	
	Research II	2
INCL 6046	Epidemiology in Clinical	
	Research II	2
INCL 6055	Clinical Trials	2
INCL 6056	Clinical Research Protocol	_
	Development	2
INCL 6065	Scientific Communication	2
INCL 6075	Bioanalytical Methods	~
	in Clinical Research	2
INCL 6085	New Frontiers in Clinical	,
INCL 6095	Research Clinical Research	1
INCL 0095	Clinical Research	0
Electives recon	nmended by the Program	
INCL 6007	Gender Considerations	
	in Clinical Research	1
INCL 6045	Introduction to Bioinformatics and Medical Genomics	1



School of Dentistry





HISTORY

The School of Dentistry of the Medical Sciences Campus was founded in 1957. It was first fully accredited by the Council on Dental Education of the American Dental Association in 1961 and has maintained its accredited status continuously ever since. Its most recent accreditation was granted in 1999. The School prepares dentists who effectively join the profession as members of a broader health team concerned with community welfare and who are aware of their social responsibilities as educators and professionals in the community. The School is responsible for developing in its students those professional competencies related to continued personal and professional improvement. These include, among others, competencies related to communication, establishing good professional and personal interrelations, leadership and management, the application of the scientific method to problem solving, and the exercise of the highest standards of professional ethics.

Three departments offer the School's academic programs. The Ecological Sciences Department stresses the study of human behavior, attitude patterns, and social phenomena in relation to the practice of dentistry. The principal frame of reference is the Puerto Rican community. The department is structured in two sections, i.e., Pediatric Dentistry- Orthodontics and Community Dentistry.

The curriculum in the Restorative Sciences Department emphasizes the interrelationships between the biological and mechanical principles involved in the restoration of oral health. The Department consists of the Operative and Prosthodontics Sections.

The Surgical Sciences Department curriculum focuses on the study of concepts, principles, and procedures related to the diagnosis and treatment of diseases of bone and/or soft tissues of the oral cavity. The department is



divided in four sections, i.e., Endodontics- Periodontics, Oral Surgery, Diagnostic Sciences, and Oral Biology.

Based on a philosophy of lifelong learning, the School also offers a Continuing Education Program for practicing dentists. The program addresses relicensure requirements, as they are established by law in Puerto Rico.

Promoting research and progressive scholarship among faculty and students is also one of the School's goals. Research efforts reinforce and complete teaching in the search for new knowledge. The School recognizes its responsibility to augment and update scientific knowledge by encouraging faculty to report research findings.

The School also encourages the participation of its human resources and programs in community enterprises. It fosters civic spirit and pride, as well as leadership among faculty and students. Dental services to the community are provided in the clinic by students under the direct supervision of Faculty. Such services are commensurate with the academic needs of the students and, therefore, conform to the educational philosophy of the School. The welfare of the patient is paramount in rendering these services.

MISSION AND GOALS

The School of Dentistry's mission is the training of dentists who will become an integral part of the multidisciplinary team of health professionals, who will meet the health needs of the people of Puerto Rico. This calls for leadership regarding teaching and research on the prevailing conditions of oral health of the community.

In the fulfillment of its mission, the School of Dentistry is committed to three complementary activities: teaching, research, and service. Its teaching role is accomplished by offering a Doctor of Dental Medicine program which educates competent graduates in the practice of general dentistry postdoctoral education programs, and a solid Continuing Education Program geared to dentists in Puerto Rico, the Caribbean Basin, and Latin America. The curricula stresses critical thinking and sensibility to bioethical issues.

As part of its mission, the School of Dentistry also fosters the search for scientific knowledge and the improvement of the practice of the profession through research in dental sciences. Services are another important component of the School's mission and are aimed at fostering the wellbeing of the patient and the community, strengthening academic programs, and supporting research efforts. Services are offered at the primary, secondary, and tertiary levels, both intramurally and extramurally, with particular attention to prevention and education.

In fulfilling its mission, the School of Dentistry pursues the following goals:

- Train general dentists with the knowledge, skills, and attitudes to effectively serve the oral health needs of the population with emphasis in the Puerto Rican community.
- Provide services to the Puerto Rican population geared towards oral health promotion and prevention as a component of the general health of the individual.
- Contribute to the advancement of knowledge through research in the various areas of dentistry, as well as dental education.
- Update and improve the knowledge and skills of dentists by means of a sound Continuing Education Program.
- Provide an organizational climate that promotes excellence in the educational process, as well as the maximum development of the academic community.
- Train specialists in the field of Dentistry to contribute to the improvement of the oral health of the Puerto Rican, Latin American, and Caribbean Basin populations.

ORGANIZATION AND ADMINISTRATION

The School of Dentistry is one of the six schools of the Medical Sciences Campus. It has three departments, i.e., Ecological Sciences, Restorative Sciences, and Surgical Sciences. The Dean, assisted by the Associate Dean, is responsible for the planning, development, coordination, and evaluation of the Doctor of Dental Medicine Program and graduate programs in General Dentistry, Oral and Maxillofacial Surgery, Prosthodontics, Pediatric Dentistry, and Orthodontics.

Assistant deans in the areas of clinical instruction and student affairs are responsible for the development of strategies for the advancement of these areas, which are implemented by the departments. The Dean is also assisted by staff in the areas of curriculum, strategic planning and development, research, and continuing education.

LOCATION AND FACILITIES

The School of Dentistry occupies the first floor and part of the ground floor of the Campus main building. The freshman and sophomore multidisciplinary laboratories are located on the ground floor, along with a modern simulators laboratory, stock and dispensing rooms, student lounge, and locker rooms. This level also houses the Learning Technology Resources Center, with computer facilities for students and faculty members, and the administrative offices of the Hispanic Center of Excellence.

The first floor of the building houses the School's administrative offices, a multidisciplinary laboratory for dental students, laboratories for advanced studies and dental research, a central sterilizing room, and all dental clinics, including an operating room.

The main clinic area is equipped with 86 dental units and chairs for individual clinical training in general dental procedures. The adjacent central sterilizing room and stock dispensing room serve all clinical areas of the School and the multidisciplinary laboratories.

In addition to the main clinic area, there are special clinic areas devoted to specialty areas such as oral surgery, oral diagnosis, oral roentgenology, and graduate clinics. Clinical research facilities and administrative officers are also located in this level.

The basic sciences multidisciplinary laboratories, the Library, and the Animal Resources Center located in other areas of the Main Building, are shared with other schools of the Medical Sciences Campus.

ACADEMIC PROGRAMS DOCTOR OF DENTAL MEDICINE PROGRAM

The program leading to the degree of Doctor of Dental Medicine is a four-year program designed to prepare general practitioners. The curriculum is based on competencies and is organized around four integrated curricular areas. The areas are defined according to the knowledge, skills, and values necessary to achieve the competencies:

Biomedical Sciences includes fundamental knowledge of the development, structure, function, and mechanism of diseases of the human body. Assessment and Diagnosis comprises the knowledge, skills, and values related to the assessment of normal structures and diagnosis of the abnormalities, diseases and dysfunctions of the orofacial complex in the child, adolescent, adult, geriatric, and special patient. Prevention and treatment includes the knowledge, skills, and values related to the prevention and treatment of abnormalities, diseases, and dysfunctions of the orofacial complex of the child, adolescent, adult, geriatric and special patient. Professional development and management of the dental practice promotes the development of the individual as a professional and his role in the community. It includes, among others, the concepts of practice management, ethical and legal aspects of the profession, exposure control and risk management, and human resources management.

Admission Requirements

Applications for admission to the Doctor of Dental Medicine Program are reviewed and evaluated by the Admissions Committee. Candidates for admission to the freshman class must present evidence of successful completion of at least two full academic years of work in an accredited college or university, with a minimum grade point average of 2.50 (in a scale of 4.00) in both sciences and general courses, which must be completed by the end of the first semester of the academic year prior to admission. This work must comprise not less than 90 semester hours or 135 quarter hours including the following:

Spanish1English1Biology and Zoology8Physics8General Chemistry8Organic Chemistry8Social and Behavioral5Sciences6(Sociology, Psychology,
Political Sciences, Economics,
Anthropology, or Ethics)

12 semester or 18 quarter hours 12 semester or 18 quarter hours 8 semester or 12 quarter hours

6 semester or 9 quarter hours

- All requirements specified above must be completed by the end of the second semester of the year of admission. In the case of applicants who have approved honor Spanish courses, the Admissions Committee will reduce the requirement to six semester hours.
- The English credit requirements for applicants who have approved honor English courses, and those who have studied in US mainland institutions may be reduced to six semester hours. It is recommended that students in this category receive advice on or before submitting their application form.
- The Biology, Zoology, Physics, Chemistry, and Social Sciences requirements must be met in addition to the basic courses required by the University of Puerto Rico Río Piedras Campus. Basic courses in physical sciences, biological sciences, and social sciences offered by that campus may not be substituted for the particular credit-hours stipulated in this list.
- All sciences courses should include both, lectures and laboratory instruction. Students should select elective subjects, in order to broaden their education. Biochemistry, Molecular Biology,

Histology, Physiology, Anatomy, Microbiology, and Genetics courses are highly recommended.

- Instruction at the School may be conducted in English or Spanish. Thus, students should be fluent in speaking, reading, and writing both languages.
- Candidates for admission to the University of Puerto Rico School of Dentistry are subject to evaluation on four main criteria, i.e., academic performance, dental admission test scores, geographic area of residence, and personal attributes.

Academic Performance

Academic performance is measured by the academic grade point average obtained during pre-dental studies and the number of withdrawals and deficient or failing grades, as evidenced in the official transcript. A final grade of at least C (in a scale of A = 4.00) is mandatory in every required course.

Dental Admission Test

The candidate must take the Dental Admission Test offered by the Council on Dental Education of the American Dental Association prior to the application deadline. These examinations are given twice a year, usually in October and April, at centers in the United States and the University of Puerto Rico, School of Dentistry. The testing program is designed to measure general academic ability, comprehension of scientific information, and perceptual ability. The candidate must obtain a minimum score of twelve (12) in each one of the two averages (academic and PAT). In cases in which the student does not obtain the minimum acceptable score, the Committee will evaluate the candidate's record and may require him/her to take the whole examination again to qualify as a candidate. Admission test results are valid for up to three years.

Geographic Area of Residence

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The University of Puerto Rico recognizes its obligation to train personnel to meet the dental health needs of the Puerto Rican population.

Personal Attributes

After an initial screening of the three admission criteria, the Admissions Committee selects applicants to be interviewed. Besides the interview, other criteria such as letters of recommendation and past educational and life experiences are taken into consideration for admission.

The application to the School of Dentistry is processed through the American Association of Dental Schools Application Service (AADSAS). It must be received by AADSAS no later than December 15th of the year preceding admission. The application request card may be obtained from the Office of Admissions of the Medical Sciences Campus or directly from:

AADSAS

1625 Massachusetts Ave., N.W., Suite 101 Washington, DC 20036

The candidate must complete the General Application Form for the Medical Sciences Campus. This application form may be obtained from the Office of Admissions of the Medical Sciences Campus and should be returned to that office no later than December 15th. In addition, the candidate must submit the following documents to the Office of Admissions on/or before the application deadline:

An official transcript from each institution of higher education attended.

A recent 2" x 2" photograph.

Two letters of recommendation and/or evaluation forms as specified.

A certified check or money order payable to the University of Puerto Rico for the amount of \$20.00 to cover the nonrefundable application fee.

The application form for the Dental Admissions Test may be obtained from the Office of Admissions or directly from:

> Division of Educational Measurements American Dental Association 211 East Chicago Avenue Chicago, IL 60611

For further information and/or assistance write to:
Office of Admissions
School of Dentistry
Medical Sciences Campus, UPR
GPO Box 365067
San Juan, Puerto Rico 00936-5067
or call (787) 758-2525 Ext. 5212, 1113
1008

The School of Dentistry will send notice of admission or admission denial. Admitted students should present this notice at registration time. They must send their written acceptance of admission along with the required deposit and comply with the requirements specified in the letter of admission.

Graduation Requirements

A student is eligible for graduation under the curriculum requirements in effect at the time of admission to the School of Dentistry. Students who do not satisfy graduation requirements within the regular period of time corresponding to their curriculum, and students who reenroll after a period of absence, will be bound by the requirements applicable to the class with which they graduate.

In order to receive a degree, candidates must approve all courses and have a general grade point average of 2.50, an have approved the National Board Dental Examination I and II. Students with an average of 3.30 to 3.49, graduate Cum Laude; those who achieve 3.50 to 3.99 graduate Magna Cum Laude; and those with 4.00 graduate Summa Cum Laude. In order to be eligible for graduation with honors (Cum Laude), students must have completed at least 85% of the credit hours required for graduation at the University of Puerto Rico Medical Sciences Campus.

DOCTOR OF DENTAL MEDICINE (DMD)

TOTAL HOURS: 4,437 Biomedical Sciences: 726 Hours

CBIO 7100	Biochemistry	81
CBIO 7110	Gross Anatomy	108
CBIO 7120	General Histology	80

CBIO 7130 Neuroanatomy 60 CBIO 7140 Oral Histology and Embryology 40 CBIO 7150 Microbiology 84 CBIO 7160 **Basic Human Physiology** for Dental Students 92 CBIO 7170 **General Systemic** Pathology CBIO 7180 Oral Pharmacology and 74 Therapeutics CBIO 7190 Integration of Biomedical Sciences into Dental Practice 50

Academic Programs - School of Dentistry

Assessment and Diagnosis: 357 Hours

EVDI 7105	Introduction to Assessment	20
	and Diagnosis of the Patient	38
EVDI 7115	Human Development and	
	Behavioral Management44	
EVDI 7125	Dental Anatomy and	
	Functional Occlusion	127
EVDI 7135	Dental & Craniofacial	
	Imaging	20
EVDI 7245	Development of the	
	Orofacial Complex	16
EVDI 7255	Oral Pathology	28
EVDI 7265	Oral Diagnosis and	
	Treatment Planning	57
EVDI 7275	Assessment and Diagnosis	
	of the Child and Adolescent	27

Prevention and Treatment: 2956 Hours

PRET 7106	Cariology	12
PRET 7116	Preventive Dentistry	44
PRET 7126	Introduction to Restorative	
	Dentistry and Principles of	
	Intracoronal Restorations	210
PRET 7136	Clinical Application on	
	Dental Skills	54
PRET 7216	Treatment for the Child	
	and the Adolescent	79
PRET 7246	Removable Prosthodontics	253
PRET 7257	Periodontics	55
PRET 7266	Oral Surgery	24
PRET 7276	Fixed Prosthodontics	250

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PRET 7286	Apprehension and Pain	
	Control	22
PRET 7296	Endodontics	76
PRET 7306	Implant Dentistry Clinical	
	Rotation	20
PRET 7316	Dental Care for the	
	Special Patients	28
PRET 7326	Review for the National Board	
	Dental Examination Part II	54
PRET 7336	Advanced Oral Surgery	20
PRET 7346	Clinical Occlusion and	
	Tempero Mandibular	
	Dysfunction Management	20
PRET 7356	Medical Emergencies	16
PRET 7366	Implant Dentistry	12
PRET 7376	Geriatric Dentistry	12
PRET 7386	Oral Surgery Clinical Rotation	49
PRET 7396	Oral Diagnosis Clinical	
	Rotation	69
PRET 7308	Periodontics Clinical	
	Rotation	64
PRET 7318	Endodontics Clinical	
	Rotation	47
PRET 7328	Pediatric Dentistry Clinical	
	Rotation	55
PRET 7338	Orthodontics Clinical	
	Rotation	60
PRET 7348	Preventive Dentistry	
	, Clinical Rotation	40
PRET 7358	Operative Dentistry	
	Clinical Rotation	86
PRET 7368	Fixed Prosthodontics	
and the owner where the party of the party o	Clinical Rotation	60
PRET 7378	Oral Radiology Clinical	
1 17 N	Rotation	39
PRET 7388	Removable Prosthodontics	
	Clinical Rotation	90
PRET 7398	Dental Assistant Utilization	
X	Program	36
PRET 7400	Comprehensive Care	
1-122		000
Professional De	evelopment: 254 Hours	0.
- (// 入	~
DESP 7117	Introduction to Professional	1)
	Development I	12
DESP 7127	Introduction to Professional	11
	Development II	22
		1
68		-

DESP 7237	Evaluation of Scientific	
	Literature and Epidemiology	20
DESP 7247	Introduction to Community	
	Dentistry	20
DESP 7357	Professional Development III	60
DESP 7467	Dental Practice Externship	120
Electives		144

ADVANCED DENTAL EDUCATION PROGRAMS

The Advanced Education Programs are designed for the preparation of well qualified dental specialists in the oral health fields most needed by the Puerto Rican population. The collaboration with the Iberoamerican countries in the preparation of dental specialist is another responsability that the School accepts as part of its mission.

Requirements for Admission

All candidates to the Advanced Education Programs must comply with the following requirements:

- A degree of Doctor of Dental Surgery (D.D.S.) or Doctor of Dental Medicine (D.M.D.), or equivalent from an accredited dental school.
- Official transcripts from all institutions of higher education attended and photocopies of the diplomas or certificates received. Candidates accepted should present the originals upon admission to the program.
- Must have passed the first and second part of the National Dental Boards prior to beginning the program.
- A personal interview.
- Must be fluent in English and Spanish.
- A complete application should be received no later than October 15, for admission to the program beginning July 1st of the next calendar year. The candidate will be notified of acceptance or rejection no later than January 30.
- Applicants must have a general grade point average established by each program:

Program	Minimum GPA
Orthodontics	3.00
Pediatric Dentistry	3.00

Prosthodontics	2.60
Oral & Maxillofacial Surgery	3.00
GPR	2.50

Foreign Students

Foreign Students must comply with the following additional requirements:

- Must have their diplomas, school transcripts, and all other pertinent documents certified as official by the Ministry of Education or similar agency in their country of origin, or by the U.S. Embassy in those countries where these services are available.
- Must have legal proof of financial support. An affidavit or sworn statement is required as will as official students VISA. The University of Puerto Rico does not provide scholarships, stipends or financial aid to foreign students.
- The approval of the National Board Dental Examinations Part I and Part II is waived for foreign candidates.
- Candidates must present evidence of approval of the TOEFL exam when applying to all Advanced Education Specialty/Programs.
- Foreign candidates are encouraged to participate in the six -months internships education course or in a similar educational program in an accredited institution.
- Application forms fully completed and all required documents must be submitted in duplicate to:
 - Office of Graduate Studies University of Puerto Rico School of Dentistry Medical Sciences Campus GPO Box 365067 San Juan, Puerto Rico 00936-5067

Criteria for Admission

Criteria for admission to the Advanced Education Specialty Programs are stated below. Each program will define each criterion.

• Academic Performance in Pre-Dental Education

Academic Programs - School of Dentistry

- Dental Education General Point Average
- Interview and/or letters of recommendation
- National Dental Boards Examination
- Professional Experience & Academic Activities
- Research Experience
- Extracurricular Activities

Each Program's directors appoints an admission committee that evaluates all completed applications and interviews those candidates that meet the requirements established by the residency program. Once candidates have been interviewed, the results are sent to the Office of Graduate Programs.

The Office of Graduate Programs appoints and Admissions and Promotions Committee comprised of the Director of the Office of Graduate Programs, the Dean for Student Affairs, program's directors or their representatives, graduate students, and/or a representative from the Counseling and Guidance Office. All applications are reviewed by the committee. Selected candidates might be interviewed by the committee, before submitting a final recommendation for admission to the Dean of the School of Dentistry.

Program	Lenght of Curriculum	Maximun time Allowed for the Completion of the Degree
Post DMD Certificates		
General Dentistry	1	1.5
Pediatrics Dentistry	2	3
Oral & Maxillofacial Surgery	4	6
Prosthodontics	3	4.5
Orthodontics	3	4.5
MSD in:		
Pediatrics Dentistry	3	4
Oral & Maxillofacial Surgery	5	6
Prosthodontics	4	5.5
Orthodontics	3	4.5

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General Requirements

All advanced education program students must attend the program on a full-time basis. The maximum number of years for completion of each degree is as follows:

Graduation Requirements

Residents must satisfactorily pass all required courses and have a minimum grade point average of 3.00, as certified by the Registrar, and comply with the rules and regulation of the School of Dentistry and the Resident's Contractual Agreement.

POSTDOCTORAL CERTIFICATE IN GENERAL DENTISTRY

The General Practice Residency (GPR) program of the University of Puerto Rico School of Dentistry (UPRSD) is a fully accredited residency-training program sponsored by the School of Dentistry, Medical Sciences Campus, and affiliated to the University Distric Hospital in San Juan and the Hospital of the University of Puerto Rico in the municipality of Carolina. Ample experiences are provided in the hospital setting, enabling the graduate to work more efficiently as an integral part of the institutional health team. In addition, students practice at the Postgraduate Clinic of the School of Dentistry and at the Puerto Rico Community Network for Clinical Research on AIDS, an agency dedicated to provide care for HIV/AIDS patients. This program has been training residents in advanced general dentistry and delivering comprehensive dental care since July 1988.

The GPR program is designed to provide advanced training in clinical dentistry and applied basic and medical sciences, and to refine the skills necessary for the generalist to provide comprehensive patient care with a high level of competency for all populations groups. It prepares the residents to manage total oral health by providing instruction and experience in the delivery of care to a wide range of ambulatory and hospitalized patients.

The general practice residency training is provided primarily in the context of patient care, in which most of the resident's time is devoted to direct delivery of oral

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health care. The program consists of 12 consecutive months of both core and elective components. Clinical work is supplemented by formal eductional activities to assure that students achieve program goals and objectives and derive maximum educational value from clinical experiences. Students must pass all courses in the study program in order to qualify for certification.

The program's three major components are: academic, hospital rotations, and dental services. These include:

Academic

Lectures - 4 hours/week Seminars - 1 hour/week Journal club - 1 hour/week Case presentations and discussions - 1 hour/ week Physical Diagnosis Course - 3 hours/week/1st trimester

Hospital Rotations

Emergency Medicine - 2 weeks Internal Medicine - 2 weeks Anesthesiology - 3 weeks Oral and Maxillofacial Surgery - 2 weeks Emergency Service - one night every 4th days throughout the year

Dental Services

Hospital Dental Clinics - 2 days per week throughout the year for outpatient and inpatient care. Oral Medicine Dental Clinic - 1 day per week throughout the year. Consultatetious - one hour/week, or as required in emergency cases. School of Dentistry Dental Clinic - 1.5 days per

week throughout the year.

Graduation Requirements

Residents must satisfactoriously pass all required courses and have a minimum grade point average of 3.00, as certified by the Registrar.

POSTDOCTORAL CERTIFICATE IN GENERAL DENTISTRY

TOTAL CREDIT-HOURS: 33 SEMESTER C.H. +10 TRIMESTER C.H.

PROG 9108	Physical Diagnosis	3 tr
PROG 9107	Conscious Sedation for	
	Dental Patients	3 tr
PHAR 8515	Pharmacology and	
	Therapeutics	2 sem
PROG 9105	Oral and Maxillofacial	
	Surgery Clinic	2 sem
PROG 9111	Comprehensive Patient	
	Care Clinic I	2 sem
PROG 9112	Comprehensive Patient	
	Care Clinic II	2 sem
PROG 9113	Clinical Sciences Seminar I	2 sem
PROG 9114	Clinical Sciences Seminar II	2 sem
PROG 9117	Gerodontology	2 tr
PROG 9101	Patient Care Clinic I	2 sem
PROG 9102	Patient Care Clinic II	2 sem
PROG 9121	Dental Literature Review I	2 sem
PROG 9122	Dental Literature Review II	2 sem
PROG 9106	Hospital Protocol	2 tr
PROG 9115	Internal Medicine Rotation	0 tr
PROG 9100	Anesthesiology Rotation	4 sem
PROG 9116	Emergency Rotation	0 sem
PROG 9135	Implant Dentistry for	
	General Practice Residents	3 sem
PROG 9145	New Endodonthic Techniques	3 sem
PROG 9155	Oral Health and HIV	3 sem

POSTDOCTORAL CERTIFICATE IN ORAL AND MAXILLOFACIAL SURGERY

The Postdoctoral Certificate in Oral and Maxillofacial Surgery Program was established in July, 1963. The program consists of a minimum of four consecutive years (48 months) of progressive educational experiences and may lead to a master's degree if candidate fulfills additional requirements. It meets the requirements of the Council on Dental Education of the American Dental Association and the requirements for examination and certification by the American Board of Oral and Maxillofacial Surgery. The program uses the facilities and resources of the School of Dentistry and is affiliated to the University District Hospital, the Pediatric University Hospital and the San Juan Municipal Hospital. Two residents are accepted every year.

The first year of the program exposes residents to fundamental knowledge related to the evaluation of patients in the hospital environment. On call duty every third night at the emergency room, work with medically compromised patients at the outpatient clinic, a physical diagnosis course with second year medical students, seminars, literature reviews and case presentations, and an advanced pathology course provide basic knowledge and skills for oral and maxillofacial surgery diagnosis and treatment. Residents are also introduced to basic research concepts, biostatistics, and scientific methodology so that they may apply them in future situations along their professional lives.

The second year consists of rotations in the medical departments of Anesthesiology (4 months), Internal Medicine (2 months), and Neurosurgery (2 months). During the second year, residents also participate in the outpatient clinic and in seminars, literature reviews, and a case presentation course.

The third year includes rotations in Tumor Service (1 month), Trauma Service (2 months), and the Surgical Intensive Care Unit (1 month) of the General Surgery Department. Residents also have elective rotations in the Oto-Head and Neck Surgery Department (1 month) and in Dermatology (1 month). On the third year, residents work towards the mastery of basic oral and maxillofacial surgery principles, evaluation of the medically compromised patient, treatment of complicated odontectomies, periodontal surgery, dental implants, benign tumors of the oral cavity, fractures of the facial skeleton, debridement and suturing of oral and facial lacerations, and mastering intravenous sedation techniques.

The fourth year seeks to refine surgical techniques. Residents are expected to treat conditions such as congenital and acquired anomalies of the mouth and face, develop expertise in reconstructive procedures of the maxillofacial area, understand and apply the principles of bone grafting, skin transplantation, and the use of alloplastic implants; as well as evaluation and treatment of facial plastic surgical procedures (cosmetic surgery). Each resident must complete a significant publishable research project on a clinical subject related to oral and maxillofacial surgery.

The program consists of 48 consecutive months of

full-time study. The following courses must be approved in order to obtain certification. The faculty may add or eliminate courses to meet particular circumstances. Participation is encouraged in other relevant courses. For detailed information regarding available courses and/ or rotations, contact the School of Dentistry. Interested candidates must submit and application through the Postdoctoral Application Support Service (PASS) in addition to the application form provided by the School of Dentistry.

SPECIAL SIX-MONTH TO A YEAR INTERNSHIP PROGRAM

Besides the four year Post-Doctoral Program in Oral and Maxillofacial Surgery, the School of Dentistry offers a six-month to a year special program which is not conducive to a degree, certificate, or diploma. Students receive a letter of completion of the program. The program provides interested foreign dentists, the basic didactic and clinical experiences related to the latest concepts, diagnostic methods, modalities of treatment, and surgical techniques in the field of Oral and Maxillofacial Surgery.

Graduation Requirements

Residents must pass all required courses satisfactorily and have a minimum grade point average of 2.75, as certified by the Registrar.

POSTDOCTORAL CERTIFICATE IN ORAL AND MAXILLOFACIAL SURGERY

TOTAL CREDIT-HOURS: 74 SEMESTER C.H. + 5 TRIMESTER C.H.

CIOM 9511 Seminars, Review of Literature	
Case Presentations I	
CIOM 9512 Seminars, Review of Literature	
Case Presentations II	
CIOM 9521 Seminars, Review of Literature	
Case Presentations III	
CIOM 9522 Seminars, Review of Literature	
Case Presentations IV	1
CION 0521 Sominary Poview of Literature	١

Case Presentations V

2

	CIOM 9532	Seminars, Review of Literature	
		Case Presentations VI	4
	CIOM 9541	Seminars, Review of Literature	
		Case Presentations VII	4
	CIOM 9542	Seminars, Review of Literature	
		Case Presentations VIII	4
	CIOM 9611	Hospital Procedures I	2
	CIOM 9612	Hospital Procedures II	2
	CIOM 9621	Hospital Procedures III	2
	CIOM 9622	Hospital Procedures IV	2
	CIOM 9631	Hospital Procedures V	2
	CIOM 9632	Hospital Procedures VI	2
	CIOM 9641	Hospital Procedures VII	2
	CIOM 9642	Hospital Procedures VIII	2
	MEDI 9300	Physical Diagnosis	3
	CIOM 9460	General Anesthesia Rotation	3
	CIOM 9830	Theory and Practice of Deep	
		Sedation-General Anesthesia	3
	CIOM 9731	Cosmetic and Reconstructive	
		Surgery of the Maxillofacial	
		Region I	2
	CIOM 9741	Cosmetic and Reconstructive	
		Surgery of the Maxillofacial	
		Region II	2
	CIOM 9742	Cosmetic and Reconstructive	
		Surgery of the Maxillofacial	
		Region III	2
	PEDO 9436	Research Methods for Residents	2 t
	PDOC 9005	Statisticals Analysis Applied to	
		the Dental Sciences	3 t
		Research Completion Project	6
	BIOR 9005	Advanced Oral Biology	_
1		Core Course	5

The following additional courses are also required for certification:

Advanced Cardiac Life Support (ACLS)

Advanced Trauma Life Support (ATLS)

Required Rotations 12 Month Total

Month
2
4
4
2
6

POSTDOCTORAL CERTIFICATE IN PROSTHODONTICS

The Postdoctoral Certificate in Prosthodontics Program was established in October, 1990. The program consists of a minimum of three consecutive years (33 months) of progressive educational experiences and may lead to a master's degree if candidate fulfills additional requirements. It is designed to meet the requirements of the Council on Dental Education of the American Dental Association and the prerequisites for examination and certification by the American Board of Prosthodontics. The program uses the resources of the University of Puerto Rico School of Dentistry and is affiliated to the University District Hospital.

The first year provides students the fundamental knowledge related to the treatment of prosthodontic patients. Residents work with healthy and medically compromised patients and participate in seminars, treatment planning boards, lectures, laboratory experiences, and formal courses in pathology, statistics, research protocols, pharmacology, and gerontology.

Most of the second year of the program, is devoted to clinical experiences in the areas of fixed, removable, maxillofacial prosthodontics, temporomandibular joint related disorders, and prosthetic reconstruction with dental implants. The third year of the program focuses on clinical experiences, a research project, and teaching.

Other program activities include clinical instruction, lecturing to undergraduate students, journal club, cleft palate and lip team conferences, basic cardiac life support courses, continuing dental education courses, and presentation of a table clinic at the annual meeting of the College of Dental Surgeons of Puerto Rico. A research Academic Programs - School of Dentistry

project and a paper for publication are also required.

GRADUATION REQUIREMENTS

The resident must pass all courses satisfactorily and have a minimum grade point average of 3.00, as certified by the Registrar.

POSTDOCTORAL CERTIFICATE IN PROSTHODONTICS

TOTAL CREDIT-HOURS: 127 SEMESTER C.H. +7 TRIMESTER C.H.

REST 9001	Complete Dentures Seminar I	2
REST 9002	Complete Dentures Seminar II	
REST 9011	Removable Partial Dentures	
	Seminar I	2
REST 9012	Removable Partial Dentures	
	Seminar II	2
REST 9021	Fixed Partial Dentures Seminar I	2
REST 9022	Fixed Partial Dentures Seminar II	2
REST 9031	Maxillofacial Prosthetics	
	Seminar I	2
REST 9032	Maxillofacial Prosthetics	
	Seminar II	2
REST 9041	Biomedical Sciences Seminar I	2
REST 9042	Biomedical Sciences Seminar II	2
REST 9051	Dental Implants I	2
REST 9052	Dental Implants II	2
REST 9061	Research Project I	.5
REST 9062	Research Project II	.5
REST 9071	Post Graduate Prosthodontics	
	Clinic I	9
REST 9072	Post Graduate Prosthodontics	
	Clinic II	9
REST 9095	Introduction to Prosthodontics	
	Laboratory	2
REST 9081	Occlusion Seminar I	2
REST 9082	Occlusion Seminar II	2
BIOR 9005	Advanced Oral Biology Core	
	Course	5
PDCO 9005	Statistical Analysis Applied to	
		7

		the Dental Sciences	3 tr
	PROG 9117	Gerodontology	2 tr
	PEDO 9436	Research Methods for Residents	2 tr
	REST 9003	Complete Dentures Seminar III	2
	REST 9004	Complete Dentures Seminar IV	2
	REST 9013	Removable Partial Dentures	
		Seminar III	2
	REST 9014	Removable Partial Dentures	
		Seminar IV	2
	REST 9023	Fixed Partial Dentures	
		Seminar III	2
	REST 9024	Fixed Partial Dentures	
		Seminar IV	2
	REST 9033	Maxillofacial Prosthetics	
	•	Seminar III	2
	REST 9034	Maxillofacial Prosthetics	
		Seminar IV	2
	REST 9043	Biomedical Sciences	
		Seminar III	2
	REST 9044	Biomedical Sciences	
		Seminar IV	2
	REST 9063	Research Project III	.5
	REST 9064	Research Project IV	.5
	REST 9073	Post Graduate Prosthodontics	
		Clinic III	9
	REST 9074	Post Graduate Prosthodontics	
		Clinic IV	9
	REST 9083	Occlusion Seminar III	2
2	REST 9084	Occlusion Seminar IV	2
1	REST 9101	Treatment Planning and Therapy	
ŀ		Seminar I	2
P	REST 9102	Treatment Planning and Therapy	
,		Seminar II	2
	REST 9103	Treatment Planning and Therapy	
	a Fr	Seminar III	2
	REST 9104	Treatment Planning and Therapy	0
	1 6	Seminar IV	2
ç	REST 9105	Treatment Planning and Therapy	C
		Seminar V	2
H	REST 9106	Treatment Planning and Therapy	1
ſ	IN N	Seminar VE	2
	- I I \	A State Stat	

74

REST 9075	Post Graduate Prosthodontics	•		
	Clinic V	9		
REST 9076	Post Graduate Prosthodontics Clinic VI	9		
Requirements to fullfil master's degree:				
PEDO 9500	Development of Research			
	Project	3		
PEDO 6560	Statistical Inference in			
	Dentistry	3 tr		

POSTDOCTORAL CERTIFICATE IN PEDIATRIC DENTISTRY

The program of advanced education in Pediatric Dentistry is designed to prepare specialists to cope with the oral health problems of children. The educational experiences are aimed at expanding competency in the areas of behavior management, treatment of handicapped children, preventive and interceptive treatment of malocclusion, dental practice in the hospital setting, conscious sedation, general anesthesia, biostatistics, clinically applied basic sciences, dental education, application of modern concepts of prevention, and comprehensive dental treatment.

The course of study runs for two (2) years beginning July 1st through June 30th, and may lead to a postdoctoral certificate and/or a master's degree, depending on whether the candidate fulfills the corresponding requirements. Instruction and clinical practice are conducted at the School of Dentistry, University Pediatric Hospital, and the San Juan Municipal Hospital. Formal courses of instruction are provided in related subjects by means of seminars, lectures, discussions, and practical exercises.

Required clinical experiences include advanced pediatric dentistry clinic, special pediatric dentistry clinic, physical diagnosis and interceptive orthodontics. Residents spend one month, at the anesthesia, pediatric, and pediatric emergency wards and participate in the meeting of the cleft-palate team at the Pediatric University Hospital. Community extramural experiences include San Gabriel Institute for Deaf Children, and the Pediatric Dentistry Community Track of Cantera. Experiences in the operating room and conscious sedation

are also required.

The Cantera community track runs parallel to the regular program and emphasizes preventive and oral health promotion, as well as restorative treatment.

Students enrolled in the program are required to participate full-time and are strongly discouraged from engaging in private practice while in the program. Students receiving residency stipend may not work in private practice during the residency period. Admission to the program is open to qualified graduates of dental schools accredited by the Council on Dental Education and, under special circumstances, to graduates of foreign dental schools who intend to return to their countries of origin as teachers and/or researchers.

The structure and content of the Pediatric Dentistry program follows the guidelines for advanced education programs established by the Council on Dental Education and the American Board of Pediatric Dentistry. The program is subject to review by these groups so that graduates may receive the corresponding privileges.

The postgraduate program in Pediatric Dentistry is guided by three fundamental responsibilities of the University, which are: (a) the expansion of knowledge through research, (b) the dissemination of such knowledge through teaching, and (c) the application of resources to the solution of social problems and needs.

Patients are selected to provide students with a variety of clinical experiences in the areas of interceptive orthodontics, growth and development, syndromes, developmental defects and genetic abnormalities, as well as social and behavior management problems.

The outstanding strengths of the program are:

- The availability and variety of a pool of medically compromised children with dental problems.
- The availability and extensive use of medical consultation during treatment of these children.
- The comprehensive treatment of malocclusion through orthodontic therapy.

The varied backgrounds of the program's full-time, clinical science, and basic science faculty make it possible for the dentist seeking advanced Pediatric Dentistry training to obtain a broad based education.

Graduation Requirements

Resident must pass all required courses satisfactorily and have a minimum grade point average of 3.00, as certified by the Registrar.

Academic Programs - School of Dentistry

POSTDOCTORAL CERTIFICATE IN PEDIATRIC DENTISTRY

TOTAL CREDIT-HOURS: 38 TRIMESTER C.H. + 10 SEMESTER C.H.

PEDO 9400	Advanced Pediatric Dentistry	
	Seminar	2
PEDO 9404	Interceptive Orthodontics	
	Seminar	2
PEDO 9408	Advanced Pediatric Dentistry	
	Clinic	3
PEDO 9411	Special Pediatric Dentistry	
	Clinic	2
PEDO 9414	Problems of Handicapped	
	Children	4
PEDO 9436	Research Methods for	
	Residents	2
PDOC 9005	Statistical Analysis Applied to	
	the Dental Sciences	3
PEDO 9439	Pediatric Physical Diagnosis	3 sem
PEDO 9407	Anesthesiology Clerkship	2
PEDO 9409	Advanced Pediatric Dentistry	
	Clinic	3
PEDO 9412	Special Pediatric Dentistry Clinic	3
PEDO 9416	Dental Education	2
PEDO 9424	Interceptive Orthodontics Clinic	2
PEDO 9428	Current Literature Review	2
PROG 9107	Conscious Sedation for	
	Dental Patients	3
BIOR 9005	Advanced Oral Biology Core	
	Course	5 sem
MEDI 7400	Pediatrics	2 sem

Electives:

At least two are required

PEDO 9446 Baby Bottle Tooth Decay Outreach Program

3

PEDO 9447	Community Oral Health	3
REST 9061	Research Project I	.5 sem
REST 9062	Research Project II	.5 sem

Requirements to fulfill master's degree:

PEDO 9500	Development of Research	
	Project	3 sem
PEDO 6560	Statistical Inference in	
	Dentistry	3

POSTDOCTORAL CERTIFICATE IN ORTHODONTICS

The Postdoctoral Certificate in Orthodontics Program consists of three continuous full time years of academic experiences designed to prepare qualified dentists for specialized practice in Orthodontics. The Program was developed according to the "Guidelines for Teaching Orthodontics in Dental Education" published by the Council on Dental Education of the American Dental Association. It consists of a series of didactic, clinical, and research activities, which are specifically designed to develop in residents the competencies necessary to excel in the field of Orthodontics. Upon completion of program requirements, a degree of Master of Dental Science and a Postdoctoral Certificate in Orthodontics will be conferred. In those cases in which the student has fulfilled all requirements except the approval of the thesis, only a Postdoctoral Certificate in Orthodontics will be granted.

The program includes traditional training in different types of malocclusions and new treatment modalities such as: treatment of severe craniofacial anomalies, surgical orthodontics, adult and pre-prosthetic orthodontics, presurgical orthopedics for cleft lip and palate, functional appliance therapy, and temporomandibular joint disorders.

Special Six-Month to a Year Internship Program

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Besides the three-year Postdoctoral Certificate in Orthodontics Program, the School of Dentistry offers a special program which is not conducive to a degree, certificate, or diploma for a period of six months to a year. Students receive letter of completion upon finishing the program, which seeks to provide interested foreign dentists with basic didactic and clinical experiences related to the latest concepts, diagnostic methods, and treatment modalities in the field of Orthodontics.

Graduation Requirements

Residents must pass all required courses satisfactorily and have a minimum grade point average of 3.00, as certified by the Registrar.

POSTDOCTORAL CERTIFICATE IN ORTHODONTICS

TOTAL CREDIT-HOURS: 108.5 SEMESTER C.H. + 8 TRIMESTER C.H.

First Year

	ORTO 9101	Orthodontic Literature Review I	1
	ORTO 9102	Post Graduate Orthodontic	
		Laboratory I	3
	ORTO 9103	Orthodontic PostGraduate	
		Clinic I	8
	ORTO 9104	Craniofacial Growth and	
		Development	2
	ORTO 9105	Orthodontic Diagnosis and	
		Treatment Planning I	10
	ORTO 9106	Principles of Biomechanics in	
		Orthodontics	1
	ORTO 9107	Case Presentation Seminar I	2
	BIOR 9005	Advanced Oral Biology Core	
		Course	5
	PEDO 9436	Research Methods for Residents	2 tr
	ORTO 9201	Orthodontic Literature Review II	2
	ORTO 9202	Post Graduate Orthodontic	
		Laboratory II	2
	ORTO 9203	Orthodontic Post Graduate	
		Clinic II	8
	ORTO 9205	Orthodontic Diagnosis and	
		Treatment Planning II	2
	ORTO 9206	Orthodontic Dental Materials	1
1	ORTO 9207	Case Presentation Seminar II	2
1	ORTO 9208		
		Seminar I	2

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Academic Programs - School of Dentistry

PDOC 9005	Statistical Analysis Applied to
	the Dental Sciences

3 tr

Second Year

ORTO 9301	Orthodontic Literature	
	Review III	2
ORTO 9303	Orthodontic Post Graduate	
	Clinic III	8
ORTO 9304	Craniofacial Anomalies	
	Seminar I	2
ORTO 9307	Case Presentation Seminar III	2
ORTO 9308	Orthodontic Interdisciplinary	
	Seminar II	2
PEDO 6560	Statistical Inference in Dentistry	3 tr
REST 9061	Research Project I	.5
ORTO 9401	Orthodontic Literature	
	Review IV	2
ORTO 9403	Orthodontic Post Graduate	
	Clinic IV	8
ORTO 9404	Craniofacial Anomalies	
	Seminar II	2
ORTO 9407	Case Presentation Seminar IV	2
ORTO 9408	Orthodontic Interdisciplinary	
	Seminar III	2
REST 9062	Research Project II	.5

Third Year	IZ NA			
ORTO 9501	Orthodontic Literature Review V	2		
ORTO 9503	Orthodontic Post Graduate Clinic V	8	~ ~	_
ORTO 9508		Ð	DE	P
Seminar IV REST 9063 ORTO 9601	2 Research Project III Orthodontic Literature	.5		-
	Review VI Post Graduate Orthodontic	2		
000 7003	Clinic VI	8		
Required to f	ulfill master's degree:			
ORTO 9611	Thesis	10		

School of Pharmacy





HISTORY

The School of Pharmacy of the University of Puerto Rico, originally established as a Department of Pharmacy, and later known as the College of Pharmacy, was founded on September 22, 1913 at the Río Piedras Campus. It was the first health profession program to be offered at a higher education level in Puerto Rico, and the first to be accredited. The first twelve pharmacists graduated in 1915 from a two-year program. In 1989, the College changed its official name to School of Pharmacy.

In 1925, the Department of Pharmacy was organized as a college of the University of Puerto Rico. In 1928, it began offering a four-year pharmacy program leading to the degree of Bachelor of Pharmaceutical Sciences.

In the early thirties, the College moved to a building of its own, named after Dr. Agustin Stahl, an eminent Puerto Rican botanist and scientist. In 1932, it was accepted as a member of the American Association of Colleges of Pharmacy. In 1949, the School began its five-year Bachelor of Pharmaceutical Sciences program, being the second school in the nation to adopt such a program, eleven years before it was required for accreditation. The program was first accredited by the American Council on Pharmaceutical Education in 1952, and it has been accredited ever since.

The new shift in pharmacy practice and education to clinical pharmacy required the transfer of the College from the Río Piedras Campus to the Medical Sciences Campus (MSC) of the University of Puerto Rico. In 1977, the College was physically transferred to the MSC. The Bachelor in Sciences in Pharmacy program was offered from 1981 to 2003, following a clinically oriented curriculum. In 1984, the Council on Higher Education approved a new administrative organization creating two departments, the Pharmaceutical Sciences Department and the Department of Pharmacy Practice, each directed by a Chairperson. A Master of Science program with options in Industrial Pharmacy and Pharmaceutical Sciences (Medicinal Chemistry) was established in 1988, providing highly trained individuals for the pharmaceutical industry in the Island.

Instruction at clinical settings and the strengthening of research capabilities have contributed to the development of the pharmacist's new roles and to the evolution of pharmaceutical education to the broader concept of pharmaceutical care. In this new role, the pharmacist assumes responsibility of overseeing the effectiveness of the pharmacotherapy. The School of Pharmacy adopted this philosophy with the implementation of the Doctor in Pharmacy Program (Pharm.D.) in 2001. The curriculum focuses on the development of general and professional abilities, the integration of theory and practice, as well as active and collaborative learning.

In 1999 the School inaugurated the Center for Pharmaceutical Processing Research/University of Puerto Rico (CPPR-UPR). The Center is part of a consortium between the Schools of Pharmacy at the University of Purdue, the University of Connecticut, and the University of Minnesota and is the only Center of Excellence supported by NSF devoted to the research of pharmaceutical processing.

During 2001 the FDA-UPR Pharmaceutical Training Program was established as a result of an agreement between the Food and Drug Administration (FDA), the Food Safety Inspection Service (FSIS) and the University of Puerto Rico for the development of a training program in current Good Manufacturing Practices geared toward countries in Latin America and the Caribbean.

In 2001 the Pharmacy Practice Residency Program, ascribed to the Veterans Affairs Medical Center in San Juan, started with one resident. At present, the program has three residents in training and the residency is accredited by ASHP. Funds for this program were obtained from an educational grant provided by Pfizer Global Manufacturing Corporation. Throughout its history, the alumni have been a source of support and partnership in numerous school initiatives. In 1995, the Alumni Association was formally organized stating its renewed commitment to collaborative projects with the School.

MISSION STATEMENT

The School of Pharmacy, as an integral part of the University of Puerto Rico, supports its institutional mission of responding to the health needs of the Puerto Rican society, of anticipating such needs, and of searching for innovative solutions. The School's main goal is the promotion of excellence in education, research, and service.

The School of Pharmacy, an autonomous unit within the Medical Sciences Campus since 1976, has the primary mission of preparing professionals in the practice of pharmacy, who will join the health team and assume the responsibility for providing pharmaceutical care to the population.

The School offers programs at professional and graduate levels. It fosters the integral formation of students through the development of general and professional abilities that allow their performance as professionals, as informed and concerned citizens, and as members of a general culture in a changing environment. Special consideration is granted to the development of critical thinking ability in students. The School encourages the students' active participation in policy making, willingness to actively participate in the politics, practices, and future directions of the profession and of the nation's health priorities.

As part of the responsibility of pharmaceutical education, the School promotes basic and applied research that generates new knowledge in the professional area and the pharmaceutical sciences.

The School is also oriented towards providing quality pharmaceutical service to the Puerto Rican community, and contributes to maintaining high standards of professional behavior and knowledge. In its constant search for excellence, the School promotes an environment that encourages creative and critical activity, respect for human values, and improvement of community life.

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ORGANIZATION AND ADMINISTRATION

The School is headed by the Dean, who is assisted by the Associate Dean for Academic Affairs, the Assistant Dean of Students, Assistant Dean for Graduate Affairs, and Department Heads for Pharmaceutical Sciences and Pharmacy Practice. It has 36 faculty members and approximately 100 registered pharmacists who serve as preceptors.

LOCATION AND FACILITIES

The physical facilities of the School of Pharmacy are located in the Pharmacy and Deanship for Student Affairs Building (classrooms, and faculty and administrative offices), the Main Building of the Medical Sciences Campus (teaching and research laboratories), the Center for Energy and Environmental Research Building (research laboratories), and the Library of the Medical Sciences Campus (Drug Information Center). The School also maintains The Medicinal and Poisonous Plant Garden, located at the University of Puerto Rico Agricultural Experiment Station in Río Piedras, and the Dr. Luis Torres Díaz Museum, located on the first floor of the Pharmacy and Deanship for Student Affairs Building. The experiential component of the professional program uses eighteen institutions as training sites, forty community pharmacies, and the School's Drug Information Center.

STUDENTS SERVICES

Office of Student Affairs

Student services are coordinated through the Office of Student Affairs. This office is responsible of providing academic, professional, personal and vocational counseling to all students. It serves as liaison between the students, faculty and administration. Among its objectives, it develops and maintains an environment that facilitates the academic performance of students. For additional information about its services, please contact Miriam Vélez, M.S., Assistant Dean for Student Affairs (mivelez@ rcm.upr.edu).

Physical Address:

Office 409, 4th Floor Pharmacy School and Deanship of Students Building, Medical Sciences Campus San Juan, PR 00935, Tel: (787) 758-2525, Ext. 5407, Fax: (787) 751-5680

School of Pharmacy Student Council

The School of Pharmacy Student Council is the official representative body of the students enrolled in the School of Pharmacy. It is composed of the presidents of each professional year class and nine representatives elected from the student body. For more information, please contact Prof. Miriam Vélez (mivelez@rcm.upr.edu) at (787) 758-2525, ext. 5407.

ACADEMIC PROGRAMS

BACCALAUREATE OF SCIENCE IN PHARMACY

The Baccalaureate of Science in Pharmacy Program (BSPh) is currently being phased out. There will be no further admissions to this program.

DOCTOR OF PHARMACY PROGRAM (Pharm.D.)

The Doctor of Pharmacy (Pharm.D.) program is a four-year program designed to prepare generalist practitioners who will render pharmaceutical care.

The program goals are:

- To foster the integral formation of students by developing their general and professional abilities along the curriculum.
- To foster the integration of knowledge based on professional practice experience in a systematic ability-based curriculum which incorporates the following areas: biomedical sciences; pharmaceutical sciences; behavioral, social, and administrative pharmacy sciences; pharmacy practice; and general education.
- To prepare competent pharmacists to enter the practice of the profession in different scenarios.

Program goals are in accordance with the scope of

Academic Programs - School of Pharmacy

contemporary practice responsibilities and the emerging roles of pharmacists. The program requires the approval of 141 credits, exposing the student to 1,620 hours of practical experiences. The curriculum follows a liberal, systematic, and humanistic model, which promotes human development through the development of general/ professional abilities. The program offers a core of comprehensive abilities systematically developed as skills, attitudes, values, and conceptual knowledge, all of which are necessary in order to provide pharmaceutical care. The abilities are contextualized in the disciplines and practice that comprise the pharmacy profession. These are: Pharmaceutical Care, Critical Thinking, Problem Solving and Decision Making, Communication, Ethics, Social Interaction and Relations, Social Consciousness and Responsibilities, Intervention in Public Policy, Administration, and Self-Learning and Professional Development. These abilities have been developed as a set of expectations at three levels of progress through the curriculum.

DOCTOR OF PHARMACY PROGRAM

Admission Requirements

Complete a minimum of 71 - 74 semester credits from among the following courses, or their equivalents, at any accredited college or university:

Courses	Credits
Basic English	6
Basic Spanish	6
Languages (English or Spanish)	3
Humanities	6
Social Sciences	6
Pre-calculus	4-6
Calculus I	4-5
General Chemistry	8
Organic Chemistry	8
General Biology	6
General Physics w/lab	8
General Psychology	3
Introduction to Economics	3
Total	71 – 74

- The advanced placement test does not substitute the requisites of basic English and Spanish.
- The three credits in languages (English or Spanish) must be taken in courses that develop oral and written communication skills.
- Mathematics credits through Calculus I are required for admission. Mathematics 3031, 3052 and 3151 offered by the University of Puerto Rico System may be used as standards of reference. Calculus I should include integrals.
- General Biology requirement is not satisfied by the Biological Sciences course offered by the General Studies Faculty of the University of Puerto Rico.
- General Physics requirement is not satisfied by the Physical Sciences course offered by the General Studies Faculty of the University of Puerto Rico. Physics 3001, 3003, 3004 offered by the University of Puerto Rico System may be used as standards of reference.

To qualify for admission, applicants must present academic and personal records indicating good preparation and ability to undertake a professional college degree program. Applicants are required a general grade point average (GPA) of at least 2.75 (on a scale of 4.00), and a specific grade point average of at least 2.75 (on a scale of 4.00) in chemistry, mathematics, biology, and physics courses (sciences index). In addition, applicants must take the Pharmacy College Admission Text (PCAT) no later than January of the year of admission and submit three recommendation forms, two of which should be from former professors. These recommendations should comment on the applicant's creativity, responsibility, leadership, oral and written communication skills, motivation to study, and aptitude for teamwork. A personal interview and an essay by candidates, is required.

DOCTOR OF PHARMACY

TOTAL SEMESTER CREDIT-HOURS: 141

First Year: 34 credit-hours

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FARM 7165	Scientific Foundations for the Professional Practice: Anatomy and Physiology I	2
FARM 7166	Scientific Foundations for the Professional Practice: Mathematics, Chemistry, and	Z
FARM 7167	Physics Scientific Foundations for the Professional Practice:	2.5
	Biochemistry I	1.5
FARM 7116	Health Promotion and Disease Prevention	3
FARM 7105	Psychosocial Basis, Culture, and Management	
FARM 7135	Theory-Practice Seminar I Research, Education, and	3
14007100	Scientific Method Laboratory I	1
FARM 7117	Integrative Seminar of Pharmaceutical Care and	
FARM 7169	Human Development I Scientific Foundations for	3
FARM / 109	the Professional Practice:	•
FARM 7168	Anatomy and Physiology II Scientific Foundations for	3
	the Professional Practice: Biochemistry II	2
FARM 7137	Compounding and Manufac-	2
FARM 7106	turing of Dosage Forms I Psychosocial Basis, Culture,	3
	and Management	
FARM 7136	Theory-Practice Seminar II	3
FAK/W / 130	Research, Education, and Scientific Method Laboratory II	1
FARM 7118	Integrative Seminar of Pharmaceutical Care	
	and Human Development II	1
FARM 7115 Electives	Introductory Practicum	2 3

Second Year: 37 credit-hours

FARM 7225 Integrated Pharmaceutical Sciences and Therapeutic Agents I: Medicinal Chemistry and Pharmacology

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Academic	Programs -	- School of	Pharmacy
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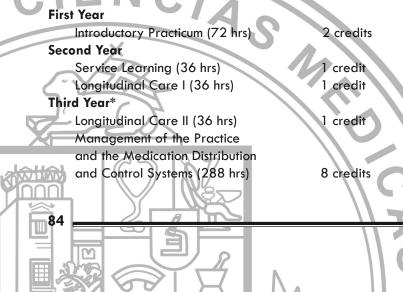
turing of Dosage Forms II3FARM 7227Pharmacy and the Health Care System2FARM 7205Psychosocial Basis, Culture, and ManagementFARM 7336	Psychosocial Basis, Culture, and Management Theory-Practice Seminar V Research, Education, and
FARM 7227 Pharmacy and the Health 2 Care System 2 FARM 7205 Psychosocial Basis, Culture, FARM 7336 and Management 5	Theory-Practice Seminar V Research, Education, and
Care System2FARM 7205Psychosocial Basis, Culture, and ManagementFARM 7336	Research, Education, and
FARM 7205Psychosocial Basis, Culture,FARM 7336and Management	
and Management	
	Scientific Method
	Laboratory V
	Longitudinal Care Practice II
	Integrative Seminar of
	Pharmaceutical Care and
	Human Development V
	Integrated Sciences,
	Therapeutics, and Patient
	Care II
	Research, Education, and
	Scientific Method
	Laboratory VI
	Integrative Seminar on
	Pharmaceutical Care and
	Human Development VI
· · ·	Management of the Practice
	and the Medication Distribution
	and Control Systems Practicum:
	Institutional Pharmacy
	Management of the Practice
	and the Medication Distribution
	and Control Systems Practicum:
	Community Pharmacy
	Electives
Microbiology 1.5	
FARM 7335Research, Education, andFourth Year: 35	credit-hours
Scientific Method	
	Inpatient Pharmaceutical Care:
	Acute Care in Specialized
	Practice
	Inpatient Pharmaceutical Care:
	General Medicine Practice
	Pharmaceutical Care in the
	Ambulatory Setting:
	Community Pharmacy Practice
	Selective Advanced Practicum
	in Pharmacy
	Pharmaceutical Care in
	Ambulatory Setting:
Care I 7	Institutional Practice

FARM 7452	Selective Advanced Practicum	
	in Pharmacy	4-5
FARM 7453	Selective Advanced Practicum	
	in Pharmacy	4-5
FARM 7487	Institutional Pharmacy Practice	4-5
FARM 7417	Integrative Seminar on	
	Pharmaceutical Care and	
	Human Development VII	1
FARM 7418	Integrative Seminar on	
	Pharmaceutical Care and	
	Human Development VIII	1
FARM 7438	Doctor of Pharmacy Research	
	Project	1

Experiential Education in the Doctor of Pharmacy Program

The professional experience component of the Doctor of Pharmacy Program consists of a series of structured experiential learning practicums, which begin during the second semester of the first professional year. The experiences occur in a variety of settings which include hospitals, community pharmacies, and the pharmaceutical industry, among others. The practicums are organized as a curricular progression leading to eight advanced practice experiences (five required and three selective) in the fourth professional year of the curriculum. A total of 1,620 contact hours (equivalent to 45 semester credits) are distributed and offered in the curricular sequence, as they appear in the following table. The Board of Pharmacy of Puerto Rico accrues the total number of hours towards licensure requirements in Puerto Rico.

EXPERIENTIAL LEARNING PRACTICUMS



Fourth Year	
Advanced Practicums	
(8 practicums) (1,152 hrs)	32 credits
Institutional Pharmacy Practice	
Inpatient Pharmaceutical Care I & II	
Ambulatory Pharmaceutical Care I & II	
*Community 4 credits (144 hrs)	
*Institutional 4 credits (144 hrs)	

Graduation Requirements

Students will receive a Doctor of Pharmacy (Pharm D) degree upon completion of the following requirements:

- Approve all required courses (141 semester credits). The required and elective courses must be approved with a grade of C or above, i.e., a minimum grade point average of 2.00 (on a scale of 4.00).
- Present and update a portfolio that shows the students' development of the ten (10) general and professional abilities of the program.
- Demonstrate professional and ethical conduct.
- Complete at least the last two (2) years of studies at the School of Pharmacy of the University of Puerto Rico.
- Complete the academic program within a maximum of six (6) years from the time of admission.
- Comply with all applicable regulations established by the University of Puerto Rico Medical Sciences Campus.

PHARMACY PRACTICE RESIDENCY PROGRAM

The Pharmacy Practice Residency Program is a collaborative effort between the University of Puerto Rico School of Pharmacy and the San Juan Veterans Administration Medical Center. The program provides a structured and advanced education and training experience to licensed pharmacists with a Doctor of Pharmacy degree. It emphasizes patient care, as well as leadership and management skills, through a 12-month intensive training in all aspects of pharmacy practice.

MASTER OF SCIENCE IN PHARMACY PROGRAM

The School of Pharmacy Graduate Program was created in 1986. It offers a Master of Science in Pharmacy degree with two options, i.e., Pharmaceutical Sciences (Medicinal Chemistry) and Industrial Pharmacy. Classes for both options are held in the evening and Saturday mornings. Both options require 40 trimester credit-hours for graduation, including original research work presented in a thesis.

The main goal of the graduate program is to provide advanced training in industrial pharmacy and pharmaceutical sciences. Within the context of this general goal, the specific program objectives are to:

- Offer an opportunity for individuals to advance their knowledge in specific areas of industrial pharmacy.
- Prepare individuals for research and teaching positions requiring personnel with a strong background in the pharmaceutical sciences.
- Develop individuals with the research skills needed to carry out basic and applied studies.
- Address the pharmaceutical needs of Puerto Rico.

Industrial Pharmacy

The Industrial Pharmacy option is geared towards understanding the scientific principles involved in techniques employed in the pharmaceutical industry. To accomplish this goal, the program offers courses in Advanced Physical Pharmacy, Biopharmacy and Pharmacokinetics, Pharmaceutical Quality Control, Instrumental Pharmaceutical Analysis, and Pharmaceutical Technology. Graduates are qualified to work in numerous areas of the pharmaceutical industry, or pursue a Ph.D. degree.

Pharmaceutical Sciences (Medicinal Chemistry)

The Pharmaceutical Sciences (Medicinal Chemistry) option offers courses in Medicinal Chemistry, Instrumental Pharmaceutical Analysis, Pharmacognosy and Natural Products, Drug Metabolism, and Biological Chemistry. Students become familiar with methods of identification and purification that employ advanced instrumental techniques such as: gas chromatography, HPLC, NMR, gas chromatography- mass spectrometry, and other hyphenated methods of analysis. The knowledge and experience obtained enables graduates to perform successfully in the pharmaceutical industry, research laboratories, and other related areas, or pursue a Ph.D. degree.

Admission Requirements

 A baccalaureate degree in Pharmacy or in one of the physical, chemical, biological, or engineering sciences.

Academic Programs - School of Pharmacy

- A grade point average of 3.00 or higher (scale of 4.00).
- GRE scores.
- Interview may be required.

Graduation Requirements

The student must satisfy all the requirements stated in the School of Pharmacy Norms and Procedures for the Master of Science. The minimum requirements include:

- Completion of 40 trimester credit hours, within five consecutive years. A maximum of six credits, if deemed acceptable by the Graduate Committee, may be transferred from another accredited institution.
- Completion of all required courses in a satisfactory manner. An overall grade point average of at least 3.00.
- Submission of an original research project and defense of a thesis.
- Demonstrate adequate knowledge in the specialty area by successfully passing an oral examination.
- Submission of bound copies of the thesis in its final form.

MASTER OF SCIENCE IN PHARMACY WITH SPECIALTY IN INDUSTRIAL PHARMACY

TOTAL TRIMESTER CREDIT-HOURS: 40

General Core: 6 credit hours

FAGG 6100	Statistics in Pharmacy	2
FAGG 6200	Drug Literature Evaluation	2
FAGG 6300	Principles of Research Design	2

Industrial Pharmacy Core: 24 credit hours

FAQM 6351	Instrumental Pharmaceutical	2
	Analysis I	Z
FAQM 6352	Instrumental Pharmaceutical	~
	Analysis II	2
FAFI 6311	Advanced Physical	
	Pharmacy I	2
FAFI 6312	Advanced Physical	
	Pharmacy II	2
FAFI 6321	Pharmaceutical Unit	
	Operations I	2
FAFI 6322	Pharmaceutical Unit	
	Operations II	2
FAFI 6511	Industrial Pharmaceutical	
	Technology I	2
FAFI 6512	Industrial Pharmaceutical	
	Technology II	2
FAFI 6400	Seminar in Industrial	
	Pharmacy	2
FAFI 6600	Pharmaceutical Quality	
	Control	2
FAFI 6700	Advanced Biopharmaceutics	
	and Pharmacokinetics	2
FAFI 6313	Advanced Physical	
	Pharmacy III	2
		-

Electives: 4 credit hours chosen from the courses shown below

FAFI 6750	Industrial Management	2
FAGG 6213	Special Topics in	
	Pharmaceutical Sciences	2
FAFI 6500	Project in Industrial Pharmacy	2

Research and Thesis: 6 credit hours

FAGG 6800 M.S. Research* FAGG 6900 Thesis

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*Must be taken at least twice to receive 4 credits. If taken more than twice, only 4 credits will be credited toward the degree.

MASTER OF SCIENCE IN PHARMACY WITH SPECIALTY IN PHARMACEUTICAL SCIENCES

TOTAL TRIMESTER CREDIT-HOURS: 40

General Core: 6 credit-hours

FAGG 6100	Statistics in Pharmacy	2
FAGG 6200	Drug Literature Evaluation	2
FAGG 6300	Principles of Research Design	2

Pharmaceutical Sciences (Medicinal Chemistry) Core: 18 credit-hours

FAQM 6351	Instrumental Pharmaceutical	
	Analysis I	2
FAQM 6352	Instrumental Pharmaceutical	
	Analysis II	2
FABI 6311	Advanced Biological	
	Chemistry I	2
FAQM 6705	Seminar in Medicinal	
	Chemistry	2
FAFI 6311	Advanced Physical	
	Pharmacy I	2
FAQM 6701	Medicinal Chemistry I	2
FAQM 6702	Medicinal Chemistry II	2
FAQM 6703	Medicinal Chemistry III	2
FAQM 6707	Pharmacognosy and Natural	
	Products	2

Electives: 10 credit-hours chosen from the courses shown below

FABI 6312	Advanced Biological	
	Chemistry II	2
FAFI 6312	Advanced Physical	
	Pharmacy II	2
FAFI 6313	Advanced Physical	
	Pharmacy III	2
FAFT 6311	Advanced Pharmacology I	2
FAFT 6312	Advanced Pharmacology II	2
FAGG 6213	Special Topics in Pharmaceutica	ıl
	Sciences (Applied Toxicology)	2
FAFI 6355	Drug Metabolism	2

Special Topics in	
Pharmacology	2
Special Topics in	
Pharmaceutical Sciences	2
Applied Inorganic Chemistry	2
Applied Organic Chemistry	2
Phytochemistry	2
	Pharmacology Special Topics in Pharmaceutical Sciences Applied Inorganic Chemistry Applied Organic Chemistry

Research and Thesis: 6 credit hours

FAGG 6800	M.S. Research*	2
FAGG 6900	Thesis	2

*Must be taken at least twice to receive 4 credits. If taken more than twice, only 4 credits will be credited toward the degree.



Faculty of Biosocial Sciences and Graduate School of Public Health





HISTORY

The Faculty of Biosocial Sciences and Graduate School of Public Health is the unit of the Medical Sciences Campus dedicated to teaching, research, and service in the areas of public health and biosocial disciplines as they relate to the health sciences. Besides offering its own master's degree programs in core areas of public health, the School is responsible for the teaching of public health and biosocial contents to medical students and students in other schools of the Medical Sciences Campus.

The School of Public Health had its origin in the School of Tropical Medicine, founded in 1926 with support from the Rockefeller Foundation and under the auspices of Columbia University. In 1941, at the request of the Department of Health, the School of Tropical Medicine developed graduate courses in the field of public health. These were primarily courses in sanitary engineering leading to a Master of Sanitary Sciences degree developed as a response to the need for specialized personnel in that area. Subsequently, programs toward the Master of Public Health, Master of Public Health Education, and Master of Nursing were developed.

In 1949, the School of Medicine of the University of Puerto Rico was created. The Department of Preventive Medicine and Public Health was part of the School of Medicine from its inception. It offered courses in preventive medicine and public health to medical students. In 1956, it assumed and important role in the regionalization of health services in the Island, a plan by which primary, secondary, and tertiary care services were delivered in a coordinated fashion throughout the Island in order to maximize utilization of resources. The School's primary role has been one of training the necessary human resources to deliver many of these services, and one of assessing health needs in the community in order to respond with relevant programs.

MISSION AND GOALS

The mission of the Faculty of Biosocial Sciences and Graduate School of Public Health is to provide interdisciplinary teaching, research, and service programs in public health in order to promote and preserve the health of the Puerto Rican population. The School also educates public health professionals and scientists from other countries.

The School is recognized for its excellence in the education of public health professionals, its contributions to the formulation of public policy, the development and evaluation of comprehensive health services models aimed at promoting and preserving health, preventing disease, providing epidemiological surveillance and designing, and analyzing population health outcomes.

ORGANIZATION AND ADMINISTRATION

The School is headed by the Dean, who is assisted by the Associate Dean for Academic Affairs, the Assistant Dean for Student Affairs, and administrative personnel. Five departments offer academic programs in basic areas of public health. These are the Departments of Health Services Administration, Biostatistics and Epidemiology, Environmental Health, Human Development, and Social Sciences.

The Division of Continuing Education and Professional Studies, the Curriculum and Evaluation Office, and the Office of the Dean for Student Affairs, as well as several research and service programs, are other significant components of the School.

PROGRAMS OF STUDY

The School currently offers thirteen master's degrees, three graduate certificates, and one doctoral program. The Master of Public Health Program has five concentration options. Some of these programs are offered in day and evening schedules. A Doctor of Public Health Program began in 1999-2000 offering a specialty in environmental health. Students are encouraged to contact individual programs for updates on requirements, curricula, and new offerings.

GENERAL ADMISSION REQUIREMENTS OF THE SCHOOL

Applicants for admission to the Graduate School of Public Health must meet the general admission requirements of the School as listed below and specific program requirements. The general admission requirements for the School are:

- Hold a bachelor's degree granted by a college or university of recognized standing, or have completed studies equivalent to those required for a bachelor's degree.
- Submission of scores obtained in the graduate entrance examination in Spanish (EXADEP).
- Fluency in Spanish and ability to read and understand English (Classes are conducted in Spanish).
- Personal interview.
- Submission of the official application and all required documents prior to the deadline established by the School.
- Meet the specific requirements of the student's program of choice. (See sections on individual programs).

MASTER OF PUBLIC HEALTH GENERAL OPTION (DAY AND EVENING PROGRAMS)

The Master of Public Health Program focuses on the study of concepts and practices related to the sociocultural aspects of health. Its curriculum covers topics on community health problems, underscoring the identification and understanding of factors and circumstances that determine health and disease.

The study of public health requires skills in diagnosis of community health problems and the planning, implementation, administration, and evaluation of community health programs. The field of public health

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seeks the integration of several areas of knowledge in order to design and implement health programs that will meet the needs of the community.

The public health graduate will be qualified to promote changes in public health policies, apply current concepts of management, research community health problems, and apply prevention and control methodologies in dealing with specific health problems. Graduates are usually employed by the government, as well as the private sector.

Within the Master of Public Health, students may choose the general program or one of five specialty areas, i.e., Biostatistics, Epidemiology, Maternal and Child Health, Gerontology, or Nurse Midwifery. Specific admission requirements for each option vary.

Specific Admission Requirements

Besides the general admission requirements of the School, the applicant should meet the following admission requirements:

- A minimum of two years work experience in a health field.
- Health professionals must present evidence of current license to practice in Puerto Rico.
- Completion of a college level algebra course.

Graduation Requirements

Upon meeting the following requirements the student will receive a Master of Public Health degree:

- Completion of the 54 credit-hour program (36 in required courses, and 18 in elective courses).
- Overall grade point average of at least 2.50 and 3.00 in the specialty.

MASTER OF PUBLIC HEALTH GENERAL OPTION

TOTAL TRIMESTER CREDIT-HOURS: 54

MEDU 6500	Core Course in Public Health	6
BIOE 6525	Statistical Analysis	5
CISO 6538	Culture, Society, and	
11	Complex Organizations	2
SAAM 6528	Principles of Environmental	
· \\	Health	3

EVAL 6614	Evaluation of Health Services	2
ADSS 6572	Theory of Administration	4
EPID 6523	Epidemiological Methodology	4
ADSS 6594	Planning, Development, and	
	Evaluation of Health Services	4
SALP 6520	Public Health Field Laboratory	6
Electives		18

MASTER OF PUBLIC HEALTH WITH SPECIALTY IN BIOSTATISTICS

The Master of Public Health with Specialty in Biostatistics develops in students the knowledge, skills, and attitudes needed to apply statistical methodologies in the planning and implementation of studies and research in the area of community health.

Specifically, the program graduate will deal proficiently with statistics in the health field, apply appropriate statistical methodology in the classification, presentation, analysis, and interpretation of health data, as well as collaborate in the design and implementation of evaluation models for health programs. Graduates also advise health agencies and organizations on the application of statistical theories and methodologies.

Program of Study

The Master of Public Health with Specialty in Biostatistics is a 55 credit-hour program with courses distributed in three trimesters and one summer. Students must complete the 36 required credits of the General MPH Program plus 19 credits in specialized courses in biostatistics.

Specific Admission Requirements

Applicants for the Specialty in Biostatistics should have approved a college level algebra course. Those who are health professionals must present a valid license to practice in Puerto Rico.

Graduation Requirements

Students will receive a Master of Public Health degree with Specialty in Biostatistics upon meeting the following requirements: Academic Programs-Graduate School of Public Health

- Completion of the 55 credit-hour program.
- Overall grade point average of at least 2.50 and 3.00 in the specialty.

MASTER OF PUBLIC HEALTH WITH SPECIALTY IN BIOSTATISTICS

TOTAL TRIMESTER CREDIT-HOURS: 55

MEDU 6500	Core Course in Public Health	6
BIOE 6525	Statistical Analysis	5
CISO 6538	Culture, Society, and	
	Complex Organizations	2
SAAM 6528	Principles of Environmental	
	Health	3
EVAL 6614	Evaluation of Health Services	2
ADSS 6572	Theory of Administration	4
EPID 6523	Epidemiological Methodology	4
ADSS 6594	Planning, Development, and	
	Evaluation of Health Services	4
SALP 6520	Public Health Field Laboratory	6
BIOE 6535	Statistical Inference	4
BIOE 6537	Non-Parametric Statistical	
	Inference	4
BIOE 6545	Introduction to Sampling Theory	4
BIOE 6555	Regression and Correlation	
	Analysis	3
BIOE 6605	Statistical Computing Applied	
	to Public Health	4

MASTER OF PUBLIC HEALTH WITH SPECIALTY IN EPIDEMIOLOGY

The Master of Public Health with Specialty in Epidemiology prepares students to analyze data on diseases, investigate epidemics, and collaborate with other professionals in the prevention and control of diseases. As professionals in one of the main areas of public health, epidemiologists study the distribution of disease in the population, as well as factors associated with the increase or decrease in the incidence of such diseases.

Graduates often work for government agencies and the private sector in research programs focusing on the distribution of disease in the population and on related factors. They also participate in educational activities geared to prevention.

Specific Admission Requirements

The applicant should have approved a college level algebra course. Health professionals must present a valid license to practice in Puerto Rico.

Program of Study

This is a 54 credit-hour program with courses distributed in three trimesters and one summer session. Students must complete the 36 required courses of the General MPH Program plus 18 credits in specialized courses in epidemiology.

Graduation Requirements

Students will receive a Master of Public Health degree with Specialty in Epidemiology upon meeting the following requirements:

- Completion of the 54 trimester credit-hour program.
- Overall grade point average of at least 2.50 and 3.00 in the specialty.

MASTER OF PUBLIC HEALTH WITH SPECIALTY IN EPIDEMIOLOGY

TOTAL TRIMESTER CREDIT-HOURS: 54

MEDU 6500 BIOE 6525	Core Course in Public Health Statistical Analysis	6 5
CISO 6538	Culture, Society, and	
$\sim 1 = M$	Complex Organizations	2
SAAM 6528	Principles of Environmental	
	Health	3
EVAL 6614	Evaluation of Health Services	2
ADSS 6572	Theory of Administration	4
EPID 6523	Epidemiological Methodology	4
ADSS 6594	Planning, Development, and	<u>S</u> .
1	Evaluation of Health Services	4
SALP 6520	Public Health Field Laboratory	6
EPID 6528	Epidemiology of Mental	-
	Diseases	3

Epidemiology of Chronic	
Diseases	3
Statistical Methods in	
Epidemiology	5
Epidemiology of	
Communicable Diseases	
and Epidemiological	
Surveillance	4
Epidemiology and	
Pathogenesis of Cancer	3
	Diseases Statistical Methods in Epidemiology Epidemiology of Communicable Diseases and Epidemiological Surveillance Epidemiology and

MASTER OF PUBLIC HEALTH WITH SPECIALTY IN MATERNAL AND CHILD HEALTH (DAY AND EVENING PROGRAMS)

The Master of Public Health with Specialty in Maternal and Child Health trains professionals who study the needs and health problems of mothers and children as a group, and who plan, implement, and evaluate programs serving that population.

Graduates plan, organize, direct community service programs, and train other health professionals in the field of maternal and child health. They are expected to advocate for a better quality of life for mothers and children and to understand the determinants of health relevant to this group.

Program of Study

Students must complete 22 credits, in addition to the 36 required courses in the Master of Public Health General Option. Of the 22 credits in Maternal and Child Health, 19 credits are required courses, and 3 credits are elective courses.

Graduation Requirements

Students will receive a Master of Public Health degree with Specialty in Maternal and Child Health upon meeting the following requirements:

- Completion of the 58 trimester credit-hour program.
- Overall grade point average of at least 2.50 and 3.00 in the specialty.

MASTER OF PUBLIC HEALTH WITH SPECIALTY IN MATERNAL AND CHILD HEALTH

TOTAL TRIMESTER CREDIT-HOURS: 58

MEDU 6500	Core Course in Public Health	6
BIOE 6525	Statistical Analysis	5
CISO 6538	Culture, Society, and Complex	
	Organizations	2
SAAM 6528	Principles of Environmental	
	Health	3
EVAL 6614	Evaluation of Health Services	2
ADSS 6572	Theory of Administration	4
EPID 6523	Epidemiological Methodology	4
ADSS 6594	Planning, Development, and	
	Evaluation of Health Services	4
SALP 6520	Public Health Field Laboratory	6
DEMO 6606	Use of SPSS Program and other	
	Scientific Research	4
MANI 6535	Family Care in Health Services	3
MANI 6536	Research in Maternal and	
	Child Health	4
MANI 6537	Integral and Comprehensive	
	Care	8

Electives

Three (3) elective credits should be selected from these options:

MANI 6541	Population and Family Planning	3
MANI 6056	Programs and Services for the	
	Handicapped Child	2
MANI 6525	Human Genetics	2
MANI 6055	Legislation in Maternal and	
	Child Health	1
MANI 6570	Seminar on Maternal and	
	Child Health Services	
	in Developing Countries	2
MANI 6005	Maternal and Child Concepts	
	and Strategies	5
MANI 6057	The Health of the School-aged	
	Child	2

MASTER OF PUBLIC HEALTH WITH SPECIALTY IN GERONTOLOGY (EVENING PROGRAM)

Academic Programs-Graduate School of Public Health

The main goal of the Master of Public Health with Specialty in Gerontology Program is to train students in the design and management of programs that meet the needs of the elderly. The program is geared to applied areas, both academically and in the community setting, stressing an interdisciplinary approach. Program graduates are expected to promote changes that will benefit the elderly by advocating for better and more adequate public policies and providing services for this segment of the population.

The curriculum has been designed to analyze the process of aging with a holistic and interdisciplinary approach. Psychological, biological, sociological, anthropological, clinical, nutritional, and administrative aspects are examined as they relate to the elderly and the aging process, and from a public health perspective. Knowledge and skills acquired are applied in a community practice activity.

Admission Requirements

Candidates for admission to the Master of Public Health with Specialty in Gerontology must comply with the general admission requirements of the School. In addition, applicants must have three credits in social sciences courses, three credits in biology, three credits in psychology, and a college level algebra course. They must also have 2 years experience in a health or health related field. Health professionals must present evidence of license to practice in Puerto Rico (foreign students are exempted).

Applicants will also be required to present evidence of computer literacy. If the applicant does not possess these skills, arrangements will be made to provide training during the course of studies.

Admission decisions are made based on the grade point average, graduate admission test scores, interview, work experience, and examination of the applicant's academic record.

Program of Study

The Master of Public Health with Specialty in Gerontology Program is an eight trimester evening program. It is a 54 trimester credit-hour program in which 30 credits are in theoretical courses, 15 credits in basic gerontology courses, 6 credits in a field experience in gerontology, and 3 credits in an elective course in gerontology.

Graduation Requirements

Students will receive a Master of Public Health degree with Specialty in Gerontology upon meeting the following requirements:

- Completion of the 54 trimester credit-hour program within three years of the date of first enrollment.
- Overall grade point average of at least 2.50 and 3.00 in the specialty. Rules and requirements at the time of the student's first enrollment will be applied at the time of graduation. Students who are not enrolled for more than one academic session, will be subject to rules and requirements in effect at the time of their re-enrollment. Students must have acquired the knowledge, skills, and attitudes defined by the faculty as desirable in a graduate in the field.

MASTER OF PUBLIC HEALTH WITH SPECIALTY IN GERONTOLOGY

TOTAL TRIMESTER CREDIT-HOURS: 54

MEDU 6500	Core Course in Public Health	6
BIOE 6525	Statistical Analysis	5
CISO 6538	Culture, Society, and Complex	
	Organizations	2
SAAM 6528	Principles of Environmental	
- An	Health	3
ADSS 6572	Theory of Administration	4
EPID 6523	Epidemiological Methodology	4
EVAL 6614	Evaluation of Health Services	2
ADSS 6594	Planning, Development, and	
	Evaluation of Health Services	4
	G Q 40	1 4

GERO 6005	Introductory Seminar to	
	Gerontology	1
GERO 6501	Biological Aspects of Aging	3
GERO 6503	Psychological Aspects of Aging	3
GERO 6505	Clinical Aspects of Aging	3
GERO 6507	Social Aspects of Aging	3
GERO 6509	Administrative Aspects	
	of Gerontology	3
SALP 6520	Public Health Field Laboratory	6
Elective in Gerontology		

MASTER OF PUBLIC HEALTH WITH SPECIALTY IN NURSE MIDWIFERY

The Master of Public Health with Specialty in Nurse-Midwifery is a 2-year (7 trimesters) program for registered nurses with a baccalaureate degree in nursing (BSN). The curriculum includes a combination of courses in public health, maternal-child health, and the core competencies for the practice of nurse-midwifery as defined by the American College of Nurse-Midwives (ACNM).

Graduates are prepared to be safe, competent, nursemidwives who can provide comprehensive and integrated health care for low risk women in the childbearing through menopausal years, their newborns, and families in a variety of health care settings. They have the knowledge and skills necessary to influence change in the health care delivery system, in legislation, and in public policy affecting maternal and child health.

Graduates are eligible to become nationally certified nurse-midwives (CNM) after successfully passing the examination given by the ACNM Certification Council (ACC).

Specific Admission Requirements

The applicant should meet the following admission requirements besides the General Admission Requirements of the School.

- Minimum of a Bachelor of Science in Nursing (BSN).
- Current license to practice as registered nurse in Puerto Rico and membership in the College of Professional Nurses.

- Minimum 2.75 GPA.
- EXADEP taken within the last three years
- Proficiency in Spanish.
- Ability to read and comprehend English.
- Three letters of recommendation.
- Interview with program faculty.
- Current certification in Basic Life Support (CPR).
- Recent physical examination, negative tuberculin test or chest x-ray, and evidence of immunity to Rubella and Hepatitis B.

Graduation Requirements

Students will receive a Master of Public Health with Specialty in Nurse Midwifery upon meeting the following requirements:

- Complete the 75 credits of required courses.
- Pass examinations with 80% or above.
- Achieve a satisfactory rating in clinical experience.
- Pass the written comprehensive examination.
- Submit all required written reports and clinical statistics.

MASTER OF PUBLIC HEALTH WITH SPECIALTY IN NURSE – MIDWIFERY

TOTAL TRIMESTER CREDIT HOURS: 75

MEDU 6500	Core Course in Public Health	6
BIOE 6525	Statistical Analysis	5
CISO 6538	Culture, Society, and	
	Complex Organizations	2
SAAM 6528	Principles of Environmental	
	Health	3
EVAL 6614	Evaluation of Health Services	2
ADSS 6572	Theory of Administration	4
EPID 6523	Epidemiological Methodology	4
ADSS 6594	Planning, Development, and	
	Evaluation of Health Services	4
MANI 6535	Family Care in Health Services	3
ENOP 6041	Basic Aspects of Research for	
	Nurse-Midwifery I	2

		E.
ENOP 6042	Basic Aspects of Investigation for	
	Nurse-Midwifery II	<u>- a</u> =
DEMO 6606	Use of SPSS Program and	AP-
	other Scientific Research	4
ENOP 6005	Reproductive Physiology for	
	Nurse Midwives	2
ENOP 6006	Human Sexuality and	D C
	Well Woman Gynecology	3
ENOP 6007	Basic Pharmacology for	_
	Nurse Midwifery	2
ENOP 6008	Normal Obstetrics Management	3
ENOP 6026	Genetics and Genetic Counseling	
	in Nurse Midwifery	1
ENOP 6027	Problems and Complications	
	of Obstetrics	3
ENOP 6028	Maternal and Infant Nutrition	2
ENOP 6029	Care of the Newborn	2
ENOP 6030	Planning and Organization	
	of Maternal and Infant Nurse	
	Midwifery Services	1
ENOP 6035	Nurse Midwifery Practice and	•
	Management I	2
ENOP 6036	Nurse Midwifery Practice and	2
	Management II	2
ENOP 6037	·	Z
LINOF 003/	Nurse Midwifery Clinical	5
Ele etterne	Management and Practice	-
Electives		6

MASTER OF SCIENCE WITH SPECIALTY IN EVALUATION RESEARCH OF HEALTH SYSTEMS

The curriculum of the Master of Science with Specialty in Evaluation Research of Health Systems Program consists of theoretical and experiential components that prepare graduates to analyze health care delivery systems, identify problems, and propose solutions to those problems.

The systematic evaluation of programs and services is essential for the betterment of health care delivery. Program graduates analyze health systems and propose alternatives and solutions to existing problems. Specifically, program graduates assess access to health care by particular groups, examine processes at health care organizations in order to increase effectiveness, examine information used in decision-making, evaluate

Academic Programs-Graduate School of Public Health

manpower roles and productivity, assess the quality of consumer communication, and the results of health services for those who have accessed care.

Specific Admission Requirements

The applicant must have 6 credits in mathematics and 3 credits in statistics.

Graduation Requirements

Students will receive a Master of Science with Specialty in Evaluation Research of Health Systems degree upon meeting the following requirements:

- Completion of the 71 trimester credit-hour program.
- Overall grade point average of at least 2.50 and 3.00 in the specialty (EVAL courses).
- Submission of a thesis approved by the faculty.

MASTER OF SCIENCE WITH SPECIALTY IN EVALUATION RESEARCH OF HEALTH SYSTEMS

TOTAL TRIMESTER CREDIT-HOURS: 71

MEDU 6500	Core Course in Public Health	6
BIOE 6525	Statistical Analysis	5
EVAL 6610	Principles of Evaluation	3
BIOE 6535	Statistical Inference	4
EVAL 6611	Evaluation Models	3
EVAL 6511	Introductory Proposal Seminar	1
EPID 6523	Epidemiological Methodology	4
EVAL 6615	Development of Measurement	
	Instruments	3
BIOE 6605	Statistical Computing Applied	
רו הוון כ	to Public Health	4
BIOE 6555	Regression and Correlation	
	Analysis	3
ADSS 6594	Planning, Development, and	11
15/75	Evaluation of Health Services	4
EVAL 6512	Intermediate Proposal Seminar	\mathcal{O}
EVAL 6620	Applied Statistics for Evaluation	×
The way to be a feature of the second	Research Studies	3
EVAL 6650	Evaluation Practicum	Y T
EVAL 6513	Advanced Proposal Seminar	

EVAL 6515	Conceptualization and Methodology for Evaluation	
	Research	4
EVAL 6630	Strategies for Evaluation	
	and Communication	3
EVAL 6628	Principles of Cost-Benefit Analysis	3
EVAL 6700	Thesis Project	3
Electives		12

MASTER OF HEALTH SERVICES ADMINISTRATION

The Master of Health Services Administration Program prepares health services administrators to be proficient in the planning, administration, operation, and evaluation of health services delivery systems.

In preparing highly qualified health services administrators to assume leadership positions in the health care field, the program emphasizes analytical research methodology focusing on an interdisciplinary approach for the solution of problems in the health care field.

Upon completion of the program of studies, graduates are eligible to apply for the licensure examination in Health Services Administration. Once they are licensed, they may serve as executive directors of health services facilities, executives or managers in the health insurance industry, consultants for pharmaceutical companies, and evaluators of health services institutions.

Specific Admission Requirements

The applicant must have completed the following number of credits in the areas specified below:

	Required Courses	Credit-Hours
	Accounting	3
	Statistics	3
١	Economics	3
Ĺ	College Algebra	3
1	Business Finance	3
	Work experience in the health care	field is desirable.

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Graduation Requirements

Students will receive a Master of Health Services Administration degree upon meeting the following requirements:

- Completion of the 86 trimester credit-hour program.
- Overall grade point average of at least 2.50 and 3.00 in the field of specialty.

MASTER OF HEALTH SERVICES ADMINISTRATION

TOTAL TRIMESTER CREDIT-HOURS: 86

MEDU 6500	Core Course in Public Health	6
ADSS 6591	Quantitative Decision-Making for	
	Health Services Administration I	4
ADSS 6592	Qualitative Decision-Making for	
	Health Services Administration II	4
EPID 6523	Epidemiological Methodology	4
ADSS 6525	Introduction to Health	
	Care Management	3
ADSS 6589	Bioethics in Health	
	Care Management	1
ADSS 6584	Health Politics and Policy	3
ADSS 6579	Organizational Behavior	4
ADSS 6585	Health Economics	3
ADSS 6607	Health Care Cost Accounting	3
ADSS 6583	Legal Aspects in Health Services	3
ADSS 6586	Health Systems I	4
ADSS 6594	Planning, Development, and	
	Evaluation of Health Services	4
ADSS 6625	Human Resources Management	4
ADSS 6598	Information Systems in Health	
	Services Administration	3
ADSS 6609	Health Care Financial	
	Management	3
ADSS 6606	Capstone Seminar in Health	
	Services Administration	3
ADSS 6597	Administrative Residency	0
ADSS 6535	Continuous Quality Improvement	
	in Health Services Organizations	3
SAAM 6528	Principles of Environmental	
	Health	3

Academic Programs-Graduate School of Public Health

ADSS 6610

Principles of Health Insurance and Managed Care

18

Electives

Eighteen (18) credits could be selected from these options in Health Services Administration:

ADSS 6568	Special Projects	3 U E V
ADSS 6571	Budgeting Theories and	
	Practices	3
ADSS 6580	Health and Development	3
ADSS 6576	Comparative Health Systems	3

MASTER OF SCIENCE WITH SPECIALTY IN EPIDEMIOLOGY

The Master of Science with Specialty in Epidemiology Program prepares professionals proficient in the utilization of epidemiological methodology in the study and solution of community health problems, and who will engage in teaching, research, and service in this area.

Program graduates are employed by government agencies and the private sector as epidemiologists, research assistants, data analysts, and coordinators of programs focusing on prevention.

Specific Admission Requirements

Students requesting admission to the Master of Science with Specialty in Epidemiology Program must have completed the following number of credits in the subjects specified below:

Required Courses Credit-Hours

Biology	4
Chemistry	4
Physics	4
Psychology, Sociology or Anthropology	6
Mathematics (Algebra and Calculus)	6

Graduation Requirements

Students will receive a Master of Science with Specialty in Epidemiology degree upon meeting the following requirements:

- Completion of the 76 trimester credit-hour program.
- Overall grade point average of at least 2.50 and 3.00 in the specialty.

MASTER OF SCIENCE WITH SPECIALTY IN EPIDEMIOLOGY

TOTAL TRIMESTER CREDIT-HOURS: 76

THIS IS A TWO-YEAR (6 TRIMESTERS AND ONE SUMMER) PROGRAM.

MEDU 6500	Core Course in Public Health	6
BIOE 6525	Statistical Analysis	5
SAAM 6528	Principles of Environmental Health	3
EPID 6523	Epidemiological Methodology	4
BIOE 6535	Statistical Inference	4
DEMO 6546	Mortality	4
EPID 6552	Seminar in Epidemiology I	1
BIOE 6545	Introduction to Sampling Theory	4
BIOE 6605	Statistical Computing Applied	
	to Public Health	4
EPID 6553	Seminar in Epidemiology II	1
EPID 6527	Epidemiologic Surveillance	2
EPID 6539	Epidemiological Aspects of	
	Public Health Problems	2
BIOE 6555	Regression and Correlation	
5 1 E A	Analysis	3
EPID 6529	Epidemiology of Chronic Diseases	3
EPID 6535	Epidemiology of Communicable	
	Diseases and Epidemiological	
X	Surveillance	4
EPID 6561	Epidemiological Research I	4
EPID 6554	Seminar in Epidemiology III	1
EPID 6528	Epidemiology of Mental Disease	3
EPID 6562	Epidemiological Research II	4
EPID 6555	Seminar in Epidemiology IV	1
EPID 6563	Epidemiological Research III	2
EPID 6556	Seminar in Epidemiology V	1
	Electives	10
98		11
		11

MASTER OF SCIENCE IN DEMOGRAPHY

The Master of Science in Demography Program prepares professionals in the theoretical and methodological aspects of the study of human populations. These include population growth, distribution, and characteristics, as well as mortality, fertility, migration, population problems, and policies.

Upon completion of the program of studies, graduates may conduct research, offer consulting services, and work as teachers in demography, population analysis, and other related areas. They will also be able to participate in programs geared to the solution of problems of a collective nature.

Specific Admission Requirements

Applicants must have approved the following number of credits in the subjects specified below:

Required Courses	Credit-Hours
Statistics	3
College Algebra	3

Graduation Requirements

Students will receive a Master of Science in Demography degree upon meeting the following requirements:

- Completion of the required 74 credit-hour program.
- Overall grade point average of at least 2.50 and 3.00 in the specialty.
- Completion of a research project in demography approved by the faculty of the program.

Academic Programs-Graduate School of Public Health

MASTER OF SCIENCE IN DEMOGRAPHY

TOTAL TRIMESTER CREDIT-HOURS: 74

MEDU 6500	Core Course in Public Health	6
BIOE 6525	Statistical Analysis	5
EPID 6523	Epidemiological Methodology	4
DEMO 6500	Introduction to Demography	4
BIOE 6535	Statistical Inference	4
DEMO 6546	Mortality	4
DEMO 6555	Fertility and Population Growth	4
DEMO 6565	Migration, Population	
	Distribution, and Urbanism	4
DEMO 6560	Research Methods	4
CISO 6547	Population and Society	3
DEMO 6615	Supervised Practice in	
	Demography	3
DEMO 6607	Population and Economics	4
DEMO 6602	Seminar on Demographic	
	Studies in Puerto Rico	3
BIOE 6545	Introduction to Sampling	
	Theory	4
DEMO 6621	Research Project I	2
DEMO 6622	Research Project II	4
DEMO 6606	Use of SPSS Program	
	and other Scientific Research	4
Electives		8

MASTER OF PUBLIC HEALTH EDUCATION (DAY AND EVENING PROGRAMS)

The Master of Public Health Education Program trains professionals to promote the health of individuals and families through education, behavior modification, and the development of attitudes that result in the protection and maintenance of health.

The program addresses today's health issues through teaching, research, consulting, and community services. The curriculum offers elective courses in areas such as patient education, school health, and human sexuality. The program seeks to promote quality of life and healthy life-styles among the population by means of an interdisciplinary and participatory approach.

Specific Admission Requirements

The applicant should have completed the following number of credits in the subjects specified below:

Required Courses	Credit-Hours	
		DE!
Education	12	
Natural Sciences	6	
(Including a course on	human biology)	
College Level Algebro	a 3	
Social Sciences	9	
(Including group dyna	imics)	

Graduation Requirements

Students will receive a Master of Public Health Education degree upon meeting the following requirements:

- Completion of the 68 trimester credit-hour program.
- Completion of a research project approved by a committee.

The student has a maximum of 5 years from the time of the first registration to fulfill the requirements stated above.

MASTER OF PUBLIC HEALTH EDUCATION

TOTAL TRIMESTER CREDIT-HOURS: 68

MEDU 6500	Core Course in Public Health	6
BIOE 6525	Statistical Analysis	5
EPID 6523	Epidemiological Methodology	4
SAAM 6528	Principles of Environmental	
	Health	3
EDSA 6401	Foundations of Health Promotion	
	and Health Education I	2
EDSA 6563	Intervention Methods in Health	
	Promotion and Health	
	Education I	3
EDSA 6402	Foundations of Health Promotion	
	and Health Education II	2

EDSA 6405	Theory and Application of	
	Communication in Health	
	Promotion and Health Education	3
EDSA 6566	Research Methods in Health	
	Promotion and Health Education	4
EDSA 6565	Administrative Aspects of Health	
	Promotion and Health Education	
	Programs	3
EDSA 6572	Health Promotion and Education	
	Research Project	3
EDSA 6568	Health Professional as Group	
	Facilitator	3
EDSA 6570	Health Promotion and Education	
	Program Planning	3
EDSA 6571	Evaluation of Health Promotion	
	and Health Education Programs	3
EDSA 6595	Supervised Practice	6
Electives		12

MASTER OF SCIENCE WITH SPECIALTY IN ENVIRONMENTAL HEALTH (DAY AND EVENING PROGRAMS)

The Master of Science with Specialty in Environmental Health Program prepares specialists in environmental health with skills to assume responsibilities in the planning and administration of environmental health programs, conduct research, and work in numerous community programs focusing on environmental concerns.

The program graduate is familiar with social, economic, and scientific factors bearing on appropriate solutions to contemporary problems in environmental health, particularly those affecting Puerto Rico. This entails viewing natural resources, industrial growth, energy use, and demographic factors as they affect the environment.

Students are offered the opportunity to explore several areas of environmental health including water and air pollution, food hygiene, industrial hygiene, and environmental radiation, among others.

Specific Admission Requirements

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Applicants must have the equivalent of two semester courses in each of the following areas: biology, chemistry,

physics, and mathematics. In mathematics, the applicant must have a course in calculus. Chemistry courses must include organic chemistry. Physical sciences and biological sciences courses offered by the University of Puerto Rico to all students during the first year of studies will not be considered in meeting this requirement.

Graduation Requirements

The student will receive a Master of Science with Specialty in Environmental Health degree upon meeting the following requirements:

- Completion of the 74 trimester credit-hour program.
- Submission of a master's thesis.
- Overall grade point average of at least 2.50 and 3.00 average in the field of specialty.

MASTER OF SCIENCE WITH SPECIALTY IN ENVIRONMENTAL HEALTH

TOTAL TRIMESTER CREDIT-HOURS: 74

MEDU 6500	Core Course in Public Health	6
EPID 6523	Epidemiological Methodology	4
SAAM 6529	Seminar on Environmental	
	Health	1
SAAM 6531	Water Environment	4
SAAM 6534	Air Pollution	4
SAAM 6535	Environmental Toxicology	4
SAAM 6541	Laws and Environmental Health	
	Protection	3
SAAM 6544	Radiological Health	4
SAAM 6545	Food Hygiene	4
SAAM 6635	Introduction to Environmental	
	Microbiology and Parasitology	5
SAAM 6695	Research Project	6
BIOE 6525	Statistical Analysis	5
CISO 6506	Social Environment	4
SALP 6584	Administrative Aspects	
	of Health Programs	4
Electives		16

Academic Programs-Graduate School of Public Health

MASTER OF SCIENCE IN INDUSTRIAL HYGIENE

The Master of Science in Industrial Hygiene Program trains industrial hygienists to supply the demand for this professional in Puerto Rico. The industrial hygienist deals with the anticipation, recognition, evaluation, and control of occupational health hazards in the workplace and in the community. It is expected that these professionals contribute to the reduction of occupational injuries and illnesses among Puerto Rican workers.

The curriculum in this two-year program includes 19 trimester credit-hours in public health, 11 in environmental health, 28 in industrial hygiene and related areas, and 10 in elective courses.

Specific Admission Requirements

Applicants must have the equivalent of two semester courses in the following areas: biology, chemistry, physics, and mathematics. In mathematics, the applicant must have a course in calculus. Chemistry courses must include organic chemistry. Physical sciences and biological sciences courses offered by the University of Puerto Rico to all students during the first year of studies will not be considered in meeting this requirement.

Graduation Requirements

Students will receive a Master of Science in Industrial Hygiene degree upon meeting the following requirements:

- Completion of the 68 credit-hour program.
- Submission of a master's thesis.
- Overall grade point average of at least 2.50 and a 3.00 average in the field of specialty.

MASTER OF SCIENCE IN INDUSTRIAL HYGIENE

TOTAL TRIMESTER CREDIT-HOURS: 68

MEDU 6500	Core Course in Public Health	6
BIOE 6525	Statistical Analysis	5
SAAM 6528	Principles of Environmental	
	Health	3
SAAM 6535	Environmental Toxicology	4
SAAM 6524	Occupational Health Principles	3

		E.
EPID 6523	Epidemiological Methodology	4
SAAM 6543	Industrial Hygiene	4
SAAM 6548	Industrial Hygiene Laboratory	4 🐝
SAAM 6547	Basic Principles in Occupational	-
	Safety	4
SAAM 6541	Laws and Environmental Health	_
	Protection	3
SAAM 6565	Control of Occupational Health	
	Hazards	3
SAAM 6529	Seminar on Environmental Health	1
EPID 6547	Methodological Principles in	
	Occupational Epidemiology	2
SALP 6584	Administrative Aspects of Health	
	Programs	4
SAAM 6696	Industrial Hygiene Internship	6
SAAM 6566	Field Studies of the Workplace	2
Electives		10

MASTER OF HEALTH SCIENCES WITH SPECIALTY IN NUTRITION

The program leading to the Master of Health Sciences with Specialty in Nutrition trains health professionals in the field of public health nutrition. Graduates plan and implement nutrition programs, conduct research, and teach nutrition at graduate and undergraduate levels.

Program graduates develop skills in the methodology of health services research as it applies to nutrition, and study nutritional problems of the population. Most find employment in public and private teaching institutions, health services agencies, food industry, and pharmaceutical companies.

Specific Admission Requirements

The applicant must have the following number of credits in the areas specified below:

Required Courses	Credit-Hours
Inorganic Chemistry	5
Organic Chemistry	3
Biochemistry	3
Biology	6
College Algebra	3
Social Sciences	6

The Graduate School of Public Health offers numerous courses in the areas of administration, biostatistics, maternal and child health, epidemiology, and social sciences that may be of interest to nutrition students. If interested, students must take those courses as electives in addition to the program outlined below.

Graduation Requirements

Students will receive a Master of Health Sciences with Specialty in Nutrition degree upon meeting the following requirements:

- Completion of the 53 trimester credit-hour program.
- Completion of a research project and submission of a thesis.
- Overall grade point average of at least 2.50 and a 3.00 average in the area of specialty.

MASTER OF HEALTH SCIENCES WITH SPECIALTY IN NUTRITION

TOTAL TRIMESTER CREDIT-HOURS: 53

MEDU 6500	Core Course in Public Health	6
BIOE 6525	Statistical Analysis	5
DEMO 6606	Use of SPSS Program and other	
	Scientific Research	4
EPID 6523	Epidemiological Methodology	4
NUTR 6528	Seminar in Public Health	
	Nutrition	2
NUTR 6521	Biochemistry and Nutrition I	2
NUTR 6523	Biochemistry and Nutrition II	2
NUTR 6531	Human Nutrition	5
NUTR 6533	Nutrition in Public Health	5
NUTR 6538	Evaluation of Nutritional Status	5
NUTR 6540	Laboratory Techniques for	
V	Nutritional Investigation	3
NUTR 6555	Quality of Life and Nutrition of	
1.5.17.2	Persons Fifty Years and Over	2
NUTR 6560	Planning of Nutrition Program	2
NUTR 6535	Research Project	6
The		С.

GRADUATE CERTIFICATE IN GERONTOLOGY (DAY AND EVENING PROGRAMS)

The Graduate Certificate in Gerontology Program trains professionals from diverse health professions by offering a basic content in gerontology and focusing on the biological, psychological, social, clinical, and administrative aspects related to the aging process. The program is geared to improve the professionals' knowledge, skills, and attitudes for a better understanding of the aging process, and in this way contribute to an effective service delivery to meet the health needs of the elderly population. The Graduate Certificate in Gerontology has a total of nineteen (19) credits, which emphasize a holistic perspective and an interdisciplinary health team approach in the delivery of health services to the elderly population.

Specific Admission Requirements

Applicants must hold at least a bachelor's degree and have completed a total of 3 credits in social sciences, 3 credits in biology, and 3 credits in psychology.

Persons holding a bachelor's degree must take the graduate admission test (EXADEP). Those with graduate degrees are not required to take the examination. School alumni may apply by submitting the application form along with an official transcript.

Graduation Requirements

Students will receive a Graduate Certificate in Gerontology upon completion of the 20 trimester credit-hour program.

Academic Programs-Graduate School of Public Health

GRADUATE CERTIFICATE IN GERONTOLOGY

TOTAL TRIMESTER CREDIT-HOURS: 20

GERO 6005	Introductory Seminar to	
	Gerontology	1
GERO 6501	Biological Aspects of Aging	3
GERO 6503	Psychological Aspects of Aging	3
GERO 6505	Clinical Aspects of Aging	3
GERO 6507	Social Aspects of Aging	3
GERO 6509	Administrative Aspects of	
	Gerontology	3
GERO 6495	Planning the Interdisciplinary	
	Intervention in Gerontology	1
GERO 6511	Interdisciplinary Intervention	3

GRADUATE CERTIFICATE IN DEVELOPMENTAL DISABILITIES EARLY INTERVENTION (EVENING PROGRAM)

The Graduate Certificate in Developmental Disabilities - Early Intervention constitutes an innovative contribution to the academic offerings of the Medical Sciences Campus in a high priority area.

The curriculum has an interdisciplinary and transdisciplinary approach to intervention, with emphasis on prevention, rehabilitation, and family participation. It also has a strong component of hands-on experiences with a significant number of hours devoted to field experiences in programs servicing children 0 to 5 years of age who present developmental delay or who are at risk.

The program is open to professionals in the areas of health education, occupational therapy, physical therapy, speech and language pathology, audiology, special education, psychology, and social work who are currently working with children 0 to 5 years old with developmental disabilities or delay.

The program's interdisciplinary and transdisciplinary approach is achieved through curricular design, by faculty from various fields, a heterogeneous group of students, and varied field experiences. This is a three trimester and one summer program in which students are expected to complete 22 credits in core courses and four credits in an area of interest (service coordination, public policy, or clinical intervention).

Specific Admission Requirements

In order to be admitted to the program, the candidates will be evaluated according to the following:

- Professional background in the fields of health, education, psychology, social work, or administration.
- · General academic index.
- Faculty recommendation following an interview with the candidate.
- Analysis of academic record.
- License to practice a profession, when appropriate.
- Work experience (over one year).

Graduation Requirements

Students will receive a Graduate Certificate in Developmental Disabilities - Early Intervention upon meeting the following requirements:

- A grade point average of at least 3.00.
- Approval of 26 credits as indicated.
- Completion of practicum activities.

GRADUATE CERTIFICATE IN DEVELOPMENTAL DISABILITIES EARLY INTERVENTION

TOTAL TRIMESTER CREDIT-HOURS: 26

DDIT 6505	Introduction to Public Health and	
	Developmental Disabilities	3
DDIT 6506	Typical and Atypical Child	
	Development from 0 to 5 Years	3
DDIT 6507	Assistance to Families with Children	
	with Special Needs	3
DDIT 6508	Assessment of Infants and	
	Pre-Schoolers with	
	Developmental Disabilities	3
DDIT 6509	Community Service Delivery	
	in Early Intervention	3
DDIT 6510	Planning, Implementation, and	
	Evaluation of Developmental	
	Disabilities - Early Intervention	
	Programs	3
DDIT 6545	Interdisciplinary Practicum	
	in Developmental Disabilities-	

Early Intervention

One (1) elective course must be selected from these options:

DDIT 6537	Service Coordination	4
DDIT 6539	Legislation and Public	
	Policy in the Developmental	
	Disabilities - Early	
	Intervention Area	4
DDIT 6535	Seminar in the Management of	
	Conditions and Specific Risks	4

CERTIFICATE IN NURSE MIDWIFERY

The Certificate in Nurse-Midwifery is a one-year (four trimesters) program for registered nurses with a baccalaureate degree in nursing (BSN). The curriculum includes a course in fundamentals of public health and the core competencies for the practice of nurse-midwifery as defined by the American College of Nurse-Midwives (ACNM).

Graduates are prepared to be safe, competent, nursemidwives who can provide comprehensive and integrated health care for low risk women in the childbearing through menopausal years, their newborns, and families in a variety of health care settings. They have the knowledge and skills necessary to influence change in the health care delivery system.

Graduates are eligible to become nationally certified nurse midwives (CNM) after successfully passing the examination given by the ACNM Certification Council (ACC).

Specific Admission Requirements

- Minimum of a Bachelor of Science in Nursing (BSN).
- Current license to practice as registered nurse in Puerto Rico and membership in the College of Professional Nurses.
- Minimum 2.75 GPA.
- EXADEP taken within the last three years.Proficiency in Spanish.
- Ability to read and comprehend English.
- Three letters of recommendation.

- Interview with program faculty.
- Current certification in Basic Life Support (CPR).
- Recent physical examination, negative tuberculin test or chest x-ray, and evidence of immunity to Rubella and Hepatitis B.

Graduation Requirements

4

Students will receive a Certificate in Nurse Midwifery upon meeting the following requirements:

- Complete the 32 credits of required courses.
- Pass examinations with 80% or above.
- Achieve a satisfactory rating in clinical experience.
- Pass the written comprehensive examination.
- Submit all required written reports and clinical statistics.

CERTIFICATE IN NURSE-MIDWIFERY

TOTAL TRIMESTER CREDIT-HOURS: 32

ENOP 6005	Reproductive Physiology for	
	Nurse Midwives	2
ENOP 6006	Human Sexuality and Well	
	Woman Gynecology	3
ENOP 6007	Basic Pharmacology for Nurse	
	Midwifery	2
ENOP 6008	Normal Obstetrics Management	3
ENOP 6025	Fundamental Concepts in Public	
	Health	4
ENOP 6026	Genetics and Genetic Counseling	
	in Nurse Midwifery	1
ENOP 6027	Problems and Complications	
	of Obstetrics	3
ENOP 6028	Maternal and Infant Nutrition	2
ENOP 6029	Care of the Newborn	2
ENOP 6030	Planning and Organization	
	of Maternal and Infant	
	Nurse Midwifery Services	1
ENOP 6035	Nurse Midwifery Practice and	
	Management I	2
ENOP 6036	Nurse Midwifery Practice and	
	Management II	2
ENOP 6037	Nurse Midwifery Clinical	
· //	Management and Practice	5

DOCTOR OF PUBLIC HEALTH WITH SPECIALTY IN ENVIRONMENTAL HEALTH*

*This program is undergoing a curricular revision which includes admission requirements.

The Doctor of Public Health Program prepares students at the doctoral level in the field of Public Health, broadening their skills in applied sciences in order to offer solutions to health problems and exercise professional leadership in the area of community health services.

Admission Requirements

Applicants must meet the following requirements:

- Master's degree in a discipline offered by a public health school of recognized standing internationally. Other applicants may be accepted if they have approved graduate courses in health services administration, biostatistics, social sciences, epidemiology, and environmental health.
- Computer knowledge is highly recommended.
- Grade point average of 3.00 (on a scale of 4.00) at the master's level.
- Teaching, research, or service experience in the public health field.
- Fluency in Spanish and reading knowledge and comprehension of English.
- Graduate Studies Admission Test (EXADEP) scores.
- Interview with the program's Admissions Committee.
- Official transcript and Curriculum Vitae.
- Evidence of professional experiences of the past five years of employment issued by the Human Resources Department and the immediate supervisor.
- Three letters of recommendation (using format approved by the Admissions Committee). One of the letters of recommendation should be from a professor from the master's program.
- A 200 word (double spaced and in Spanish) personal statement indicating the applicant's

Academic Programs-Graduate School of Public Health

professional and educational objectives, educational expectations from the program, and reasons for applying.

- The environmental health specialty requires that applicants present evidence of bachelor's or master's degree one-year courses in biology, physics, general chemistry, organic chemistry, and a semester of calculus.
- Graduate level courses in inferential biostatistics and epidemiological methodology. Applicants who have not approved these courses will be allowed to take them during the first and second trimester of the first year of doctoral studies.

Graduation Requirements

In order to be eligible for the degree, students must meet the following requirements:

- Approve the required 56 credits with a minimum grade point average of 3.00 (on a scale of 4.00).
- Full-time status during the first year of studies.
- Complete the 800 hour internship.
- Approve the program's comprehensive examination.
- Submit a doctoral dissertation and obtain approval by the Dissertation Committee.
- Complete all requirements within an eight-year period.

DOCTOR OF PUBLIC HEALTH WITH SPECIALTY IN ENVIRONMENTAL HEALTH*

TOTAL TRIMESTER CREDIT-HOURS: 56 AND 800 HOURS OF INTERNSHIP

ADSS 8005	Organizational and Administrative	
	Elements of Health Services	3
BIOE 8005	Advanced Methods in Biostatistics	3
CISO 8005	Culture, Social Inequity, and	
	Community Health	3

EPID 8002	Advanced Methods in	
	Epidemiology II	3
SAAM 8005**	Fundamentals of Environmental	
	Health	3
SALP 8005	Health Promotion and Preventic	on
	Models	2
SALP 8105	Research in Public Health	3
SAAM 8007	Water Pollution	3
SAAM 8008	Meteorology and	
	Atmospheric Contamination	3
SAAM 8009	Hazardous Waste Managemen	
SAAM 8006	Environmental Physical Hazards	; 3
SAAM 8010	Environmental Instrumental	
	Analysis	3
SAAM 8016	Environmental Policy and	
	Management	3
SALP 8007	Bioethics and Public Health	
	Practice	1
SALP 8025	Leadership Seminar	1
SAAM 8020	Current Environmental	
	Health Issues	1
SALP 8015	Doctoral Dissertation in Public	
	Health	9
SALP 8006	Doctoral Internship	
	in Public Health	800 hrs
Electives		6

*This program is undergoing a curricular revision which includes admission requirements.

**Course for students who do not study the MS in Environmental Health.



School of Health

Professions







MISSION AND GOALS

The School of Health Professions addresses the needs of the Puerto Rican community for qualified practitioners in a diversity of specialties within the health care fields. The curricula provide the knowledge and skills and foster the necessary attitudes to carry out these roles and functions within the health care team.

The School provides a wide variety of academic offerings leading to associate degrees, bachelor's degrees, post-bachelor certificates, and master's degrees. Most programs are designed for regular, full-time students, although some offer evening classes for part-time study.

The faculty is strongly committed to teaching, research in the allied health field, and community service. It provides clinical services to the general public and professional consultation to hospitals, laboratories, and other organizations. Continuing education and specialized training are available to practicing health professionals. Through these activities, the School promotes and coordinates interaction between numerous educational and health agencies.

Academic programs are compromised with the continuous curriculum development of their disciplines, research, and service delivery to the community, as well as innovative models of interdisciplinary education. Through its academic programs, the School also emphasizes the development of critical thinking, social conscience, and ethical standards essential for all members of the health care team.

ORGANIZATION AND ADMINISTRATION

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The School is under the direction of the Dean, with the support of the Associate Dean for Academic Affairs, and the Assistant Dean for Student Affairs. There are also offices of Administrative Affairs, Research and Development, Information and Educational Resources, Distance Learning, Communication and Development, Center for Advanced Studies in Medical Emergencies, and Division of Continuing Education and Professional Studies. Academic programs are organized in two departments, Department of Undergraduate Programs and Department of Graduate Programs.

LOCATION AND FACILITIES

The School of Health Professions is located within the University of Puerto Rico Medical Sciences Campus. Student classrooms and laboratories, as well as administrative offices and community service centers, are housed in two buildings adjacent to the Campus' main building. Academic programs that require a period of supervised practice coordinate these at hospitals, clinical laboratories, private clinics, schools, community health centers, and other health care facilities throughout the island and some areas of the United States.

ACADEMIC PROGRAMS

ASSOCIATE DEGREE IN DENTAL ASSISTING WITH EXPANDED FUNCTIONS

The program provides training in chairside assisting techniques and expanded functions in basic restorative and preventive dentistry that enable students to successfully perform as dental assistants with expanded functions (DAEF) in the public and private sectors.

Upon completion of the program of studies, students receive an Associate Degree in Dental Assisting with Expanded Functions. This is a two-year program with a total of seventy three (73) semester credit-hours. Students must complete the first year of general education courses at an accredited college or university (30 semester credit-hours). Professional courses are taken at the Medical Sciences Campus during the second year of studies (43 semester credit-hours).

Admission Requirements

Applicants to this program must present evidence of completion of courses within the following areas at an accredited college or university. For specific courses within each subject, please contact the program.

Required Courses	Semester Credit-Hours	
Spanish	6	
English	6	
Social Sciences/Humanities	6	
Biological Sciences	6	
Mathematics	3	
Electives	3	
Total	30	

Students who wish to be considered for admission to this program must also meet the following requirements:

- Obtain a minimum general grade point average of 2.00 in required courses.
- Have a grade point average of at least 2.00 in biological sciences and mathematics.
- Fluency in Spanish and knowledge and comprehension of English.

Graduation Requirements

In order to graduate, students must:

- Obtain a general grade point average of 2.00 or higher.
- Satisfactorily complete all didactic and clinical practice courses, as specified by the program.

ASSOCIATE DEGREE IN DENTAL ASSISTING WITH EXPANDED FUNCTIONS

TOTAL SEMESTER CREDIT-HOURS: 43

Professional Courses

AUXD 2017	Microbiology Pathology	
	Therapeutics	3
AUXD 2015	Dental Oral Head and Neck	
	Anatomy	3

Academic Programs - School of Health Professions

AUXD 2025	Dental Radiology	4
PAXD 2017	Chairside Assisting and	
	Basic Clinical	
	Procedures	
PAXD 2010	Introduction to General and	
	Dental Specialties Procedures	2
PAXD 2016	Dental Instruments	
PAXD 2015	Dental Materials	
AUXD 2007	Oral Histology and Embryology	/ 2
AUXD 2225	Practice Management,	
	Ethics, and Jurisprudence	2
AUXD 2005	Anatomy and Physiology	2
PAXD 2029	Expanded Functions in	
	Restorative Laboratory	3
PAXD 2018	Expanded Functions in	
	Preventive Laboratory	2
PAXD 2101	Clinical Practice I	4
AUXD 2020	Psychology	2
PAXD 2030	Expanded Functions in	
	Restorative Dentistry Clinic	3
PAXD 2102	Clinical Practice II	4
PAXD 2024	Expanded Functions in	
	Preventive Dentistry Clinic	2

ASSOCIATE DEGREE IN RADIOLOGIC TECHNOLOGY

The demands placed on radiologics technologist today require that they be a competent specialists with a full understanding of the principles of the diagnostic uses of radiation.

Radiologic technologists are an integral part of the health team. They promote the prevention and cure of diseases through the use and correct application of radiant energy. Upon completion of the requirements for the Associate Degree in Radiologic Technology and upon licensure by the Puerto Rico Board of Examiners in X-Ray Technology, the student may be employed in hospitals, physicians' offices, community health agencies, or in industrial settings where radiation is used for quality control.

The curriculum is a dynamic one, allowing students to fulfill academic requirements on campus while participating in practical applications of X-Ray theory at affiliate hospitals. This is a three-year program in which students complete 30 semester credits in general education at an accredited college or university during the first year. Professional courses include 65 semester credits taken at the Medical Sciences Campus during the two remaining years.

Admission Requirements

Applicants must have completed courses in the following areas with a grade point average of 2.00 or higher. For specific courses within each subject, please contact the program.

Required Courses	Semester Credit-Hours
English	6
Spanish	6
Humanities or Social Sciences	6
Biological Sciences	6
Mathematics	3
Electives	3
Total	30

Students seeking admission to the program must also meet the following requirements:

- Obtain a minimum grade point average of 2.00 in required courses.
- Obtain a minimum grade point average of 2.00 in specific courses (biological sciences and mathematics).
- Attend an orientation session with faculty.
- Fluency in Spanish and knowledge and comprehension of English.

Graduation Requirements

In order to graduate, students should satisfactorily complete all didactic and clinical practice courses, as specified by the program. They must also have an overall grade point average in didactic courses and clinical experiences of at least 2.00.

ASSOCIATE DEGREE IN RADIOLOGIC TECHNOLOGY TOTAL SEMESTER CREDIT-HOURS: 65

Professional Courses

TERA 1011	Introduction to Radiologic Physics	3
TERA 1015	Introduction to Radiologic	
	Techniques	3
TERA 1035	Radiologic Exposures	4
TERA 1001	Human Anatomy I	3
TERA 1013	Radiographic Techniques and	
	Positioning I	4
TERA 1036	Radiographic Film Processing	4
TERA 1002	Human Anatomy II	3
TERA 1012	Radiologic Physics	3
TERA 1014	Radiographic Techniques and	
	Positioning II	4
ENFE 1035	Applied Nursing	2
TERA 1018	Applied Pathology	3
TERA 1025	Seminar and Pre-Clinical	
	Practicum	3
TERA 2061	Seminar and Clinical Practice I	6
TERA 2000	Human Anatomy III	3
TERA 2016	Radiographic Film Critique	3
TERA 2017	Radiologic Physics Laboratory	2
TERA 2010	Radiographic Techniques and	
	Positioning III	3
TERA 2062	Seminar and Clinical Practice II	9

ASSOCIATE DEGREE IN OPHTHALMIC TECHNOLOGY

As health professionals trained in the theoretical and clinical aspects of ophthalmology, ophthalmic technicians may practice in government agencies, private institutions, or private offices. They work under the supervision of an ophthalmologist and perform tasks such as patient examination, diagnostic testing, patient treatment, and assisting the ophthalmologist during surgical procedures.

The first year of prerequisite work includes general studies and introductory science courses to be completed at an accredited college or university. The second year of studies, offered at the Medical Sciences Campus, prepares the student for the specific professional responsibilities of

an ophthalmic technician.

Admission Requirements

Applicants for admission to the professional program must:

 Complete 33 credits of required courses at an accredited institution in the areas stated below.
For specific courses within each subject, please contact the program.

Semester Credit-Hours
6
6
6
6
6
3

- Minimum grade point average of 2.00.
- A grade point average of at least 2.00 in biological sciences and mathematics.
- Fluency in Spanish and knowledge and comprehension of English.
- Minimum interview score of 12.

Graduation Requirements

Total

- Completion of program courses and clinical practice.
- Minimum grade point average of 2.00.

ASSOCIATE DEGREE IN OPHTHALMIC TECHNOLOGY

TOTAL SEMESTER CREDIT-HOURS: 39

Professional Courses: 37 credit-hours

TEOF 2005	Professional and Ethical Aspects	
	of Ophthalmology	1
TEOF 2006	Ocular Anatomy and Physiology	4
TEOF 2007	General Concepts in Optics and	
	Refraction	3

Academic Programs - School of Health Professions

Ophthalmic Equipment	3
Ophthalmic Pharmacology	2
Diagnostic Techniques and	
Procedures	2
Ocular Surgery and Aseptic	
Techniques	3
Common Eye Diseases, Trauma,	
and Emergencies	5
Clinical Practice	14
	2
	Ophthalmic Pharmacology Diagnostic Techniques and Procedures Ocular Surgery and Aseptic Techniques Common Eye Diseases, Trauma, and Emergencies

NOTE: Students also participate in seminars on general anatomy and physiology, psychology, microbiology, and CPR.

Electives

33

Students must choose the two required elective credits from among the following courses:

TEOF 2018	Pediatric Ophthalmology	2
TEOF 2019	Ocular Surgery	2
TEOF 2020	Retina	2
TEOF 2021	Glaucoma	2

BACHELOR OF HEALTH SCIENCES

The Bachelor of Health Sciences is an innovative, interdisciplinary, flexible program that provides a well-rounded education to persons holding associate degrees in health related fields such as radiologic technology, ophthalmic technology, dental assisting, and others. It also provides them the opportunity to complete their studies towards a bachelor's degree. The curriculum aims to develop sensitive health professionals capable of delivering quality health care. Students may select options in Education or Administration.

Admission Requirements

In order to be considered for admission, applicants must comply with the following requirements:

• Hold an Associate Degree with at least 36 semester credits in a health sciences field.

- A grade point average of at least 2.00 in health related courses.
- Satisfactorily complete courses in the areas specified below at an accredited college or university. For specific courses, please contact the program:

Required Courses	Semester Credit-Hours
------------------	-----------------------

Biological Sciences	6
English	6
Spanish	6
Social Sciences or Humanities	6
Mathematics*	6
Total	30

*These may be taken during the first year the student is enrolled in the program.

- Interview with the program's faculty.
- Fluency in Spanish and knowledge and comprehension of English.

Graduation Requirements

In order to graduate, students must meet the following requirements:

 Complete 60 semester cr/hr and 3 trimester cr/hr (Education option) or 58 semester and 3 trimester credits (Administration option), in addition to the 36 credits in professional courses taken as part of an associate degree or undergraduate certificate in the health sciences or health related fields, and 30 credits in general education.

Obtain a minimum overall grade point average of 2.00 and complete area option courses with a minimum grade of C.

BACHELOR OF HEALTH SCIENCES - EDUCATION AREA OPTION

TOTAL CREDIT-HOURS: 60 SEMESTER C.H. + 3 TRIMESTER C.H.

Education area option: 28 semester credit-hours

Human Growth and	
Development I	3
Human Growth and	
Development II	3
Social Foundations of Education	3
Philosophical Foundations of	
Education	3
Educational Technology for	
Teaching of the Health Sciences	
Professions	3
Educational Methodology for	
Teaching in the Health Sciences	3
Methods and Instruments of	
Student Evaluation in Health	
Sciences	3
Seminar and Teaching Practicum	4
Introduction to Educational	
Research	3
	Development I Human Growth and Development II Social Foundations of Education Philosophical Foundations of Education Educational Technology for Teaching of the Health Sciences Professions Educational Methodology for Teaching in the Health Sciences Methods and Instruments of Student Evaluation in Health Sciences Seminar and Teaching Practicum Introduction to Educational

Interdisciplinary Courses:

18 semester + 3 trimester credit-hours

INTD 4005 CISA 4055	Health: A Holistic Approach Statistical Methods for Health	5
	Care Practitioners	3
EDSA 4008	Communication Skills	3tr
Electives in Inte	rdisciplinary Area	10

Electives*				14
•	-			

*These credits may be convalidated if taken at an accredited institution of higher education.

BACHELOR OF HEALTH SCIENCES - ADMINISTRATION AREA OPTION

TOTAL CREDIT-HOURS: 58 SEMESTER C.H. + 3 TRIMESTER C.H.

Administration area option: 26 semester credithours

CISA 4048	Basic Principles of Personnel	
	Supervision	3
CISA 4031	Principles of Health Services	
	Administration I	3
CISA 4032	Principles of Health Services	
	Administration II	3
CISA 4035	Principles of Personnel	
	Administration in Health	
	Care Organizations	4
CISA 4036	Administration Seminar	3
ECON 3005	Introduction to Economics	3
CONT 3005	Introduction to Elements of	
	Accounting I	4
FINA 3006	Business Finance	3

Interdisciplinary Courses:

18 semester + 3 trimester credit-hours

INTD 4005	Health: A Holistic Approach	5
CISA 4055	Statistical Methods for	
	Health Care Practitioners	3
EDSA 4008	Communication Skills	3tr
Electives in Inter	disciplinary Area	10
Electives*		14

*These credits may be convalidated if taken at an accredited institution of higher education.

BACHELOR OF HEALTH EDUCATION

An innovative curriculum has been designed to train community health educators. Students enroll in the professional program during their second year in college. For the following three years, they progress through a competency-based curriculum organized in five broad areas, including man and his health, the change process, the educational process, community work, and group work.

Academic Programs - School of Health Professions

The community health educator is a group leader with the ability to motivate people to adopt healthier life-styles. As a professional, he/she has the basic skills needed to diagnose and analyze problems and prepare educational programs suitable for individuals and groups. Through education, the health educator encourages the group to solve its health problems through its own efforts, using resources available in the community. He/she works in an interdisciplinary fashion with other members of the health team, exercising leadership by implementing planned programs.

Admission Requirements

Candidates for admission must meet the following requirements:

• Approve 30 credits in the following areas; for specific courses within each subject, please contact the program:

Required Courses Credit-Hours	Semester
Credit-Hous	
Biological Sciences	6
English	6
Spanish	6
Social Sciences or Humanities	6
Mathematics*	6
Total	30

*Six credits in mathematics or three in mathematics and three in statistics are accepted.

- A grade point average of at least 2.00 in the required courses.
- A grade point average of at least 2.30 in biological sciences and social sciences or humanities.
- Interview with the faculty.
- Fluency in Spanish and knowledge and comprehension of English.

Graduation Requirements

In order to graduate, students must meet the following requirements:

- Completion of all courses for the degree as stated in the program of study.
- A grade point average of at least 2.00.
- Demonstrate acceptable professional conduct according to the norms and criteria established by the program.

BACHELOR OF HEALTH EDUCATION

TOTAL SEMESTER CREDIT-HOURS: 101

Professional Courses: 89 credit-hours

INTD 2005	Introductory Biomedical	
	Sciences Core Course	5
INTD 4005	Health: A Holistic Approach	5
EDSA 4011	Conceptual Seminar I	6
EDSA 4021	Communication Skills I	3
EDSA 4022	Communication Skills II	3
EDSA 4031	Laboratory for the Development	
	of Human Potential I	2
EDSA 4032	Laboratory for the Development	
	of Human Potential II	2
EDSA 4001	Field Experience in Health	
	Education I	3
EDSA 4047	Educational Media and	
	Technology	3
CISA 4055	Statistical Methods for Health	
	Care Practitioners	3
EDSA 4012	Conceptual Seminar II	5
EDSA 4013	Conceptual Seminar III	4
EDSA 4023	Communication Skills Workshop	2
EDSA 4024	Communication Skills IV	2
EDSA 4033	Laboratory for the Development	
X	of Human Potential III	2
EDSA 4034	Laboratory for the Development	
C'VERS	of Human Potential IV	2
EDSA 4002	Field Experience in Health	
The state	Education II	2
EDSA 4003	Field Experience in Health	
	Education 11	2

EDSA 4014	Fundamentals of Planning	
	in Health Education	4
EDSA 4065	Teaching Techniques for	
	Community Health Education	3
EDSA 4075	Group Work Strategies	4
EDSA 4067	Priority Health Problems	
	in Puerto Rico	3
EDSA 4004	Field Experience in Health	
	Education IV	7
EPID 4201	Introduction to	
	Epidemiological Methodology	3
EDSA 4046	Introduction to Educational	
	Research	3
EDSA 4058	Fundamentals of Human	
	Sexuality	3
EDSA 4059	Basic Concepts in Nutrition	3
Electives		12

BACHELOR OF SCIENCE WITH MAJOR IN VETERINARY TECHNOLOGY

The Veterinary Technology Program provides both classroom and clinical training in the areas of small and large animal care, food hygiene, veterinary hospital administration and laboratory animal science. It is a four-year Bachelor of Science degree in which students complete the first two years of education at any accredited university and the last two years at the Medical Sciences Campus. The Program is accredited by the American Veterinary Medical Association.

Veterinary technologists work primarily as professional assistants to veterinarians, biomedical researchers, and other scientists, and as such, are an integral part of the veterinary and public health care team. As the complexity of veterinary medicine increases and as the public demand for state-of-the-art care for animals increases, the veterinary technologist plays a key role in the delivery of quality health care for animals.

Veterinary technologists perform a wide variety of duties, many under the supervision of a veterinarian. These tasks often include: nursing care of hospitalized patients, administering medications, performing a wide range of technical tasks, assisting in diagnostic and therapeutic procedures, collecting and analyzing clinical specimens, performing radiological and dental procedures,

anesthesiology, and surgical assisting, office and hospital management, client counseling, and education. In addition to the above-mentioned tasks, veterinary technologists in biomedical research perform a major role in supervision of research colonies and facilities and assist in the design and implementation of research projects. They also aid in the diagnostic process, collection and analysis of data, and in the use of experimental and descriptive methods in epidemiological investigations in order to help prevent and control zoonotic diseases.

Admission Requirements

In order to be considered for admission, applicants must meet the following requirements:

 Two years of general courses and basic sciences as stated below. For specific courses within each subject, please contact the program.

Required Courses	Semester Credit-
Hours	
Spanish	6
English	6
Social Sciences	6
General Chemistry	8
General Biology	6
Organic Chemistry	8
Calculus or precalculus	4
General Physics	8
Statistics	3
Electives	9
Total	64

- Grade point average of at least 2.00 in all required courses.
- Obtain a grade point average of 2.00 in science and mathematics courses.
- Interview with faculty members.
- Fluency in Spanish and knowledge and comprehension of English.

A microbiology course is recommended. Applicants must have completed the required 64 credits or finish the requirements during the summer preceding the beginning of the program.

Academic Programs - School of Health Professions

Graduation Requirements

In order to graduate, students must:

- Obtain a grade point average of at least 2.00.
- Complete the program's 130 credit-hours.
- Complete the degree within 5 years.

BACHELOR OF SCIENCE WITH MAJOR IN VETERINARY TECHNOLOGY

TOTAL SEMESTER CREDIT-HOURS: 66 Professional Courses

SAAN 4036	Introduction to Animal Health	
	Technology Science	2
SAAN 4026	Comparative Anatomy of	
	Domestic Animals	2
SAAN 4027	Physiology of Domestic Animals	2
SAAN 4085	Introduction and Management	
	of Farm Animals	6
SAAN 4059	Veterinary Microbiology	3
SAAN 4067	Principles of Veterinary	
	Parasitology and Entomology	2
SAAN 4047	Introduction to Pharmacology	3
SAAN 4120	Animal Nursing	4
SAAN 4116	Veterinary Radiology	3
SAAN 4113	Veterinary Clinical Analysis I	3
SAAN 4101	Field Experience I	2
SAAN 4060	Animal Diseases	3
SAAN 4115	Laboratory Animal Management	3
SAAN 4078	Food Sanitation	4
SAAN 4114	Veterinary Clinical Analysis II	4
SAAN 4102	Field Experience II	2
SAAN 4069	Epidemiology and Zoonoses	3
SAAN 4105	Practicum-Animal Health	
	Technology	6
SAAN 4029	Dog and Cat Nutrition	1
SAAN 4130	Veterinary Hospital Management	
	and Computerized Records	4
SAAN 4125	Surgical Assistance	4

BACHELOR OF SCIENCE IN NUCLEAR MEDICINE TECHNOLOGY

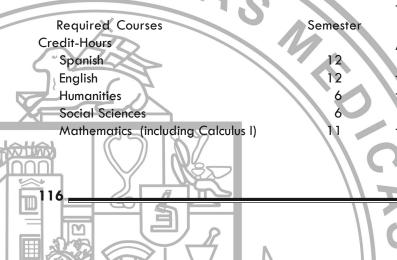
Nuclear Medicine Technology is a health field concerned with the use of radioactive material for diagnostic and therapeutic purposes, such as organ imaging, analysis of biological specimens, and therapeutic procedures.

The Bachelor of Science in Nuclear Medicine Technology program educates competent professionals to perform nuclear medicine imaging procedures on patients, perform radioactive analyses of biological specimens, prepare and administer radiopharmaceuticals, and perform quality control procedures on instruments and radiopharmaceuticals. In addition, they prepare radionuclides for therapeutic procedures, and perform radiation safety procedures. The student entering the academic program also receives an introduction to ultrasound technology, which uses high frequency ultrasonic waves to produce images for diagnostic purposes.

The program consists of three years at a college or university majoring in natural sciences and a fourth year of courses in the specialty taken at the Medical Sciences Campus. The fourth professional year includes classroom theory and clinical practice.

Admission Requirements

Candidates for admission to the Nuclear Medicine Technology Program must present evidence of successful completion of at least three full academic years of work at an accredited college or university with a minimum grade point average of 2.50 (on a scale of 4.00), or its equivalent, in both science and general courses. This work must comprise not less than 99 credit hours, including the subjects stated below. For specific courses within each field, please contact the program:



Students who wish to be considered for admission to the program must also meet the following requirements.

- Obtain a general and specific grade point average in sciences and mathematics of 2.50.
- Be interviewed by faculty.
- Fluency in Spanish and knowledge and comprehension of English.

Graduation Requirements

In order to graduate, students must comply with the following requirements:

- Completion of all 135 credits, with a minimum grade point average of 2.00 or higher on a scale of 4.00.
- Satisfactory completion of all didactic and practical courses in the professional program.

BACHELOR OF SCIENCE IN NUCLEAR MEDICINE TECHNOLOGY

TOTAL SEMESTER CREDIT-HOURS: 36

Professional Courses

MEDU 4006	Core Course in	
	Biomedical Sciences	6
tenu 4135	Nuclear Physics	2
TENU 4177	Radiation Protection and	
	Radiobiology	2
ANAT 4016	Topographical and Sectional	
	Anatomy	2
TENU 4145	Statistics in Nuclear Medicine	1
TENU 4185	Radiopharmacy and Radionuclide	
	Chemistry	2
TENU 4205	Instrumentation in Nuclear	
	Medicine and Ultrasound	2

Academic Programs - School of Health Professions

TENU 4265	Nuclear and Ultrasound Imaging	4
TENU 4195	Radioassays	2
TENU 4215	Administration of a Nuclear	
	Medicine Facility	1
TENU 4235	Clinical Practice	10
TENU 4245	Computer Application in Nuclear	
	Medicine	1
TENU 4225	Seminar	1

BACHELOR OF SCIENCE AND POST-BACHELOR CERTIFICATE IN MEDICAL TECHNOLOGY

Medical Technology is the study of the application of clinical laboratory analysis to the diagnosis or prevention of disease and to the monitoring of patient therapy. The program provides students with the knowledge and skills necessary to responsibly practice the profession. Students are also expected to develop a true sense of humanism and a professional attitude.

This is a fifteen month professional program beginning in August. Upon completion of the program, students either receive their Bachelor's degree or a Post-Bachelor Certificate in Medical Technology, as appropriate. The nine-month session at the Medical Sciences Campus includes lectures, demonstrations, and laboratory work. Following this, students spend six months in practice in a clinical laboratory setting. At the end of the program, they are eligible to take certifying examinations given by the Commonwealth of Puerto Rico, the American Society of Clinical Pathologists, and the National Certification Agency for Medical Laboratory Personnel. Upon licensure, program graduates are qualified to work in hospital and private clinical laboratories, pharmaceutical and other biomedical industries, or research settings. As a valuable member of the health-care team, the medical technologist must be academically and ethically capable of providing quality services.

Admission Requirements

Applicants to the Bachelor's Degree Program must have completed three (3) years of study in an accredited higher learning institution, including the prerequisite 100 credits listed below. Applicants to the Post-Bachelor Certificate Program must present evidence of a bachelor of science degree from an accredited college or university, including the courses required for admission to the Bachelor's Degree Program. For specific courses within each area, please contact the program.

Required Courses	Semester Credit-Hours
Social Sciences	
Spanish	
College Physics	8 0 6
Humanities	6
English	12
Mathematics*	6
General Chemistry	8
Organic Chemistry	8
Analytical Chemistry	4
Biology (which must include g	eneral
biology, microbiology or bac	teriology,
and immunology)	16
Electives	14
Total	100

*In addition to an introductory mathematics course.

Students who wish to be considered for admission to the program must also meet the following requirements:

- Obtain a general and specific grade point average in sciences and mathematics of a least 2.50.
- Have a maximum of 8 credits in prerequisite work pending for the summer session.
- Possess the abilities necessary to meet the responsibilities of the profession.
- Fluency in Spanish and knowledge and comprehension of English.

Graduation Requirements

In order for students to be recommended for the Bachelor of Science in Medical Technology they must:

- Satisfactorily complete (with C or above) all didactic and clinical practice courses (54 credits) within a three year period.
- Obtain a general grade point average of 2.00 or higher in the 154 credits.
- Demonstrate the conduct and attitudes befitting a professional.

In order for students to be recommended for the Post-Bachelor Certificate in Medical Technology, they must satisfactorily complete (with C or above) all didactic and clinical courses in a three year period and:

- Obtain a general grade point average of 2.00 or higher in the 54 professional credits.
- Demonstrate the conduct and attitudes befitting a professional.

BACHELOR OF SCIENCE AND POST-BACHELOR CERTIFICATE IN MEDICAL TECHNOLOGY

TOTAL SEMESTER CREDIT-HOURS: 54

Didactic Courses: 42 semester credit-hours

TMED 4010	Introduction to Clinical	
	Laboratory Science	1
ZOME 6503	Medical Parasitology	3
TMED 4001	Clinical Biochemistry I	4
TMED 4002	Clinical Biochemistry II	3
TMED 4021	Hematology I	3
TMED 4022	Hematology II	3
TMED 4140	Clinical Laboratory Administration	3
MICR 4006	Medical Bacteriology	7
TMED 4095	Urinalysis	3
TMED 4075	Clinical Serology-Immunology	3
TMED 4041	Immunohematology I	2
TMED 4042	Immunohematology II	2
TMED 4135	Principles and Utilization of	
	Instrumentation in Clinical	
	Laboratory Analysis	2
TMED 4150	Modern Concepts in Clinical	
	Laboratory Sciences	3
Clinical Practice	e Courses: 12 semester credit-hou	rs
TMED 4015	Clinical Practice in Biochemistry	3
TMED 4035	Clinical Practice in Hematology	3
TMED 4115	Clinical Practice in Bacteriology	3
TMED 4085	Clinical Practice in Serology	1
TMED 4106	Clinical Practice in Urinalysis/	
V	Parasitology	1
TMED 4065	Clinical Practice in	
	Immunohematology	1
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POST-BACHELOR CERTIFICATE IN DIETETIC INTERNSHIP

As a member of the health care team, the dietitian is directly responsible for the nutritional care of individuals and groups. This care includes the application of the science and art of human nutrition in helping people select and obtain food for the primary purpose of nourishing their bodies in health or disease throughout the life cycle. Dietitians work in a wide variety of employment settings including health care, business and industry, public health education, research, and private practice.

The Dietetic Internship Program of the School of Health Professions is a post-baccalaureate program that prepares professionals in nutrition and dietetics. It is an eleven-month program providing learning opportunities geared to integrating previously acquired knowledge, obtain new knowledge, build resources for personal and professional growth, and develop skills in the best procedures for carrying out nutrition and dietetic services.

Admission Requirements

In order to be considered for admission, applicants must meet the following requirements:

- Hold a bachelor's degree from an accredited college or university, with courses that meet the academic requirements established by the American Dietetic Association (A.D.A.).
- A general grade point average and area of specialization index of 2.50 or higher.
- An interview with the program's Student Selection Committee.
- The applicant must be completely fluent in Spanish and must also have knowledge and comprehension of English.

All applicants to the Dietetic Internship must participate in the computer matching process established by the ADA. Applicants may request instructions and a mark/sense card from any didactic program in dietetics to prioritize their dietetic internship preferences. For further information contact the Dietetic Internship Program Director.

Program of Study

- Introductory course (4 weeks).
- Clinical Practice (40 weeks):
 - Medical Nutrition Therapy
 - Food Service System Management
 - Community Dietetics

Graduation Requirements

In order to graduate, students must complete the Dietetic Internship Introductory Course and approve all clinical experiences as specified by the Program.

Licensure and Registration

In order to practice the profession in Puerto Rico, it is necessary to obtain a license and be an active member of the Puerto Rico College of Nutritionists and Dietitians. The license is obtained after approving an examination offered by the Puerto Rico Nutritionists and Dietitians Examination Board. Also, the A.D.A. Registration Examination is given in Puerto Rico for graduates interested in becoming Registered Dietitians.

Accreditation

The Dietetic Internship Program of the School of Health Professions is currently accredited by the Commission on Accreditation for Dietetics Education of the American Dietetic Association, 120 South Riverside Plaza, Suite 2000, Chicago, IL, 60606. The A.D.A. Department of Accreditation and Education Programs phone numbers are (312) 899-5400, (800) 877-1600 (x - 5400).

Academic Programs - School of Health Professions

POST-BACHELOR CERTIFICATE IN CYTOTECHNOLOGY

The cytotechnologist is the professional qualified to analyze cellular samples under the microscope in order to detect neoplastic cells before the patient shows obvious symptoms of malignant growth. In this way, the cytotechnologist contributes to the early detection of disease.

The Cytotechnology Program offered by the University of Puerto Rico Medical Sciences Campus is a 12-month program requiring a total of thirty-eight (38) credit hours. Theoretical aspects are emphasized during the first six (6) months and supervised practice during the remaining six (6) months.

The program is designed to prepare health professionals with specific competencies in cytotechnology. The student is provided with adequate experiences for the development of abilities and skills in the management of a cytotechnology laboratory and in handling the necessary instruments and equipment.

Admission Requirements

Applicants to the program must have completed a bachelor of science or bachelor of arts degree from an accredited college or university. Students who wish to be considered for admission must also meet the following requirements:

- Have a general grade point average of at least 2.50.
- Have a grade point average of at least 2.50 in science courses.

Present evidence of completion of the following courses or their equivalents:

Required Courses	Semester Credit-Hours
Mathematics	6
College Physics	8
Chemistry	8
Biology*	20
Total	42

- Interview with faculty members.
- Fluency in Spanish and knowledge and comprehension of English.

*It is highly recommended that applicants complete the following courses: Histology, Human Anatomy, Bacteriology, Physiology, Genetics, Parasitology, and Microbiology.

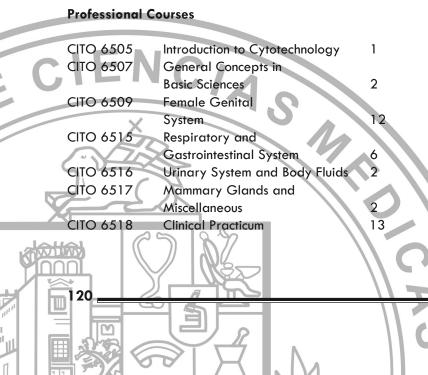
Graduation Requirements

In order to be recommended for graduation, students must:

- Obtain a minimum grade point average of 2.00 or higher in didactic courses and 3.00 or higher in the supervised practice.
- Satisfactorily complete the six (6) didactic courses and the supervised practice.
- Submit a research project related to the cytotechnology profession and present it (written and orally) to faculty members and fellow students.
- Evaluate and interpret a minimum of sixty (60) cytological samples daily with ninety-five percent (95%) accuracy during the final practicum.

POST-BACHELOR CERTIFICATE IN CYTOTECHNOLOGY

TOTAL SEMESTER CREDIT-HOURS: 38



MASTER OF SCIENCE WITH SPECIALTY IN SPEECH-LANGUAGE PATHOLOGY

The speech-language pathologist has the responsibility of evaluating, diagnosing, and treating persons with speech disorders in areas such as articulation, language, voice, and stuttering. The speech-language pathologist evaluates the speech and language patterns of children and adults, determines whether communication problems exist, and offers the appropriate treatment. Professionals in this program study the normal communication process, disorders which interfere with communication, possible clinical treatment, and preventive management.

Program graduates are qualified to work in government agencies such as the Departments of Health, Education, and Family Services. There are other job opportunities in federal programs, private institutions, universities, and private practice. The Program of Speech-Language Pathology is fully accredited as a training site by the Council on Academic Accreditation in Audiology and Speech-Language Pathology of the American Speech-Language Hearing Association (ASHA). The program consists of two academic years. It provides two options, one with thesis and another without thesis.

Admission Requirements

In order to be considered for admission, applicants must meet the following requirements:

- Hold a bachelor's degree from an accredited university with a general grade point average of 3.00 or higher.
- Submit the Graduate Studies Admission Test (EXADEP) scores.
- Interview with the program's faculty.
- Fluency in Spanish; must also have knowledge and comprehension of English.
- Completion of 12 credits in the following areas with* (or their equivalents) at an accredited university with a grade point average of 3.00 or higher.

Required Courses	Semester Credit-Hours
Linguistics*	3
Statistics*	3
Human Development and Learn	ing* 3
General Concepts on Child	
and Adult Handicaps*	3
Physical Sciences	3
Biological Sciences	3
Mathematics	3
Social Sciences/Behavioral Scie	nces 3
Total	24

Graduation Requirements

In order to graduate, students must:

- Complete the 55 credits as specified by the program.
- Complete a minimum of 400 hours in clinical practice with patients.
- Obtain a minimum grade point average of 3.00 or higher.
- Pass the program's comprehensive examinations.
- Obtain a faculty recommendation.

MASTER OF SCIENCE WITH SPECIALTY IN SPEECH-LANGUAGE PATHOLOGY

TOTAL SEMESTER CREDIT-HOURS: 55

Courses that apply to both options, with or without thesis: 47 credit-hours

HLAG 6300	Basic Concepts in Linguistics,	
	Psycholinguistics, and	
	Psychoacoustics	3
HLAG 6305	Acoustics for the Speech and	
	Hearing Sciences	3
HLAG 6303	Anatomy of the Speech and	
	Hearing Mechanism	3
PHAL 6305	Speech-Language Pathology:	
	Evaluation and Diagnosis	3
AUDI 6301	Fundamentals of Audiology	3
HLAG 6325	Communication Development of	
	the Normal Child	3
PHAL 6515	Stuttering	3

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HLAG 6308	Statistical Principles Applied to	
	Research in Communicative	
	Disorders	2
PHAL 6519	Articulation Problems and	
	Phonological Disorders	3
HLAG 6533	Language Disorders of Children	3
PHAL 6518	Disorders of Voice	
HLAG 6333	Language Stimulation of the Deaf	
	Child	3
PHAL 6512	Neurogenic Communicative	
	Disorders in Adults	3
PHAL 6310	Clinical Practicum in Speech-	
	Language Pathology	1
AUDI 6520	Communication Rehabilitation of	
	the Hard of Hearing Adult	2
PHAL 6311	Clinical Practicum in Speech-	
	Language Pathology	2
PHAL 6509	Speech and Language Problems in	
Children with Er	nvironmental	
	Deprivation and Children with	
	Mental Retardation	2
HLAG 6316	Professional Practicum	2
HLAG 6317	Clinical Practicum Seminar	1

In addition to the courses stated above, students in each of the options must complete the following 8 credithours:

Option with thesis

HLAG 6309	Experimental Design in Speech,	
	Language, and Hearing Sciences	2
HLAG 6600	Thesis	6

Option without thesis

PHAL 6514	Cleft Palate	2
PHAL 6521	Speech and Language Disorders	
	in Children with Autism	1
PHAL 6524	Dyslexia and Dysgraphia	
	in the Child	1
PHAL 6522	Diagnosis and Rehabilitation of	
	Children with Neurological	
	Problems	2
HLAG 6529	Organization and Administration	
	of Service Programs in	
	Communicative Disorders	2

MASTER OF SCIENCE WITH SPECIALTY IN AUDIOLOGY

The Audiology Program is no longer admitting students into its Masters of Science in Audiology offering. The Program is currently in transition into the doctoral degree level. A proposal for the establishment of a Doctor in Audiology Degree is under consideration by the corresponding university bodies.

The Program anticipates admitting its first class for the Doctor in Audiology Degree on August 2006; provided that the approval of all the universities bodies and of the Puerto Rico Council on Higher Education is obtained.

MASTER OF HEALTH INFORMATION ADMINISTRATION

The Master of Health Information Administration Program consists of two academic years and a summer session for 78 trimester credits of graduate level course work. The curriculum is based on a series of structured learning sequences organized in a core body of knowledge, an area in a related subject, a professional component, a sequence of tracks for selected topics, and elective courses. The tracks provide students the opportunity of selecting an area of interest from among administration, research, or education.

The Health Information Administration Program is accredited by the Commission on Accreditation for Health Informatics and Information Management Education (CAHIIM).

Program graduates are eligible to apply for the registration examination sponsored by the American Health Information Management Association (AHIMA) to qualify as a Registered Health Information Administrator (RHIA) and practice the profession as a qualified Health Information Administrator. As a member of the health team, the Health Information Administrator performs tasks regarding the definition, design, management, and evaluation of the health information system. He/ she organizes, refines, and presents data in ways that facilitate its processing and utilization.

Admission Requirements

In order to be considered for admission, applicants must meet the following requirements:

- Hold a Bachelor's degree or its equivalent from an accredited university.
- General grade point average of at least 2.50.
- Have approved a three-credit course with no less than "C" in each of the following areas: Human Anatomy, Human Physiology, and Automated Data Processing.
- Submit Graduate Studies Admission Test (EXADEP) or Graduate Record Examination (GRE) scores.
- Interview with the program's faculty.
- Fluency in Spanish and knowledge and comprehension of English.

Graduation Requirements

In order to graduate, students must:

- Obtain a general grade point average of 3.00 or higher.
- Satisfactorily complete (with B or higher) all specialty courses (professional and track).
- Complete all theoretical and clinical practice activities specified by the program.
- Complete graduation requirements within a five-year period.

MASTER OF HEALTH INFORMATION ADMINISTRATION

TOTAL TRIMESTER CREDIT-HOURS: 78

Professional Courses: 63 credit-hours

MEDU 6500	Core Course in Public Health	6
REME 6105	Medical Record Sciences	2
BIOE 6525	Statistical Analysis	5
REME 6106	Medical Record Management	4
REME 6107	Medical Records in Health	
	Information Systems	3
SALP 6500	Medical Background	3
ADSS 6572	Theory of Administration	4
REME 6108	Seminar in Indexes, Registers,	
	and Disease Classification Systems	3
SALP 6501	Medical Terminology	3

REME 6005	Legal Aspects of Medical	
	Records Administration	3
CISO 6600	Research Methods	4
REME 6115	Evaluation of the Quality	
	of Health Care	2
REME 6109	Health Information System	2
REME 6121	Pre-Internship in Medical	
	Records Administration	2
REME 6111	Analysis, Design, and	
	Implementation of Health	
	Information Systems I	2
REME 6125	Concepts in Personnel	
	Administration	
	and Supervision	3
REME 6112	Analysis, Design, and	
	Implementation of Health	
	Information Systems II	2
REME 6021	Health Services Administration	
	and the Medical Records	
	Application	3
REME 6127	Problems in Medical Records	
	Administration Seminar	2
REME 6122	Internship in Health Records	
	Administration and Research	
	Project	5
Track Courses		9
Electives		6

MASTER OF SCIENCE IN CLINICAL LABORATORY SCIENCES

The Clinical Laboratory Sciences program curriculum enhances the knowledge of medical technologists (Clinical Laboratory Scientists) in areas related to molecular diagnosis, administration of laboratory facilities, and clinical sciences. The aim of the program is to train students with expertise in current tools of administration, leadership, and quality in the laboratory setting. In addition, the program emphasizes the research component by requiring a research project with publishable results. The program is designed to fit the needs of working clinical laboratory scientists. Classes meet during evening hours and Saturdays. A graduate of this program will be able to manage clinical laboratories, engage in research, conduct in-service training, and address problems of instrumentation and analytical procedures.

The language of instruction is Spanish, although

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textbooks are mostly in English. Applicants are encouraged to contact the program for detailed information.

Admission Requirements

- Qualified applicants must have earned a Baccalaureate degree or Post-Baccalaureate Certificate in Medical Technology from an accredited institution of higher learning and be certified by the Commonwealth of Puerto Rico, or an equivalent professional accrediting agency.
- Applicants must submit the results of graduate entrance examination tests GRE or EXADEP, which must be taken within five calendar years of the application date.
- Two letters of recommendation from former professors and/or from employers.
- A personal interview with the faculty.
- General grade point average of at least 2.75.

Graduation Requirements

In order to graduate, students must:

- Complete the 36 credit-hour program.
- Obtain an overall grade point average of 3.00.
- Complete the research project approved by the faculty.
- Complete graduation requirements within a five-year period.

MASTER OF SCIENCE IN CLINICAL LABORATORY SCIENCES

TOTAL SEMESTER CREDIT-HOURS: 36

Laboratory Sciences Core Courses: 10 credit-hours

CILC 6005	Advanced Clinical Biochemistry	2
CILC 6008	Advanced Clinical Hematology	2
CILC 6006	Advanced Clinical Microbiology	2
CILC 6009	Advanced Clinical Immunology	2
CILC 6007	Advanced Immunohematology	2

Specialization in Laboratory Management and Quality Assurance: 16 credit-hours

CILC 6020	Clinical Laboratory Management	2
CILC 6019	Clinical Laboratory Statistics	2
CILC 6035	Quality Assurance I	2
CILC 6036	Quality Assurance II	1
CILC 6055	Fundamentals of Research	
	Proposal Design	2
CILC 6025	Microcomputer Applications	
	in Clinical Laboratory	2
CILC 6040	Practice in Administration	
	and Quality Assurance	3
CILC 6026	Special Topics in Clinical	
	Laboratory Administration	2

Specialization in Clinical Laboratory Sciences Area: 10 credit-hours

Studies I or	2
CILC 6015 Advanced Clinical Immunology	
Studies I	2
CILC 6018 Advanced Clinical Biochemistry	
Studies II or	2
CILC 6016 Advanced Clinical Immunology	
Studies II	2
CILC 6305 Clinical Laboratory Science	
Research	3
CILC 6115 Clinical Biochemistry Practicum or	3
CILC 6119 Clinical Immunology Practicum	3

This program is undergoing credit modifications. Please contact the School of Health Professions regarding possible changes.

MASTER OF SCIENCE IN PHYSICAL THERAPY

The Master of Science in Physical Therapy Program is part of the Department of Graduate Programs of the School of Health Professions. It is the first and only program in Puerto Rico, leading to on entry level Master of Science in Physical Therapy degree. The Physical Therapy Program began in 1951 as the School of Physical Therapy and became part of the School of Health Professions in 1976. It has been accredited by the Commission on Accreditation of Physical Therapy Education of the American Physical Therapy Association since its inception. The duration of the master's level professional curriculum is 28 months. Admissions to the program will be considered once every year. Students will begin fulltime daytime classes in September of the year of admission.

The program's mission is to graduate versatile physical therapists who will serve the Puerto Rican community. These entry-level physical therapists will provide quality service in patient/client management, education, research, administration, consultation, and health care policy advocacy. In tune with the mission of the School of Health Professions it addresses three dimensions of the educational experience: teaching, research, and service. The program integrates these three components while enabling the graduate to respond proactively to the needs of society in relation to the ever-changing health care delivery system structure. The faculty seeks to provide a learning environment which will allow the graduate to become a competent professional dedicated to a lifelong pursuit of knowledge.

Upon completion of the degree, graduates will be qualified to work as general practitioners in physical therapy and will be able to offer services in: hospitals, rehabilitation centers, geriatric centers, industries, schools, sports medicine centers, health promotion programs, private practice, community programs, and others. Graduates will serve as clinicians, researchers, administrators, educators and consultants in the abovementioned scenarios.

Admission Requirements

- Possess a baccalaureate degree or be in the last semester of the study program. Students must have a minimum of 16 credits approved in the required science courses at the time of their application.
- Have passed with C or above the following courses and have a grade point average (GPA) of 2.60 or above in these courses:

Required Courses	Semester Credit-Hours
Human Biology	6 - 8
General Physics	8
General Chemistry	8
Statistics	3
General Psychology	3
Human Development	3
Total	31 to 33

- All science courses should include both lecture and laboratory instruction.
- Graduate Studies Admission Test (EXADEP).
- Overall grade point average of 2.80.
- First Aid training provided by the American Heart Association or by the School of Health Professions (SHP), and CPR certification, for the Health Care Provider both to be maintained while enrolled.
- Interview with program faculty. (Only those candidates ranked in the first 33 positions based on their GPA and EXADEP).

Note: Although it is not an admission requierement, computer literacy is highly desirable.

Graduation Requirements

Students must complete 80 semester credits, obtain a minimum grade point average of 2.80, and a minimum of C in each course. Students have a maximum of five years, from the time of registration, to fulfill the requirements stated above. Students who do not satisfy graduation requirements within the expected period of time corresponding to their curriculum (28 months), and students who re-enroll after a period of absence, will be subject to the requierements applicable to the class with which they graduate. In order to receive a degree from the Medical Sciencies Campus, students must approve the last 28 credits required for the degree at the campus program. Academic Programs - School of Health Professions

MASTER OF SCIENCE IN PHYSICAL THERAPY

TOTAL SEMESTER CREDIT-HOURS: 80

Professional Courses

ANAT 6005	Human Anatomy	4
TEFI 6007	Human Anatomy Human Physiology	376
TEFI 6008	Basic Neuroscience	3
INVE 6011	Research I	2
TEFI 6010	Introduction to Professional	
	Socialization	2
TEFI 6001	Kinesiology I	2
TEFI 6009	Functional Procedures	1
TEFI 6003	Tutorial I	2
TEFI 6002	Kinesiology II	2
TEFI 6021	Musculoskeletal Evaluation,	
	Diagnosis, and Intervention	
	in Physical Therapy I	2.5
TEFI 6023	Neurological Evaluation,	
	Diagnosis, and Intervention in	
	Physical Therapy I	2.5
TEFI 6015	Physical Therapist as Educator	
	and Communicator	2
TEFI 6033	Clinical Correlations I	2
INVE 6012	Research II	2
TEFI 6004	Tutorial II	2
TEFI 6041	Clinical Practice I	6
TEFI 5000	Social Aspects of Illness	3
TEFI 6022	Musculoskeletal Evaluation,	
	Diagnosis, and Intervention	
	in Physical Therapy II	2.5
TEFI 6025	Cardiopulmonary Evaluation,	
	Diagnosis, and Intervention	
	in Physical Therapy	2
TEFI 6034	Clinical Correlations II	3
TEFI 6013	Research III	1.5
TEFI 6005	Tutorial III	2
TEFI 6014	Research IV	2
TEFI 6042	Clinical Practice II	5
TEFI 6024	Neurological Evaluation,	
	Diagnosis, and Intervention	
	in Physical Therapy II	2
TEFI 6036	Administration and Consultation	
	in Physical Therapy	3
TEFI 6043	Clinical Practice III	6
TEFI 6044	Clinical Practice IV	8

MASTER OF SCIENCE IN OCCUPATIONAL THERAPY

The Master of Science in Occupational Therapy is the first and the only entry-level professional program in Occupational Therapy in Puerto Rico that prepares occupational therapist at the master level. Graduates with baccalaureate degrees in disciplines other than Occupational Therapy can become occupational therapists through this program. Occupational Therapy is a profession whose focus is on enabling a person or a group of persons to access and participate in occupations(activities) that are meaningful, purposeful, and relevant to their lives, roles, and sense of wellbeing. Occupational therapists consider occupation to be everything people do to occupy themselves, including taking care and supporting themselves and others, work, education, play, enjoying life (leisure) and social participation with family, friends, colleagues and in the community in general. Occupational therapists assess, utilize, and adapt everyday activities to improve function, enhance performance, promote health, prevent illness, and increase independence in those persons to whom they provide services. Occupational therapists examine not only the physical effects of an injury or disease, but also address the psycho-social, cognitive, community and environmental factors that influence function.

Occupational therapists work in a range of settings including: hospitals, rehabilitation centers, outpatient centers, mental health centers, school system, pediatric clinics, community centers, workplaces, skilled nursing facilities, nursing homes, home health and in private practice. They provide services in all areas in which people engage in their everyday activities.

The academic program is full-time, two years and a half in length. Two years are required to complete the didactic courses. Twenty-four weeks of internship (fieldwork) are required for certification to practice, and are completed in three 8-weeks, full-time periods following the didactic courses of the academic program. Upon completion of all graduation requirements, the student receives a Master in Science in Occupational Therapy.

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The Occupational Therapy Program is accredited by the Accreditation Council for Occupational Therapy Education (ACOTE) of the American Occupational Therapy Association (AOTA), located at 4720 Montgomery Lane P.O. Box 31220, Bethesda, MD, 20824-1220. AOTA's phone number is (301) 652-AOTA.

Satisfactory completion of both the academic program and 24 weeks of internship (fieldwork) are required to be eligible to take a test offered by the Puerto Rico Occupational Therapy Board of Examiners (PROTBE) and to take the Certification Examination offered by the National Board for Certification in Occupational Therapy (NBCOT). Successful completion of the test offered by PROTBE allow graduates to obtain a license to practice the profession in Puerto Rico. Passing the certification examination is the final step in becoming an Occupational Therapist Registered (OTR) and qualifies the OTR for working in the United States and in Puerto Rico. Previous conviction of a felony may affect graduate's eligibility to sit for the certification examination, the licensure test and to attain licensure.

Admission Requirements:

The Accreditation Council for Occupational Education (ACOTE) established that beginning January 1 st 2007, occupational therapy programs will only be accredited at the post baccalaureate degree level. Candidates for admission for the entry-level master in Occupational Therapy must possess a baccalaureate degree in a discipline other than Occupational Therapy from an accredited university. Additionally they must have:

 A specific grade point average of 2.50 in the following pre-requisite courses:

Required Courses	Semester Cred	its-Hours
Second Year English	ı	6
Sociology or Anthro	pology	3
Human Growth and	Development	
across the life span		3-6
Human Biology I an	d II or	
Human Anatomy an	d Physiology	6
Basic Statistics		3
Total		21-24

- A general grade point average of 2.80 in the baccalaureate degree.
- A score of 500 or above on the EXADEP (Examen de Admisión a Estudios de Post Grado).
- Basic computer skills is highly recommended.

Graduation Requirements:

In order to graduate, students must meet the following requirements:

- Complete all the requirements of the didactic (67 credits) and the fieldwork component (16 credits) of the curriculum with a minimum GPA of 2.80, within a maximum period of 4.5 years after registration as first year OT student.
- Demonstrate professional behaviors considered acceptable by faculty and fieldwork supervisors and in accordance with regulations of the Medical Sciences Campus, the School of Health Professions and the Occupational Therapy Program.

MASTER OF SCIENCE IN OCCUPATIONAL THERAPY

TOTAL SEMESTER CREDIT-HOURS 83

Professional Courses:

TEOC 6005	Human Anatomy	4
TEOC 6001	Foundations of	
	Occupational Therapy I	4
TEOC 6007	Occupation from a	
	Developmental Perspective	4
TEOC 6003	Active Learning I	1
TEOC 6008	Professional Development	
	in Occupational Therapy	4
TEOC 6002	Foundations of	
	Occupational Therapy II	3
TEOC 6101	Occupational	
	Dysfunction 1	3
TEOC 6004	Active Learning II	1
TEOC 6009	Dimensions of Human	
	Movement in	
	Occupational Performance	3

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		602
TEOC 6401	Evidence Based Practice	E E
	in Occupational Therapy I	4
TEOC 6006	Basic Neuroscience	4
TEOC 6501	Fieldwork Experience	
	Level I (Part A)	2
TEOC 6102	Occupational Dysfunction II	3
TEOC 6402	Evidence Based Practice	ノレヒ
	in Occupational Therapy II	2
TEOC 6201	Theory and Practice of	
	Occupational Therapy in	
	Psychosocial Dysfunction I	3
TEOC 6301	Theory and Practice of	
	Occupational Therapy in	
	Pediatrics I	3
TEOC 6203	Theory and Practice of	
	Occupational Therapy in	
	Physical Dysfunction I	3
TEOC 6205	Context and Management	
	of Occupational	
	Therapy Service	3
TEOC 6403	Evidence Based Practice	
	in Occupational Therapy III	3
TEOC 6202	Theory and Practice of	
	Occupational Therapy in	
	Psychosocial Dysfunction II	4
TEOC 6302	Theory and Practice of	
	Occupational Therapy in	
	Pediatrics II	4
TEOC 6204	Theory and Practice of	
	Occupational Therapy in	
	Physical Dysfunction II	4
TEOC 6502	Fieldwork Experience	
	Level I (Part B)	2
TEOC 6503	Fieldwork Experience	
	Level II	12

For specific information about the Program please visit the School of Health Professions web-page at: www. cprsweb.rcm.upr.edu.

JOINT EFFORT PROGRAMS

The Post-Doctoral Master of Science and the Graduate Certificate in Clinical Research represent a joint effort, of the School of Medicine and the School of Health Professions of the Medical Sciences Campus of the University of Puerto Rico, to offer two multidisciplinary didactic training programs to meet the need among minority health professionals for formalized academic training in the principles of clinical research. These programs were developed with the support of the other four academic schools of our campus; Graduate School of Public Health, School of Dentistry, School of Pharmacy and School of Nursing. These academic programs also joined in the partnership with the graduate clinical research program, K - 30, at Mayo Clinic - Rochester, MN, the San Juan Veterans Administration Medical Center and the Puerto Rico Department of Health to increase the depth and breadth of training opportunities and improve the overall quality of the education.

GRADUATE CERTIFICATE IN CLINICAL RESEARCH

The objectives of the Graduate Certificate program are to increase knowledge and skills in clinical research and improve the attitudes toward clinical research through completion of the didactic component. The curriculum consists of one year of didactic courses for a total of 24 semester credit hours. After completion of the program requisites, the graduate will have acquired knowledge in study design, analysis, interpretation and evaluation of clinical research, biostatistics methods appropriate to clinical research and legal, ethical and regulatory issues related to clinical research. The graduates will also develop skills in problem solving, analysis and critical thinking strategies for the design, implementation and management of clinical projects, effective oral and written communication and use of technology for seeking information and data processing purposes. The graduates will exhibit an ethical responsible conduct in clinical research, recognize the importance of collaborative work and the importance of communicating scientific knowledge and findings.

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Admission Requirements

The program will competitively evaluate all interested candidates from accredited institutions across the island. Applicants meeting all requirements will be interviewed and recommend the top ranked candidates.

- 1. Hold a master degree
- 2. Minimum master general grade point average of 3.0
- Submission of the official application and all required documents prior to the deadline established by the program
- 4. Curriculum Vitae
- 5. Transcript from the institution granting the master degree
- Two (2) letters of recommendation from individuals familiar with the applicants science
 research related activities
- 7. Personal statement detailing how this program will contribute to the candidate career goals

Graduation Requirements

A Graduate Certificate in Clinical Research degree will be awarded to those students admitted to the certificate program that complete successfully the 24 semester credits of the didactic component and attendance to seminar series.

GRADUATE CERTIFICATE IN CLINICAL RESEARCH TOTAL SEMESTER CREDIT-HOURS: 24

INCL 6005	Introduction to Clinical	
	Research	1
INCL 6006	Introduction to Health Services	
	Research	1
INCL 6016	Application of Informatic in	
	Research	1
INCL 6025	Bioethics and Regulatory Issues	
	in Clinical Research	2
INCL 6035	Epidemiology in Clinical	
	Research I	2

INCL 6041	Biostatistic in Clinical Research I	2
INCL 6042	Biostatistic in Clinical Research II	2
INCL 6046	Epidemiology in Clinical	
	Research III	2
INCL 6055	Clinical Trials	2
INCL 6056	Clinical Research Protocol	
	Development	2
INCL 6065	Scientific Communication	2
INCL 6075	Bioanalytical Methods in Clinical	
	Research	2
INCL 6085	New Frontiers in Clinical	
	Research	1
Electives reco	mmeded by the Program	
INCL 6007	Gender Consideration in Clinical	
	Research	1
INCL 6045	Introduction to Bioinformatics	
	and Medical Genomics	1

MASTER OF SCIENCE IN CLINICAL RESEARCH

The post-doctoral master program is designed to meet the need for formal academic training in quantitative, qualitative, and other methodological principles of clinical research, including patient-oriented research, epidemiologic and behavioral studies, outcomes research, and health services research. Graduates of the postdoctoral program will be trained to plan original clinical research with adequate sample size, sampling methods, well-defined diagnostic criteria, and effective control of confounding variables. The post-doctoral master program consists of a two-year competency-based curriculum with two major components: didactic courses and a mentored research project (research component).

The program's mission is to promote the development of multidisciplinary clinical scientific teams working in collaboration toward the attainment of two common goals: improvement in quality of life and decrease health disparities. In the research component the program will target specific health conditions of high priority to the Hispanic population as delineated by Healthy People 2010 and based on the mortality and morbidity trends in Puerto Rico. The research component will focus on HIV, Academic Programs - School of Health Professions

cancer, cardiovascular and respiratory diseases, diabetes, oral health, issues related to aging, mental health/ psychiatric disorders, and drug abuse and addiction.

The graduates are expected to become independently funded and committed clinical researchers that will be able to develop culturally appropriate research aimed at reducing health disparities in Hispanic populations, conduct ethically responsible clinical research, build and lead effective collaborative networks in their area(s) of clinical research interest, communicate effectively in writing and orally (unless a handicap precludes one of these forms of communication), be able to work collaboratively, interdependently and effectively with other disciplines on the clinical research team and become a lifelong self-directed learner.

Admission Requirements

The program will competitively evaluate all interested candidates from accredited institutions across the island. Recruitment of post-doctoral candidates will include: Junior Faculty (7 years or less of their first faculty appointment or 7 years or less since the date that they received their doctoral degree) ; fellows, residents, interns and outstanding University of Puerto Rico, Medical Sciences Campus (UPR-MSC) 4th year medical students.

- Have a doctoral degree or formal doctoral studies in progress in a health field, such as MD, DDS, DMD, DO, Ph.D., ScD., Pharm. D or an entry level degree in a health - related discipline and a doctoral degree.
- 2. Minimum doctoral general grade point average of 3.0 or the GPA of the most recent degree.
- Two Formal Commitment Letters from Dean/ Director of Unit and Immediate Supervisor (Department Chair, Division Director, Program Director) for release time to attend this program.
- 4. Submission of the official application and all required documents prior to the dead line established by the program.

- 5. Curriculum Vitae.
- 6. Transcript from the institution granting the doctoral degree.
- Two letters of recommendation from individuals familiar with the applicants scienceresearch related activities.
- 8. Personal statement detailing how this program will contribute to the candidate career goals.
- 9. A one-page research letter in one of the clinically relevant health areas.

Graduation Requirements

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A Master of Science in Clinical Research degree will be awarded to those scholars that complete successfully the 24 semester credits of the didactic component and the following clinical research requirements:

- Approval of a research proposal
- Preparation and submission of an abstract for an oral or poster presentation in a national/ international scientific forum/ meeting/congress
- Completion of clinical research project
- Preparation of a manuscript ready for submission to a peer-reviewed scientific journal
- Approval of oral presentation of research findings

Attendance to seminar series.

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MASTER OF SCIENCE IN CLINICAL RESEARCH

TOTAL SEMESTER CREDIT- HOURS: 30

INCL 6005	Introduction to Clinical	
	Research	1
INCL 6006	Introduction to Health	
	Services Research	1
INCL 6016	Application of Informatics	
	in Research	1
INCL 6025	Bioethics and Regulatory	
	Issues in Clinical Research	2
INCL 6035	Epidemiology in Clinical	
	Research I	2
INCL 6041	Biostatistic in Clinical	
	Research I	2
INCL 6042	Biostatistic in Clinical	
	Research II	2
INCL 6046	Epidemiology in Clinical	
	Research II	2
INCL 6055	Clinical Trials	2
INCL 6056	Clinical Research Protocol	
	Development	2
INCL 6065	Scientific Communication	2
INCL 6075	Bioanalytical Methods in	
	Clinical Research	2
INCL 6085	New Frontiers in Clinical	
	Research	1
INCL 6095	Clinical Research	6

Electives recommended by the Program

INCL 6007	Gender Considerations in	
	Clinical Research	1
INCL 6045	Introduction to Bioinformatics	
	and Medical Genomics	1

School of Nursing





MISSION AND GOALS

The School of Nursing is responsible for teaching, research, and service in the discipline of nursing, as accomplished through its educational programs. The School promotes the provision of quality nursing services with an interdisciplinary focus, in order to meet the present and emerging health needs of the Puerto Rican society.

The main goals of the School of Nursing are:

- Prepare nurse generalists at the baccalaureate level with the knowledge, skills, and attitudes necessary to practice as professional nurses, and to assume a leadership role in the nursing process when offering direct care to clients in a variety of settings, including primary, secondary, and tertiary health care levels.
- Prepare master's level nurses who may assume leadership roles as teachers in nursing education programs, administrators of nursing services, clinical nurse specialists and nurse anesthetists with a solid education in advanced clinical nursing.
- Provide continuing education activities to enhance the knowledge of professional nurses.
- Promote the development of nursing professionals for the improvement of health care in other countries.

ORGANIZATION AND ADMINISTRATION

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Founded in 1940, the School of Nursing began as one of the programs of the School of Tropical Medicine, later becoming part of the Department of Preventive Medicine and of School of Public Health. In 1975, when the Medical Sciences Campus was reorganized, the School became a unit of the School of Health Professions, under the direction of an Associate Dean. On July 1, 1995 it became an autonomous faculty within the Medical Sciences Campus.

The Dean is the chief executive officer of the School. There is an Associate Dean for Academic Affairs, an Assistant Dean for Student Affairs, and a Director of Administrative Affairs. The School has an Undergraduate and a Graduate Department.

The Undergraduate Department offers a Bachelor of Science in Nursing degree program and the Graduate Department offers a Master of Science in Nursing degree program. All programs are accredited by the Puerto Rico Council on Higher Education and by the Commission on Collegiate Nursing Education (CCNE). In 1993, the Master of Science in Nursing with specialty in Anesthesia was accredited by the Council on Accreditation (COA) of Nurse Anesthesia Educational Programs.

LOCATION AND FACILITIES

The School of Nursing occupies two buildings at the Medical Sciences Campus with fourteen classrooms, an amphitheater, chemistry and anatomy laboratories, and the Nursing Skills Laboratory. The laboratory includes a conference room, multipurpose room, nurses station, utility room, and a multimedia and interaction center with 20 personal computers, workstations and other equipment. The Medical Sciences Campus has established agreements with several government agencies, communities, homes for the elderly, the Veterans Administration Hospital, and private agencies for the clinical practice of students.

ACADEMIC PROGRAMS BACHELOR OF SCIENCE IN NURSING PROGRAM

The purpose of the Bachelor of Science in Nursing Program is to prepare nurse generalists with the knowledge, skills, and attitudes necessary for professional nursing practice in a variety of health settings in primary, secondary, and tertiary levels of care. The curriculum includes courses in general education, the humanities, basic sciences, and nursing. The program is organized in four academic years. It consists of 131 semester credit-hours distributed as follows:

- 36 credit-hours in general education, including a course in statistics.
- 34 credit-hours in bio-psychosocial sciences.
- 61 credit-hours in nursing sciences.

The general education courses must be taken at an accredited institution of higher education during the first year of study. The remaining three years of study (95 semester credit-hours) are completed at the School of Nursing. The second year of studies consists of courses in bio-psychosocial sciences and three introductory courses of the nursing major.

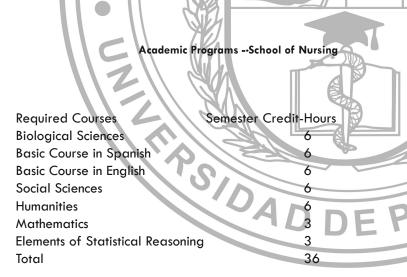
During the third and fourth year of studies, students are introduced to both the theoretical and clinical foundations of nursing in order to prepare them for nursing interventions with clients at all stages of growth and development, moving along the wellness-illness continuum. Nursing interventions are carried out in primary, secondary, and tertiary level health care facilities.

Through the curriculum, students develop the cognitive, psychomotor, and affective skills necessary for nursing, which enable them to practice as nurse generalists at different levels of care within the health system. It also enables them to utilize knowledge from biopsychosocial areas as frames of reference when making nursing care decisions in interventions with individuals, families, and communities.

Throughout the program, students have the opportunity to select twelve elective credits (including nursing electives) to further enrich their personal and professional growth and development.

Admission Requirements

- Approve 36 credits in the courses specified below.
- Have a minimum general and specific grade point average of 2.00 or higher (the specific index is based on science and mathematics courses).
- Apply to the program before the deadline established by the originating unit.
- Interview with a faculty member.



Graduation Requirements

- A minimum grade point average of 2.00 (on a scale of 4.00).
- Approve the program's 131 credit-hours.

BACHELOR OF SCIENCE IN NURSING

TOTAL SEMESTER CREDIT-HOURS: 95

Professional Courses: 89 credit-hours

ANAT 4011	Human Anatomy and Physiology I	4
ANAT 4012	Human Anatomy and Physiology II	4
QUIM 3021	Fundamentals of General Chemistry	4
QUIM 3022	Fundamentals of General Chemistry	4
SOCI 3245	Principles of Sociology	3
PSIC 3005	General Psychology	3
MICR 3345	Microbiology	3
ENFE 4116	Nursing in the Social System	3
ENFE 4075	Introduction to the Research	
	Process	3
INTD 4005	Health: A Holistic Approach	5
ENFE 4006	Alterations in Normal Physiology	3
ENFE 4125	Principles of Drug Therapy for	
	Nurses	3
ENFE 4136	Nursing Process with the Human	
	Being in Primary Care	6
COOP 3006	Group Dynamics	3

ENFE 4137	Nursing Process with Families	
	during Pregnancy and Disease	
	of Children and Adolescents	6
ENFE 4147	Nursing Process with Individuals,	
	Families, and Groups with Mental	
	Health Interferences	6
ENFE 4138	Nursing Process Applied to	
	Promotion and Maintenance of	
	Community Health	6
ENFE 4150	Nursing Process with Families	
	Confronting Normal Crisis and	
	Disruption of Health of the Adult	6
ENFE 4155	The Role of Nursing Leadership	8
Professional E	lectives	6
Electives		6

MASTER OF SCIENCE IN NURSING

The Master of Science in Nursing Program prepares advanced practice nurses with a functional role in education, administration of nursing services, or clinical nurse specialists. The graduate student gains expert knowledge in the nursing sciences and refines skills that enable him/her to perform in more complex settings.

The curriculum is organized in two academic years for students attending the day program and three academic years for students attending the evening program. The program requires the completion of 41 semester credithours and 11 trimester credits-hours. These include: interdisciplinary core course, core nursing courses, advanced clinical nursing, research component, functional role, and electives.

The functional roles offered are: Teaching of Nursing in Higher Education, Nursing Services Administration, and Clinical Nurse Specialist. The program includes the choice of two (2) out of the following clinical nursing track courses: Maternal Cycle, Children and Adolescents, Adults, Elderly, Mental Health, Psychiatric Care, Family, Community, and Critical Care (1 and II).

Admission Requirements

(3 crs).

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- BSN degree from an accredited school.
- Statistics course at the baccalaureate level
 - A minimum of two years experience as a

professional nurse.

- Graduate Record Examination Test (GRE) or EXADEP.
- Obtain a minimum of 55% cumulative average in which the following factors are considered:

The minimum academic	
index	20%
The minimum specific index	25%
EXADEP or GRE SCORE	25%
Interview with graduate	
program faculty	20%
Critical analysis of journal	
article	5%
Analysis of Curriculum Vitae	
(short courses, professional trips,	
special distinctions, publications,	
continuing education)	5%

• At least one year of critical care experiences for students who prefer critical care tracks.

Graduation Requirements

- General grade point average of 3.00 or higher (on a scale of 4.00).
- Complete all the required courses of the curricular sequence and all nursing courses with a B average.
- Complete all theoretical and clinical activities specified by the program.
- Complete the total number of credits required for the MSN degree.

MASTER OF SCIENCE IN NURSING

TOTAL CREDIT-HOURS: 41 SEMESTER C.H. + 11 TRIMESTER C. H.

Required Courses: 14 semester credit-hours + 11 trimester C.H.

MEDU 6500	Core Course in Public Health	6tr
ENFE 6600	Conceptualizing Man	2
BIOE 6525	Statistical Analysis	5tr
ENFE 6601	Nursing as Process and	
	Nursing Theories	6

ENFE 6608	Nursing Research	3
ENFE 6615	Research Project	3

Track Courses: 12 credit-hours a year (2 tracks) among the following 6 semester credit-hours

ENFE 6602	Nursing Intervention throughout	
	the Maternal Cycle	6
ENFE 6603	Nursing Intervention with	
	Children and Adolescents	6
ENFE 6604	Nursing Intervention with	
	Adult Persons	6
ENFE 6605	Nursing Intervention with	
	Elderly Persons	6
ENFE 6606	Nursing Intervention with the	
	Family Unit	6
ENFE 6607	Nursing Intervention with the	
	Community	6
ENFE 6617*	Nursing Intervention in Mental	
	Health and Psychiatry I	6
ENFE 6618*	Mental Health and Psychiatry	
	Nursing II	6
ENFE 6635**	Nursing Intervention with	
	Critically III Persons I	6
ENFE 6636**	Nursing Intervention with	
	Critically III Persons II	6

Specialty: 9 credit-hours a year chosen from the following courses, depending on selected role

ENFE 6609	Theory and Practice of	
	Administration for Nursing I	4
ENFE 6610	Theory and Practice of	
	Administration for Nursing II	5
ENFE 6611	Theory and Practice of Teaching	
	Nursing I	4
ENFE 6612	Theory and Practice of Teaching	
	Nursing II	5
ENFE 6613	Clinical Nurse Specialist Role I	4
ENFE 6614	Clinical Nurse Specialist Role II	5
Electives		6

Academic Programs --School of Nursing

*Students enrolling in ENFE 6617 should enroll in ENFE 6618. **Students enrolling in ENFE 6635 should enroll in ENFE 6636.

MASTER OF SCIENCE IN NURSING WITH SPECIALTY IN ANESTHESIA

The Master of Science in Nursing with specialty in Anesthesia prepares nurse anesthetists in compliance with the standards of the Council on Accreditation (COA) of Nurse Anesthesia Educational Programs. It requires a total of 53 semester credits and 5 trimester credits to be eligible for the degree. Courses include core courses (nursing and research component), anesthesia specialty courses, and elective courses.

Admission Requirements

- BSN degree from an accredited school.
- Statistics course at baccalaureate level (3 crs).
- A minimum of two years experience as a professional nurse.
- Graduate Record Examination Test (GRE) or EXADEP SCORES.
- Obtain a minimum of 55% cumulative average in which the following factors are considered:

The minimum academic	
index	20%
The minimum specific	
index	25%
EXADEP or GRE	25%
Interview with graduate	
program faculty	20%
Critical analysis of journal	
article	5%
Analysis of Curriculum Vitae	
(short courses, professional trips,	
special distinctions, publications,	
continuing education)	5%

- Nursing License.
- At least one-year experience in a critical care unit.
- Advanced Cardiac Life Support Certificate.

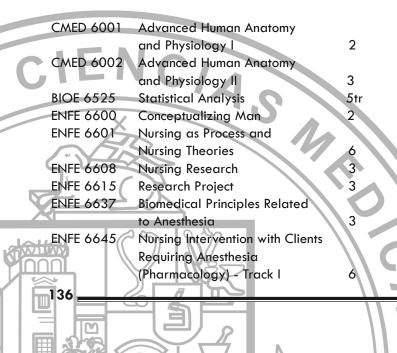
Graduation Requirements

- General grade point average of 3.00 or higher (on a scale of 4.00).
- Complete all the required courses of the curricular sequence and all nursing courses with a B average.
- Complete all theoretical and clinical activities specified by the program.
- Complete the total number of credits required for the MSN degree.
- A minimum of 800 hrs. clinical practice and the number of anesthesia cases required by the COA of Nurse Anesthesia Educational Programs.
- Take the Self Evaluation Examination (SEE).
- Take and approved the National Certification Examination (NCE).

MASTER OF SCIENCE IN NURSING WITH SPECIALTY IN ANESTHESIA

TOTAL CREDIT-HOURS: 53 SEMESTER C.H. + 5 TRIMESTER C. H.

Professional Courses: 47 semester C.H +5 tr. CH



ENFE 6646	Nursing Intervention with Clients	
	Requiring Anesthesia Track II	6
ENFE 6647	Nursing Intervention with Clients	
	Requiring Anesthesia Track III	6
ENFE 6690	Anesthesia Clinical Internship	7
Electives		6

MASTER OF SCIENCE IN NURSING WITH SPECIALTY IN FAMILY NURSE PRACTITIONER

The graduate department of the School of Nursing offers a Master of Science in Nursing (MSN) with Specialty in Family Nurse Practitioner. The program has a total of 56.33 credits distributed in 24 consecutive months (including summer) Part-time studies are completed in 3 years, 3 summers or 4 years and 2 summers.

The curriculum has been designed to prepare professional nurses as Family Nurse Practitioners with the competencies, knowledge and skills needed to deliver comprehensive health care promotion, maintenance, risk reduction, illness prevention and palliative care across the life span. This program offers a firm foundation in primary health care services and community health principles.

The program is based on NONPF, AACN, ANCC standards. Graduates are eligible to take the American Nurses Credentials and American Academy of Nurse Practitioner Certification exams to become certified Nurse Practitioners.

Admission Requirements

- BSN from an accredited school.
- Basic statistics course at baccalaureate level (3 crs.).
- Updated professional nursing license.
- Evidence one or more professional nursing practice experience.
- Active member of the Puerto Rico College of Professional Nursing
- Result of the Graduate Record Exam (GRE) or the Spanish test of Aptitude for Graduate Studies (EXADEP)

• A minimum average of 55% as a result of the sum of the following criteria:

The minimum academic index	20%
The minimum specific	25%
EXADEP or GRE SCORE	20%
Interview with graduate	
program faculty	20%
Critical analysis of journal article	10%

Graduation Requirements

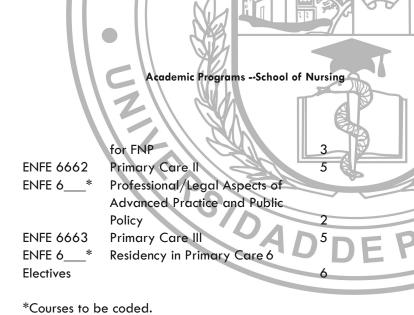
- General grade point average of 3.00 or higher (on scale of 4.00).
- Complete all concentration courses with a B average.
- All didactic courses and clinical experiences must be completed as specified by the program guidelines.

MASTER OF SCIENCE IN NURSING WITH SPECIALTY IN FAMILY NURSE PRACTITIONER

TOTAL CREDIT-HOURS: 53 SEMESTER C.H. + 5 TRIMESTER C.H. PROFESSIONAL COURSES: 47 SEMESTER C.H. +

5 TR. C.H.

ENFE 6650	Advanced Physical Assessment	3
ENFE 6651	Advanced Pathophysiology	3
ENFE 6657	Primary Care in the Lifecycle	2
ENFE 6656	Nursing Theories Seminar	1
ENFE 6658	Differential Diagnosis Seminar	1
BIOE 6525	Statistical Analysis	5tr
ENFE 6621	Evidence Based Research for	
	FNP	3
ENFE 6665	Pharmacology for Family Nurse	
	Practitioner	4
ENFE 6661	Primary Care I	5
ENFE 6675	Diagnostics for Primary Care	2
ENFE 6625	Bioethics in Nursing	2
ENFE 6622	Evidence Based Research Project	



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The Medical Sciences Campus curricula are dynamic and are regularly revised in accordance to the educational needs of the students and new trends and advances in the various disciplines. Such revisions follow the guidelines of accrediting bodies.

Curricular revisions are ongoing at the Medical Sciences Campus and all programs are subject to changes, termination, or relocation within the system.

Prospective students are advised to contact the Office of the Dean or the director of the program of their interest in order to receive updated information.

The information in this Catalog does not constitute a contract, express or implied, between any applicant, student, or faculty member and the Medical Sciences Campus, or the University of Puerto Rico System. The student is responsible for obtaining updated information and meeting all the requirements of his/her program at the Medical Sciences Campus.

The Medical Sciences Campus reserves the right to make changes as to requirements for admission, registration, tuition and fees, calendar, curricula, attendance, conduct, academic standing, promotion, and graduation.

Last update: June 30, 2007

