INSTITUTIONAL CATALOG
2015 – 2020

P.O. BOX 60327
Bayamon, PR 00960-6032
787-798-3001
www.uccaribe.edu

UCC
UNIVERSIDAD CENTRAL DEL CARIBE

Revised October 2018

Table of Contents

AFFIRMATIVE ACTION STATEMENT ***5***

MESSAGE FROM THE PRESIDENT ***6***

GOVERNANCE AND ADMINISTRATION ***7***

Trustees 2015-2020 7

Administration of the University 8

GENERAL INFORMATION ***10***

Mission of the Universidad Central del Caribe 11

Core Competencies 11

Definition of Diversity 11

Location 12

The UCC Campus and its facilities 12

Learning and Information Resources Center 12

STUDENT SERVICES ***14***

ADMISSIONS OFFICE ***16***

General Requirements 16

Specific Admission Requirements 17

School of Chiropractic 17

School of Medicine 19

Graduate Program in Biomedical Sciences 21

Substance Abuse Counseling Program 23

Medical Imaging Technology Program 24

FINANCIAL AID OFFICE ***26***

OFFICE OF THE REGISTRAR ***28***

SPECIFIC GRADUATION REQUIREMENTS ***32***

ACADEMIC CALENDARS ***34***

BURSARS OFFICE ***54***

SCHOOL OF CHIROPRACTIC ***59***

Mission, Vision and Scope 60

Educational Goals and Objectives 60

Educational Program 61

Courses of Study 62

Description of Courses 64

SCHOOL OF MEDICINE ***81***

Department Chairpersons 81

Mission, Vision and Scope 82

Educational Goals and Objectives 82

Affiliated Institutions 83
Educational Program 84
Courses of Study 87
Description of Courses 88
GRADUATE PROGRAM IN BIOMEDICAL SCIENCES 99
Mission 99
Research Activities 99
Study Programs 103
Courses of Study 109
Doctor of Philosophy in Cellular and Molecular Biology 109
Doctor of Philosophy in Neurosciences 110
Master of Arts in Biomedical Sciences 111
Master of Arts in Biomedical Sciences in Anatomy and Cellular Biology 111
Master of Arts in Biomedical Sciences in Physiology 112
Master of Arts in Biomedical Sciences in Microbiology and Immunology 113
Master of Science in Biomedical Sciences in Anatomy and Cellular Biology 113
Master of Science in Biomedical Sciences in Biochemestry 114
Master of Science in Biomedical Sciences in Pharmacology 114
Master of Science in Biomedical Sciences in Physiology 115
Master of Science in Biomedical Sciences in Microbiology and Immunology 116
Master of Science in Neuroscience 116
Elective Courses 117
Description of Courses 118
SUBSTACE ABUSE COUNSELING PROGRAM 134
Mission 134
Post-Baccalaureate Certificate in Substance Abuse Counseling 134
Courses of Study 136
Description of Courses 136
Master of Health Science in Substance Abuse Counseling 138
Courses of Study 140
Description of Courses 140
MEDICAL IMAGES TECHNOLOGY PROGRAM 145
Mission 145
Goals 145
Study Programs 148
Courses of Study 155
Associate Degree in Radiologic Technology 155
Post-Associate Certificate in Diagnostic Medical Sonography 156
Post-Associate Certificate in Mammography 157
Post-Associate Certificate in Computerized Tomography 157
Post-Associate Certificate in Magnetic Resonance 157
Bachelor of Science in Diagnostic Images 157
Description of Courses 159

FACULTY ***168***
School of Chiropractic 168
School of Medicine 168
Biomedical Science Graduate Faculty 209
Substance Abuse Counseling Faculty 212
Medical Images Technology Faculty 213

AFFIRMATIVE ACTION STATEMENT

The Universidad Central del Caribe (UCC) recognizes the right of all persons to work and to advance on the basis of their merit, ability and potential, and is therefore committed to taking any and all steps necessary to identify and alter policies, practices, or other institutional barriers which cause or perpetuate inequality or discrimination. It is the policy of this University to recruit, employ, and promote staff and to admit and serve students without regard to race, color, religion, sex, age, national and social origin, or handicap status.

DISCLAIMER

The information in this catalog is subject to change without notice. The Universidad Central del Caribe reserves the right to make changes as deemed necessary in calendars, fees, policies, academic requirements, regulations, programs, and other subjects, after the publication date of this Catalog.

Correspondence and General Mail:

UNIVERSIDAD CENTRAL DEL CARIBE
P.O. BOX 60327
BAYAMON, PR 00960-6032

UCC Switchboard Telephone Number: (787) 798-3001

UCC Web page: www.uccaribe.edu

Date of Revision: October 2018

MESSAGE FROM THE PRESIDENT

Our University reaffirms its commitment to excellence in the formation of health professionals who will serve humanity with dedication and compassion and the highest ethical and moral standards.

Through its academic programs in medicine, substance abuse counseling, biomedical sciences and technological radiology and medical images, our institution has served our community for close to forty years. The UCC has contributed to the enrichment of knowledge with an energetic research program in the clinical, biopsychosocial, and biomedical sciences. Our University has provided clinical services to the population of the Bayamón Health Region since 1984.

There is now an ongoing process of academic renewal at the UCC. With the most advanced educational technology infrastructure and innovations, the UCC will better serve our students and enable them to reach their maximum potential. Our progress reflects the visionary efforts of dedicated faculty, academic administrators, staff, and students.

We move into the future as a vigorous, maturing institution with vision and hope for our continued growth and development as a health sciences university within an academic medical center.

Within the context of this vision, we welcome our students, faculty, staff, and visitors to share with us the experiences that the UCC has to offer as Puerto Rico's Private Health Sciences University, now, and in the bright future ahead of us.

Waleska Crespo, DrPH, MHSA
President and
Dean of Allied Health Professions

GOVERNANCE AND ADMINISTRATION

A thirteen-member Board of Trustees outlines the general policies and supervises the operations of the University. Prestigious members of our community volunteer to participate in this governing body. The president of the university is appointed by the Board of Trustees and is the Chief Executive Officer of the university. The deans are appointed by the Board of Trustees upon the president's recommendation and report to the president. Appointments of all administrative officials and faculty are the responsibility of the president, after consultation with the deans and faculty.

The institution is led by a capable team of academic administrators consisting of a President, a Dean of the SoM, a Dean of Academic Affairs, a Dean of Admissions and Student Affairs, a Dean of Administration, a Dean of Institutional Development and Strategic Planning, three Associate Deans within the SoM and one Assistant Dean of Academic Affairs. The Dean of Academic Affairs is the University's Chief Academic Officer. The Dean of Admissions and Student Affairs supervises all student services and the admissions process of all University programs. The Dean of Administration oversees all administrative and support services.

The School of Medicine is divided into Basic Science and Clinical Departments, and their chairs report directly to the Dean of Medicine. The Associate Dean of Research and Graduate Studies oversees the research agenda and the Graduate Program in Biomedical Sciences and also responds to the Dean of Medicine. The Doctor of Chiropractic program, the Post-Baccalaureate Certificate in Substance Abuse Counseling and the Master of Health Sciences in Substance Abuse Counseling programs have a Program Director. The Medical Imaging Technology Program includes Post-Associate Certificate in the specialties of Diagnostic Medical Sonography, Mammography, Computerized Tomography, Magnetic Resonance, Associate Degree in Radiologic Technology; a Bachelor's of Science in Diagnostic has a Program Director who reports to the Dean of Academic Affairs.

Trustees 2015-2020

Administration of the University

Waleska Crespo Rivera, DrPH, MHSA
President and Dean of Allied Health Sciences

María Rivera, MPA
Director, Office of Human Resources

Oscar González Badillo, JD
Legal Counselor

José Ginel Rodríguez, MD, FAAP
Dean of Medicine

Zilka Ríos, MS
Associate Dean of Academic Affairs of Medicine

Delia Camacho, PhD
Associate Dean of Research and Graduate Studies

Harry Mercado, MD
Associate Dean of Faculty and Clinical Affairs

Nereida Díaz-Rodríguez, PhD
Dean of Academic Affairs

Legier Rojas, PhD
Director, Learning and Information Resources Center

Yari Mariel Marrero, MHS
Director, Office of Institutional Effectiveness
Coordinator, Faculty Development

Nilda Montañez-López, MPA
Registrar

Álvaro Pérez Arcila, MD, MMEL
Assistant Dean of Curriculum Development, Accreditations, and Licensing

Emilia Soto, MSHA
Dean of Administrative Affairs

Iris Font, BA
Director, Financial Resources Department

Lourdes Bonilla, MBA
Sub-Director, Financial Resources Department

Migdalia Dávila, BA
Director, Purchasing Office

Omar Pérez Del Pilar, PhD
Dean of Admissions and Student Affairs

Irma Cordero, BA
Director, Admissions Office

Mayra Serrano, MEd
Director, Financial Aid Office

Yanira Cruz, LPC, EdD
Professional Counselor

Minerva Morales, MOC
Professional Counselor

Mildred Rivera Marrero, MPH
Dean of Institutional Development and Strategic Planning

Elizabeth Pérez, BA
Institutional Development and Alumni

GENERAL INFORMATION

The Universidad Central del Caribe (UCC) was founded in 1976, in Cayey, Puerto Rico, as a private non-profit institution, incorporated under the laws of the Commonwealth of Puerto Rico. The first educational units established were the School of Medicine, with the four-year program leading to the MD degree, and the Radiologic Technology Program.

In 1990, all University facilities were integrated into one campus at the grounds of the Dr. Ramón Ruiz Arnau University Hospital in the city of Bayamón.

The UCC is duly authorized by the Council on Education of Puerto Rico (CEPR) and accredited by the Middle States Commission on Higher Education (MSCHE). Their review process requires periodic survey visits and reporting. The next self-study evaluation is scheduled for academic year 2018-2019.

The program leading to the MD holds full accreditation from the Liaison Committee on Medical Education (LCME). As of June 2015, the Medical School has graduated over 2,370 physicians serving the Commonwealth of Puerto Rico and Hispanic communities in the United States. The School of Medicine houses a Graduate Program in the Biomedical Sciences that initiated in 1989. In 2009, the Graduate Program expanded to confer a PhD in Cellular and Molecular Biology; subsequently, in 2011 a PhD and a MS in Neurosciences were initiated. The Graduate Program in Biomedical Sciences has conferred over 40 degrees, including three PhDs.

In 1995, the Substance Abuse Counseling Program was initiated offering a Post-Baccalaureate Certificate in Substance Abuse Counseling and the Master of Health Sciences in Substance Abuse Counseling. The program has conferred around 100 degrees.

The Medical Imaging Technology Program (formerly the Radiologic Technology Program) has awarded over 1,450 degrees, from its inception to June 2015. As part of the undergraduate education programs, since 1993 the UCC offers the Post-Associate Certificate in Diagnostic Medical Sonography; since 2000, the Post-Associate Certificate in Mammography; and the Post-Associate +Certificate in Computerized Tomography and in Magnetic Resonance, which were initiated in 2002. The latest undergraduate program, Bachelor of Sciences in Diagnostic Images, started in August 2006.

The academic program conducive to a Doctor of Chiropractic (DC) degree (August 2018) combines a solid foundation in basic sciences and clinical skills, together with an in-depth immersion into the evidence-based chiropractic field. The DC program is a rigorous eight academic semester doctoral program that can be completed in eight semesters. The program is in the process of submission of an initial accreditation application to the Council on Chiropractic Education (CCE).

Mission of the Universidad Central del Caribe

To prepare high-quality and committed health professionals to meet the health needs of the community in its biological, physical and social context with a humanistic focus and a high sense of moral obligation. It is characterized by its emphasis on the excellence of its educational programs, research activities and services of health maintenance, prevention, and early detection of illness. It is committed to improving the quality of life of the Puerto Rican community through its services, as well as to developing health care professionals.

Core Competencies

To fulfill the institutional mission, each academic program must demonstrate that its graduates have mastered six core competencies that should be developed and assessed according to the programs particular specialization:

1. The fundamental concepts, principles and basic information deemed necessary in their field of specialization.
2. The particular technical/clinical skills required in the field of specialization.
3. Communication skills, in English and Spanish, written and spoken, and interpersonal skills, to effectively communicate with patients, colleagues and other members of the community.
4. The skills and attitudes conducive to personal and professional development, through continuous study throughout their lives.
5. The skills and knowledge required to identify and assess reliable sources of information, to discern and be able to analyze it and apply it according to the required tasks.
6. The fundamental values and the ethical and humanistic attitudes to practice their profession, emphasizing professionalism, empathy, compassion, integrity and dedication.

What distinguishes the Universidad Central del Caribe from other educational institutions in Puerto Rico is its unwavering dedication to preparing high-quality health professionals who can offer preventive care, promote healthy life styles, and provide excellent services with humanism, compassion and the highest ethical values. Particular characteristics of the Institution are its intensive and extensive program of practical experiences in clinical settings in the community, regardless of the program of study, and its longstanding record of public/private partnerships and service-linked education.

Definition of Diversity

Diversity at the UCC comprises the added value in our academic community of individuals (staff/administration, faculty and students) representing certain segments of the population, such as those from low socioeconomic backgrounds and first generations in pursuing a professional degree, that enriches the scenarios in which the activities of the academic community take place. It is expected that these individuals, particularly as pertaining to our students, will provide health care services of excellence to the communities that they represent. Additionally, the interaction among the diverse UCC constituents helps foster lifelong positive attributes.

Indicator of diversity	Students	Faculty	Staff/ Administration
Female	62%	64%	79%
Age (Under 25)	56%	0%	2%
Family gross income < $20,000/year	19%	*	*
Highest degree earned by Father (High School)	16%	14%	24%
Highest degree earned by Mother (High School)	11%	16%	29%
Raised in a rural community	35%	26%	48%
First generation in completing a professional degree	37%	52%	47%
Hispanic/Puerto Rican	99%	96%	98%

Location

Bayamón is one of the most important urban centers in Puerto Rico. Nearly 234,000 people live in this, the second largest city in Puerto Rico.

Bayamón is located on the north side of the island, seven miles west of San Juan, the capital city of Puerto Rico. Due to the short distance between Bayamón and San Juan, it is accessible to ports and airport facilities, allowing rapid movement of people and merchandise. This element helps facilitate Bayamon's commercial, industrial and tourist activity expansion.

The commercial development resulting from Bayamon's urban growth during the last twenty years has permitted the proliferation of shopping centers, with modern amenities and installations. Towards the periphery of the city, there are many new residences and modern recreational, sports and cultural facilities. Bayamón has become one of the most important educational centers on the Island, boasting seven higher education centers and a number of junior colleges and vocational schools.

The UCC Campus and its facilities

The University facilities are located on the spacious grounds of the Dr. Ramón Ruiz Arnau University Hospital in Bayamón. This 55-acre complex contains the Hospital, the Biomedical Sciences Building, and another structure which houses administrative offices for the School of Medicine, as well as clinical facilities. Ample parking is available and green areas abound.

The Biomedical Sciences Building has a total area of 64,000 square feet. Of this, 4,178 are designated for individual research activity distributed over twenty-eight specialized laboratory facilities. A Common Instrumentation Room provides centralized research support, including a preparation room, storage, scintillation counters, and high speed centrifuges. In addition, a cold room is available on each floor, and autoclave facilities are adjacent to the Department of Microbiology and Immunology. The Animal Care facility occupies nearly the entire basement. This large area has been designed and equipped to meet the requirements for Office of Laboratory Animal Welfare accreditation. The Neurosciences Department facilities are located at a nearby structure and encompass a state of the art complex to conduct specialized multidisciplinary investigations of the nerve structure and functions.

Classrooms, teaching laboratories for all academic programs, and the Learning and Information Resources Center are also housed within this modern building.

Learning and Information Resources Center

At the heart of Universidad Central del Caribe's academic life, lies the Learning and Information Resources Center (LIRC). The LIRC houses four interconnected operational units that serve the multidimensional academic life at the University, including the Dr. Arturo L. Carrion Pacheco Library, Educational Technology Unit, Technological Resources Unit, and the Information Systems and Telecommunications Unit. Orientations, consultation and professional development activities are continuously delivered to keep UCC constituents at the forefront in the advanced technologies that support the three pillars of the institutional mission: excellence in education, clinical services and research.

The LIRC is the central core through which the UCC deploys information and provides technical support to students, faculty, researchers, administrators, non-teaching personnel, and the community in general. The LIRC is in charge of the electronic communication, Internet, electronic mail, the library and other resources and services highly important to maintain the high educational level achieved in the academic programs run by the UCC. The LIRC has incorporated new methods of interaction with the academic community based on the trends in the online and offline exchanges between teachers and learners, and has also improved the interactions among the community by alternatively using cloud computing.

The LIRC improvements in hardware and software are allowing the development of interactive educational alternatives, with a positive approach in applying teaching and learning theories as part of a new dimension of our learning resources. All Units in the LIRC work interconnected to provide first line support to University constituents.

The **Arturo L. Carrión Pacheco Library** is located in the Basic Sciences Building. The library's first floor houses the circulation, reserve and reference collections, the printed serials and three small-group study rooms. In the second floor is the Puerto Rican Authors Meeting Room with a capacity for 30 users. The Library provides traditional and online services. The library holds interlibrary loan agreement services with libraries in Puerto Rico and off the island. Among those is the interlibrary loan throughout "Loansome Doc" from the National Library of Medicine. All bibliographical material requested through this system is usually received the same day. Electronic journals and books currently available can be accessed onsite or via the Remote Access Server (RAS). A variety of online databases and resources are also available. Some of those are: UCC electronic catalog; EBSCOhost: full text electronic journals; SMART image-base; OVID Electronic Books & Journals; DynaMed Plus; The Cochrane Collection; Unbound Medicine; AccessMedicine and the discovery engine tool LibSteps. Additionally, the first floor houses 16 individual computer working stations, 36 individual study carrels and several tables to promote collaborative learning.

Complementing the aforementioned services, in the second floor the **Educational Resources Facility** (ERF) is in place, which includes: 5 small-group study rooms with capacity for up to 20 students (open 24/7), the Computer Laboratories (1 and 2) with capacity for 70 individual computer working stations; and 16 individual study carrels (open 24/7).

The **Educational Technology Unit** (ETU) provides continuous support to all academic activities of the undergraduate and graduate programs. This unit supports instructional design and the development of classroom activities as well as distant education activities. The ETU is responsible for the in-house online exam construction and administration using LXR® as well as the support, administration and security for the web-based examinations from external-sponsored sources. In the middle of 2017, ExamSoft is acquired to perform the tests using completely online. With this tool we are updated with the current curricular tracking mechanisms of our students. This Unit also provides support, maintenance and training resources under the LMS platform Blackboard Learn®. The Computer Laboratories hardware and software are also maintained by this Unit. The ETU is involved in all activities that require using off-and on-line software by the Computer Laboratories for training purposes.

The **Technological Resources Unit** (TRU) is in charge of the circulation and loan of equipment, media production and audiovisual services, and computers-on-wheels, including computers in the classrooms. The TRU assists in the preparation of instructional materials, presentations, reports, spreadsheets, information search, and technology training. The UCC website elaboration and maintenance is under the responsibility of this Unit, including its guideline production, and the instructional guides to users in charge of departmental pages. This Unit is responsible for the use and implementation of the digital classroom response system. The **Telehealth Facility** is also located within this unit (a state of the art TV studio to support academic activities). They generate the pre- and postproduction of any video conferences, class or tele-health and tele-research activities. They edit the required post-processing to have the video conferences available to any user and/or published through the UCC-TV channel. The TRU assists researchers in the design and production of posters and presentations to its final elaboration. The Unit also is in charge of video-conferences using various production media.

The **Information System and Telecommunication Unit** (ISTU) serves the needs of the university community through the support and ongoing maintenance of the network, servers, computers, laptop computers and any portable devices distributed throughout the entire campus for the use of UCC constituents. The Unit formulates and executes the installation of different communication alternatives including among others, Internet, Wi-Fi, IP phones, etc. The implementation of several projects to integrate new technological advances to the UCC infrastructure, both hardware and software, responds to the ISTU. This Unit is responsible for the implementation of forefront technologies and their cost-effective utilization. Examples are the virtualization of applications in the servers and the use of new and actualized technology.

The LIRC offers workshops and seminars on various technologies and information-related topics. The areas covered range from computerized applications to online courses as well as online testing design and development, electronic tools for assessment, information literacy and Internet searching strategies.

The counter service is available during the library hours indicated below:

Library Hours:

Monday to Friday	7:00 am - 10:00 pm
Saturday and Sunday*	12:00 pm - 8:30 pm
Holidays	CLOSED

*All other units within the LIRC observe the following working schedule:

Monday to Friday	8:00 am - 5:00 pm
Friday	8:00 am - 4:30 pm
Saturday and Sunday	CLOSED
Holidays	CLOSED

(*) Some personnel are on call.

The second floor individual study carrels and small-group study rooms are available 24 hours, seven days a week, and 365 days a year.

STUDENT SERVICES

Student Health Services

It is mandatory for every student to carry health insurance coverage. Any student without private health insurance is required to subscribe to the institutional health insurance plan through the Office of the Dean of Admissions and Student Affairs. Students are encouraged to use this service in the most cost-effective manner. The student who has subscribed to the institutional health insurance plan may visit the physician, laboratory, or any health care service of his/her choice in accordance to the insurer policies. Minor or mayor emergencies are channeled through the closest Emergency Room accessible to the student. The coverage is also available for family dependents. The cost of the health insurance could vary every year depending on the type of insurance and on the analysis of the insurance provider. The coverage includes Dental and Pharmacy.

Counseling Program

Counseling services are available through the Dean for Admissions and Student Affairs. The Counseling Program is aimed at assisting students to take maximum advantage of the educational opportunities at the Universidad Central del Caribe, and to contribute to their success in their future professional goals. Students are referred to other specialized counseling and mental health services as needed.

Mental Hygiene Clinic

A mental hygiene clinic is in place to assist the Counseling Program and manage students at risk of confronting academic difficulties due to personal and psychological problems that interfere with their ability to study and perform. Referrals to the Clinical Psychologist are channeled through the Guidance Counselor with student consent for case discussions and for additional active referrals from the Office of the Psychologist as deemed necessary. The Mental Hygiene Clinic is also available for the delivery of individual or group sessions in effective time-management, enhancing test-taking abilities, and managing test performance anxiety, among others.

Student Tutorial Program

It is the goal of this program to provide academic tutorial assistance to students confronting academic difficulties. Students with academic difficulties are referred to the Counseling Program for a comprehensive assessment. Contingent to the findings of this assessment, they are referred to the Tutorial Program or to the appropriate counseling service.

Orientation activities for entering students

The UCC offers orientation workshops and activities to the entering freshman class in the summer before the beginning of the academic year. Workshops are conducted on how to improve study habits, develop better attitudes regarding stressful situations and how to deal with them.. Registration occurs at a scheduled time during these periods of activities. Several presentations are provided regarding institutional policies, specific information about areas of services (Registrar's Office, Financial Aid, Counseling, immunization requirements, emergency drills, parking requirements, etc.; Library, CPR course, among others). The main goal is to assist the incoming student in adapting to academic demands and rigors.

Parking

Parking is a privilege provided to all students in specific areas of the Institution. This service grants access to the designated parking area. The student must present all required pertinent documents and must agree to fulfill all institutional regulations. In order to maintain a secure campus, students are encouraged to move their vehicles closer to the main building after 6:00pm.

Extracurricular Activities Program

Universidad Central del Caribe believes that students should be encouraged to develop an interest in culture and the arts. With this principle in mind, the Office of the Dean of Admissions and Student Affairs sponsors educational, social, cultural and prevention activities for the student body. Every Thursday from 12:00pm to 2:00pm, the UCC observes the Universal Hour. The Universal Hour is devoted to extracurricular activities and to encourage student organizations to engage in their activities.

Student ID Cards

An identification card is issued to all registered students, and includes a photograph, name, and student number. The ID is required to gain access to all UCC facilities and entrance to hospitals, community preceptorships, practicums and internships, campus events, checking out books from the library and other official activities. The student ID is also programed to be use as a key to enter the 24/7 study areas.

Housing and Cafeteria Facilities

Housing facilities are not available within the premises of the Universidad Central del Caribe. Students who may need housing facilities are encouraged to visit the vicinity adjacent to the UCC where numerous apartments are available for rent.

A food-stand concessionaire service is located at the Universidad Central del Caribe backyard. There are fast food restaurants in the vicinity of the Institution.

Student Organizations

The official body representing students at the Universidad Central del Caribe is the General Student Council. This Council is elected by the student body, as described in the General Student Rules and Regulations, with representation from all the academic programs. Medical students have an active chapter of the American Student Medical Association (AMSA), the Medical Student Section of the American Medical Association, and an Alpha Omega Alpha chapter. There are also a variety of interest groups related to community services and specialties (Pediatrics, Surgery, Neurology, etc.).

Student Lounge

A space for relaxation and for student fraternization is available. A section of the student lounge has been prepared with exercise equipment to serve as a fitness center.

ADMISSIONS OFFICE

The Admissions Office is responsible for the administration and coordination of the different admissions processes. The Admissions Office assures confidentiality and integrity in the admissions processes in adherence with institutional and federal regulations. The Admissions Committees are responsible for selecting the best candidates that apply for admission to each existing program. They must present evidence of successful completion of all admission requirements for the program in which they are interested. In most programs, the Admissions Committee will also consider nonacademic factors as additional criteria in evaluating applicants. There is no discrimination on the basis of sex, color, race, religion, physical disability, economic status, political ideology or national origin.

Contact information at:

Universidad Central del Caribe
Admissions Office
PO Box 60327
Bayamon, PR 00960-6032

Phone: 787-798-3001 extensions 2402, 2403, 2404 Fax: 787-269-7550

Email: admissions@uccaribe.edu Web page: www.uccaribe.edu

General Requirements

Students wishing to be admitted to Universidad Central del Caribe must comply with the following requirements:

1. File an application with the Office of Admissions within the required time limit for all programs except for first year medical degree applicants (only AMCAS is required through www.aamc.org). The Institutional Application form can be obtained by writing to the Admissions Office.

2. Have and submit the necessary official transcripts, grades or certifications from accredited Institutions as requested per program.

3. Take and submit the official scores of the corresponding test according to the selected program.

4. Have the minimum admission index established by the Admissions Committee according to the selected program.

5. Pay the applicable non-refundable application fee.

6. Submit the reference letters according to the program.

7. A personal interview is required prior to consideration for admission with members of the faculty (by invitation only).

8. Applicants must demonstrate proficiency in both Spanish and English. This is essential, since lectures are conducted in either language, even though Spanish is the predominant language of the Institution. Furthermore, the required clinical experience is mainly with Spanish speaking people.

9. Certificates of Good Conduct, which may be obtained from the local Police Department of the state of residence. MD students applying through AMCAS requires a Criminal Background Check (CBC) performed by Certiphi, as required by the AAMC.

10. A recent 2x2 in size photograph (optional).

11. Once admitted to the program, the student must submit a health certificate and a physical examination by a licensed physician, Tuberculine test or chest X-ray (if positive reaction to tuberculine test), and the following tests: VDRL, urinalysis, and CBC.

12. Certificate of Immunization that includes: three doses of Hepatitis B; MMR vaccines; polio vaccines; DTP vaccines; Td or Tdap vaccine (booster required every 10 years); evidence of having had chickenpox certified by a licensed physician; positive titers of varicella or if has not suffered the disease, evidence of two doses of varicella vaccine (Varivax); and seasonal flu vaccination (regular or combine H1N1). All students must complete all immunizations requirements.

Readmission

1. Students must apply for readmission if they interrupt their studies and do not attend the University for one semester or more. (Summer sessions do not count as interruptions.)

2. Students must comply with the requirements of the study program of their choice, at the time of their readmission, as well as other general requirements that may apply.

3. Interested candidates should submit transcripts of any course work taken outside the UCC during the time they were absent from the Program.

4. Candidates for readmission might be required to have an interview with the Admissions Committee of their academic program. It is comprised of the Dean of Students or his representative, the Registrar, the Dean of Academic Affairs or his representative and the Department Chair. The Committee will have the final authority to recommend the admission of special cases.

5. All readmission applications must be received 45 calendar days before the start of the session in which the student wants to resume his/her studies.

Transfer Students

A student from another institution of higher learning who applies for admission at the Universidad Central del Caribe and meets the admission requirements for a given program, will be considered a transfer student. The Admissions Office will process their application. The students must not be under academic or disciplinary sanction in the institution from which they come. In order to be admitted, students wishing to transfer must meet the requirements of the Program of their choice. The Admissions Committees will evaluate the applications

Specific Admission Requirements

School of Chiropractic

Admission to the School of Chiropractic is the responsibility of the Admissions Committee, an advisory committee composed of faculty members, which reports to the Dean of the Health Allied Sciences department. In evaluating applicants, the Admissions Committee considers academic qualifications, personal traits and potential for success in chiropractic school as evidenced in academic records, mini multiple interviews, personal statement, letters of recommendation, personal interviews, research, community and health related experience.

General Requirements

1. Applicants must have approved a Bachelor Degree in a college or university accredited by the Council of Higher Education or the corresponding US accrediting agency.
2. The applicant must have a minimum general grade point average of 3.00 or above on a scale where A=4.0 (includes all courses taken at college/university level).
3. Total course work must include the following:

Course	Hours	Comments
Biology	8 semester hours or 12 quarters hours	Basic introductory courses in Biological Sciences may not be substituted for the particular credit hour stipulated.
General or Inorganic Chemistry	8 semester hours or 12 quarters hours	-
Organic Chemistry	8 semester hours or 12 quarters hours	-
Physics	8 semester hours or 12 quarters hours	Basic introductory courses in Physical Sciences may not be substituted for the particular credit hour stipulated.
Mathematics	6 semester hours or 9 quarters hours	-
Spanish	6 semester hours or 9 quarters hours	-
English	12 semester hours or 18 quarters hours	Six (6) semester hours in Honor courses in English approved with a grade of A or B per semester may substitute for the twelve (12) semester hours required.
Behavioral and Social Sciences in (Psychology, Sociology, Anthropology, Political Sciences or Economics).	12 semester hours or 18 quarters hours	Basic introductory courses in Social Sciences may not be substituted for the particular credit hour stipulated.

4. All academic requirements must be completed not later than the end of the second semester of the academic year preceding admission.
5. Applicants must demonstrate fluency in speaking, reading and writing in Spanish and English. This is essential since lectures are conducted in either language, even though Spanish is the predominant language of the Institution. Furthermore, the required clinical experiences are nearly always conducted in Spanish.

Application Process

1. *One (1) official transcript from each college/university attended, to be sent directly to our Admissions Office.
2. A minimum of two (2) letters, one from faculty members and one from a chiropractic physician of the community.
3. The payment of a $100.00 non-refundable application fee established at our institution. Please be advised we do not waive the admissions fee. Payments must be in the form of a money order addressed to the Universidad Central del Caribe and sent directly to our Collection Office. No personal check, credit card or ATM are acceptable.
4. The interview is in person and by invitation only; we use the modality of Multiple Mini Interview. Official identification must be required (valid driver's license or passport).

Acceptance

1. To guarantee enrollment upon acceptance, the candidate must make a $200.00 non-refundable deposit.
2. Criminal Background Check is required (issued six months or less)
3. The student must submit a health certificate and a physical examination by a licensed physician with the laboratory and test required and CPR certification from an authorized American Red Cross vendor.

School of Medicine

Admission to the School of Medicine is the responsibility of the Admissions Committee, an advisory committee composed of faculty members, which reports to the Office of the Dean of the School of Medicine. In evaluating applicants, the Admissions Committee considers academic qualifications, personal traits and potential for success in medical school as evidenced in academic records, the results of the Medical College Admission Test (MCAT), personal statement, letters of recommendation, personal interviews, research, community and health related experience.

General Requirements

1. Applicants must have approved a Bachelor Degree (highly recommended) or a minimum of ninety (90) credits approved prior to application in a college or university accredited by the Council of Higher Education or the corresponding US accrediting agency.
2. The applicant must have a minimum general grade point average of 3.00 or above on a scale where A=4.0 (includes all courses taken at college/university level).
3. The applicant must have a minimum science grade point average of 2.75 or above on a scale where A=4.0 (includes all courses in Biology, Chemistry, Physics and Mathematics taken at college/university level).
4. Total course work must include the following:

Courses	Credits
General biology or zoology	8
General chemistry or inorganic chemistry	8
Organic chemistry	8
General physics	8
College mathematics	6
English	9
Spanish	9
Behavioral Sciences and Social Sciences*	9
Highly recommended courses:	
Biochemistry	3
Genetics	3
Molecular and Cell Biology	3
Psychology	6

*(Course work must be in sociology, psychology, economics, or anthropology).

5. All academic requirements must be completed not later than the end of the second semester of the academic year preceding admission.

6. Official results of the MCAT scores taken within two years prior to application. A minimum score of 492 (this minimum score is still under analysis due to recent changes in the MCAT examination and scoring). The web site is www.aamc.org/mcat.
7. Applicants must demonstrate fluency in speaking, reading and writing in Spanish and English. This is essential since lectures are conducted in either language, even though Spanish is the predominant language of the Institution. Furthermore, the required clinical experiences are nearly always conducted in Spanish.
8. The UCC School of Medicine does not admit students who received a dismissal from other Medical School. This apply for new admissions and transfer students.

Application Process

1. Application to our School of Medicine is through the American Medical College Application Service (AMCAS). The complete application must be processed by AMCAS between ***June 1st and no later than December 15***. Therefore, all applicants must file an AMCAS application only; the web site is www.aamc.org/students/amcas.
2. *One (1) official transcript from each college/university attended, to be sent directly to our Admissions Office.
3. A minimum of two (2) letters from faculty members or the Premedical Committee of the college or university of attendance, uploaded through AMCAS.
4. The payment of a $200.00 non-refundable application fee established at our institution. Please be advised we do not waive the admissions fee. Payments must be in the form of a money order addressed to the Universidad Central del Caribe and sent directly to our Collection Office. ATM will be accepted only without a credit card logo. No personal check or credit card are acceptable.
5. The interview is in person and by invitation only; we use the modality of Multiple Mini Interview. Official identification must be required (valid driver's license or passport).

Acceptance

1. To guarantee enrollment upon acceptance, the candidate must make a $100.00 non-refundable deposit.
2. A Criminal Background Check (CBC) performed by Certiphi, as required by the AAMC.
3. The student must submit a health certificate and a physical examination by a licensed physician with the laboratory and test required. Student have to comply with all vaccination requirements

Admission for Transfer or Advanced Standing

Transfer applicants may apply for admission for advanced standing to the third year of the curriculum leading to the MD degree. Applications for transfer or advanced standing to the School of Medicine will be considered from those who are currently enrolled in Liaison Committee on Medical Education (LCME) accredited medical schools and from Schools of Osteopathy accredited by the American Osteopathy Association (AOA).

Applicants from non-LCME accredited medical schools will be considered on the basis of individual merits. The student has to have a comparable profile as the entering class. The UCC School of Medicine does not admit students to the final year of the program. The UCC School of Medicine does not admit students who received a dismissal from other Medical School.

Admission is on a competitive basis, and the number admitted depends upon the availability of spaces in the total number of students per class, as suggested by the LCME. The Admissions Committee, in collaboration with the Evaluation and Promotion Committee, will reserve the right to recommend the placement according to UCC-SOM curriculum.

Application Process

1. An Institutional Application with a letter of your transfer interest to the UCCSoM. The application must be submitted no later than **April 1st**.
2. *One (1) official transcript from each college/university attended, to be sent directly to our Admissions Office. Evidence of all requirements for admission to first year (see general requirements).

3. *One (1) official transcript from Medical School attended, to be sent directly to our Admissions Office.
4. A minimum of two (2) letters from faculty members of your School of Medicine.
5. All applicants must have passed Step I of the U.S. Medical Licensing Examination and should submit the official results with their application.
6. A letter of evaluation from the Dean of the School of Medicine currently being attended. The Dean's letter must acknowledge that the applicant has requested to transfer and must certify the applicant's current academic status.
7. Payment of a nonrefundable application fee of $200.00 as established by our institution.
8. Payments must be in the form of a money order addressed to the Universidad Central del Caribe and sent directly to our Collection Office. ATM will be accepted only without a credit card logo. No personal check, or credit card are acceptable.
9. A Criminal Background Check (CBC) is required.
10. The interview is in person and by invitation only. Official identification must be required (valid driver's license or passport).

Acceptance

1. To guarantee enrollment upon acceptance, the candidate must make a $100.00 non-refundable deposit.
2. The student must submit a health certificate and a physical examination by a licensed physician with the laboratory and test required.

Graduate Program in Biomedical Sciences

Admission to the Graduate Program in Biomedical Sciences (GPBS) is responsibility of the GPBS Admissions Committee, an advisory committee composed of faculty members. In evaluating applicants, the Admissions Committee considers academic qualifications, personal traits and potential for success in the program as evidenced in academic records, the results of the Graduate Record Examination (GRE), personal statement, and letters of recommendation, personal interviews, research and other related experience.

General Requirements

1. Applicants must have bachelor degree in a college or university accredited by the Council of Higher Education or the corresponding US accrediting agency.
2. The applicant must have a minimum general grade point average of 2.75 or above on a scale where A=4.0 (includes all courses taken at college/university level).
3. The applicant must have a minimum science grade point average of 3.00 or above on a scale where A=4.0 (includes all courses in Biology, Chemistry, Physics and Mathematics taken at college/university level).
4. Total course work must include the following:
   - 2 courses in mathematics
   - 2 courses in biology
   - 2 courses in chemistry
   - 2 courses in Physics

   It is recommended that candidates complete the following coursework at the undergraduate level: calculus I, statistics, general and organic chemistry, general biology, biochemistry, cell biology, molecular biology or genetics, general physics, microbiology, immunology and/or other courses related to the area of specialization.
5. Applicants must demonstrate fluency in speaking, reading and writing in Spanish and English.

Application Process

1. An Institutional Application for Graduate Program. The application must be submitted no later than **February 1st**.
2. An essay indicating your interest in a graduate degree in biomedical sciences.
3. *One (1) official transcript from each college/university attended to be sent directly to our Admissions Office.
4. Official scores of the Graduate Record Examination (GRE). These results are valid for five years only prior to application. The web site is www.ets.org/gre.

5. Three letters of recommendation, including at least two from former professors in the student's area of specialization of the last completed degree.
6. Payment of $50.00 non-refundable processing fee established at our institution. Payments must be in the form of a money order addressed to the Universidad Central del Caribe and sent directly to our Collection Office. No personal check, credit card or ATM are acceptable.
7. A Criminal Background Check (CBC) is required.
8. Interview with the department to which the student is applying or the Graduate Program in Biomedical Sciences Admissions Committee.

Acceptance

1. To guarantee enrollment upon acceptance, the candidate must make a $100.00 non-refundable deposit.
2. The student must submit a health certificate and a physical examination by a licensed physician with the laboratory and test required.

Maintenance of Active Status

PhD Degree
Students are required to enroll in a minimum of eighteen (18) credits each year in order to maintain an active status in the Program for a period not exceeding the time allowed for the completion of the degree.

MS/MA Degree
Students that have fulfilled all the requirements for the Master's degree except for the Thesis Defense are required to enroll in BMS 899 for zero (0) credits each semester in order to maintain an active status in the Program for a period not exceeding the remainder of the time allowed for the completion of the degree, four years.

Transfer Students

Students who desire admission into the Graduate Program in Biomedical Sciences as transfer students from another graduate program of an accredited institution will be considered for admission if they fulfill all admission requirements. The applicants must request that the institution from which they wish to transfer submit all pertinent documentation. The Graduate Program in Biomedical Sciences Committee will evaluate the student academic record and will recommend to the Registrar's office the transfer of coursework as follows:

Transfer of graduate credit hours will be accepted for the PhD degree provided the grades in those courses transferred are of a B or higher and the courses are equivalent in content and depth to those offered by the UCC Graduate Program in Biomedical Sciences.

A maximum of 9 credits hours of approved coursework will be accepted for the MS/MA degree, provided the grades in those courses are B or better, the courses are equivalent to those offered by the Graduate Program in Biomedical Sciences, and they satisfy departmental requirements.

Transfer courses at the graduate level must have been taken within the past five years.

Students in the Program who are authorized to take courses outside of UCC must submit transcripts of any coursework taken to be included in their UCC transcript.

No credits used for a completion of a BS or PhD degree will be transferred.

Substance Abuse Counseling Program

Admission to the Substance Abuse Counseling Program is the responsibility of the Admissions Committee, an advisory committee composed of faculty members. In evaluating applicants, the Admissions Committee considers academic qualifications, personal traits and potential for success in the program as evidenced by academic records, the results of the "Examen de Admisión a Estudios de Post Grado" (EXADEP) or Graduate Record Examination (GRE), personal statement, and letters of recommendation, personal interviews, research, community and other related experiences.

General Requirements

1. Applicants must have a Bachelor's Degree in a college or university accredited by the Council of Higher Education or the corresponding US accrediting agency.
2. The applicant must have a minimum grade point average of 2.5 based on a scale of A = 4.0 (includes all courses taken at college/university level).
3. Total course work must include the following:

Course	Hours
Biology	3 semester hours or 5 quarters hours
Behavioral Sciences (Psychology and/or Sociology)	9 semester hours or 15 quarters hours
Mathematics	3 semester hours or 5 quarters hours

4. Applicants must demonstrate fluency in speaking, reading and writing in Spanish and proficiency in English.

Application Process

1. An Institutional Application for Graduate Program. The application must be submitted no later than **April 1st**.
2. An essay with your interest in our Graduate Academic Program.
3. *One (1) official transcript from each college/university attended to be sent directly to our Admissions Office.
4. Official copy of the "Examen de Admisión a Estudios de Post Grado" (EXADEP) or Graduate Record Examination (GRE). The web site for those texts are: www.ets.org/gre and/or www.ets.org/gre. These results are valid for five years only prior to application.
5. Three letters of recommendation. Two (2) letters should be from faculty members of your area of specialization, the other one of any academic or professional field.
6. Current curriculum vitae that includes any professional experience with substance abuse population.
7. Payment of $50.00 non-refundable processing fee established at our institution. Payments must be in the form of a money order addressed to the Universidad Central del Caribe and sent directly to our Collection Office. ATM will be accepted only without a credit card logo. No personal check, or credit card are acceptable.
8. A Criminal Background Check (CBC) is required.
9. The interview is in person and by invitation only. Official identification must be required (valid driver's license or passport).

Acceptance

1. To guarantee enrollment upon acceptance, the candidate must make a $100.00 non-refundable deposit.
2. The student must submit a health certificate and a physical examination by a licensed physician with the laboratory and test required.

Maintenance of active status

Students who have fulfilled all the requirements for the Certificate, except for the Internship, shall be required to pay a fee of $33.00 per trimester in order to maintain the status of graduate student in the program for a period not exceeding the rest of the time needed for the completion of the certificate, in this case, three years.

Students who have fulfilled all the requirements for the Master's Degree, except for the Comprehensive Exam, shall be required to pay a fee of $33.00 per trimester in order to maintain the status of graduate student in the program for a period not exceeding the rest of the time needed for the completion of the Master's degree, five (5) years.

Transfer Students

Transfer students will be considered for admission if they fulfill all admission documents and requirements (see General Requirement and Application Process). The Committee of Graduate Studies will study the student's academic record and will recommend to the Registrar's Office the transfer of course work as follows:

1. For the Certificate, only six (6) Credit Hours will be accepted only if the grades of transferred courses are A or B, if the courses are equivalent to those offered by the Program in Substance Abuse, and if they satisfy program requirements.
2. For the Master Degree, only nine (9) Credit Hours will be accepted only if the grades of transferred courses are A or B, if the courses are equivalent to those offered by the Program in Substance Abuse, and if they satisfy program requirements.

Admissions Committee

The Admissions Committee of the Substance Abuse Counseling Program will be responsible for the evaluation and selection of the candidates to be admitted to the Program. The candidates will be evaluated based on the Program's established admissions requirements and will not discriminate due to race, sex, age, ethnicity, social condition, religious beliefs or political ideas. The functions of the committee are as follow:

1. The Admissions Committee of the Substance Abuse Counseling Program will follow the enrollment policies and procedures of the UCC.
2. Responsible for student's recruitment.
3. Will carefully review and evaluate the applications for admissions to the program, and will recommend to the President of the UCC the candidates to be admitted.
4. Will reevaluate, as needed, the norms as the circumstances dictate.
5. Review students' eligibility criteria.
6. Review the admission formula based on the criteria that are predictors of student's success.
7. Develop strategies to promote the Program.

Medical Imaging Technology Program

The admissions process to the Medical Imaging Technology Program is implemented by its Admissions Committee, an advisory committee composed of faculty members. In evaluating applicants, the Admissions Committee considers academic qualifications, personal traits and potential as indicated by the entire academic record, results of the College Board Entrance Examination (CEEB), letters of recommendation and personal interviews.

Associate Degree in Radiologic Technology and Bachelor of Science in Diagnostic Images

General Requirements and Application Process

1. Institutional Application must be submitted no later than April 1st.
2. Payment of $25.00 non-refundable application fee established by our institution. Payments must be in the form of a money order addressed to the Universidad Central del Caribe and sent directly to our

Collection Office. ATM will be accepted only without a credit card logo. No personal check, or credit card are acceptable
3. Essay of why you want to pursue a carrier in Medical Imaging or area of specialty.
4. Applicants must have approved Algebra, Geometry or Mathematics course and two of the following science courses: Biology, Physics and/or Chemistry.
5. *Official transcript from high school, college and/or university.
6. Official scores of the College Board Entrance Examination (CEEB) if the students are less than 25 years old.
7. Two (2) letters of recommendation from professors.
8. An interview in person is required and is by invitation only.
9. Criminal Background Check is required (only for students 18 years old or above).
10. Applicants must demonstrate fluency in speaking, reading and writing in Spanish and proficiency in English.

High School Applicants

1. A minimum general grade point average (GPA) of 2.30 or above on a scale where A=4.0 is required for the Associate Degree from an accredited public or private high school or its equivalence.
2. A minimum general grade point average (GPA) of 2.50 or above on a scale where A=4.0 for the Bachelor Degree from an accredited public or private high school or its equivalence.

College Applicants

A minimum general grade point average (GPA) of 2.00 or above on a scale where A=4.0 is required for both Associate and Bachelor Degree.

Acceptance

1. To guarantee enrollment upon acceptance, the candidate must make a $100.00 non-refundable deposit.
2. The student must submit a health certificate and a physical examination by a licensed physician with the laboratory and test required.

ADMISSION FOR TRANSFER STUDENTS

Transfer in Advanced Standing Students

Applications for transfer in advanced standing will be considered from those who are currently enrolled in a Radiologic Technology Program accredited by the Joint Review Committee on Education in Radiologic Technology (JRCERT) or Regional Accreditation Agency such as Middle State Association (MSA). These applicants will be considered on an individual basis.

General Requirements and Application Process

1. Institutional Application with a letter that indicate your interest in pursuing studies at UCC Medical Imaging Program must be submitted no later than April 1st.
2. Payment of $25.00 non-refundable application fee established by our Institution. Payments must be in the form of a money order addressed to the Universidad Central del Caribe and sent directly to our Collection Office. ATM will be accepted only without a credit card logo. No personal check, or credit card are acceptable.
3. Applicants must have approved Algebra, Geometry of Mathematics course and two of the following science courses: Biology, Physics, and/or Chemistry.
4. *Official transcript from accredited college and/or university.
5. Copy of the scores of the College Board Entrance Examination (CEEB) if the students are less than 25 years old.
6. Two (2) letters of recommendation from professors.
7. Letter from Dean of Student Affairs of college or university currently attending indicating your status.

8. An interview in person is required and is by invitation only.
9. Criminal Background Check is required (only for students 18 years old or above).
10. Applicants must demonstrate fluency in speaking, reading and writing in Spanish and proficiency in English.

Post-Associate Certificates (Diagnostic Medical Sonography, Mammography, Computerized Tomography and Magnetic Resonance)

General Requirements and Applications Process

1. An Associate Degree comparable with the AD Program offered at the UCC taken in an institution accredited by the Joint Review Committee of Education in Radiologic Technology (JRCERT) or Regional Accreditation Agency such as Middle States Commission on Higher Education (MSCHEA).
2. Institutional application with a letter that indicates your interest in pursuing studies at the UCC in the modality of your preference. This Application must be submitted no later than April 1st.
3. Payment of $25.00 non-refundable application fee established by our Institution. Payments must be in the form of a money order addressed to the Universidad Central del Caribe and sent directly to our Collection Office. ATM will be accepted only without a credit card logo. No personal check, or credit card are acceptable
4. *Official transcript from accredited college and/or university with a minimum general point average (GPA) of 2.50 or above on a scale where A=4.0.
5. Two letters of recommendation from professors, clinical instructors or supervisor in the modality of choice.
6. Criminal Background Check is required.
7. An interview with the Program's Faculty.
8. Applicants must demonstrate fluency in speaking, reading and writing in Spanish and proficiency in English.

Acceptance

1. To guarantee enrollment upon acceptance, the candidate must make a $100.00 non-refundable deposit.
2. The student must submit a health certificate and a physical examination by a licensed physician with the laboratory and test required.

Students from foreign institutions must send an official translation, validation and/or equivalency to U.S.A. system in order to have their academic documentation considered. We suggest Word Educational Services (WES) as an external agency for this purpose. The web site is www.wes.org.

FINANCIAL AID OFFICE

The Financial Aid Office is located in the Deanship of Admissions and Student Affairs. Its main goal is to provide access to the different sources of financial aid available to our students in compliance with the United State Department of Education regulations. The following summary includes a description of the scholarships and loan opportunities available. Inquiries and detailed information regarding each program may be obtained at the Financial Aid Office.

Academic Excellence and Need-Based Scholarship Program

Institutional scholarships, tuition exemptions and stipends are available to support the student's achievement of their professional goals at the UCC. These academic program-specific financial support opportunities are granted on an annual basis. The amount of scholarships, tuition exemptions and stipends granted per academic program is contingent to the total amount of funds identified by external sources through the Institutional Development Office and matched with institutional funds.

National Health Service Corps (NHSC)

This program is mandated by Congress. It is designed to provide scholarships to train health care professionals in the disciplines and specialties most needed to deliver primary care services in health professional shortage areas in the United States, including Puerto Rico. For medical students the Program will pay tuition, required fees, books and a monthly stipend. The Program stipulates a two-year minimum service requirement after graduation at an eligible site located in a federally designated Health Professional Shortage Area.

Institutional Scholarship Fund

This is a limited fund made available through private Puerto Rican donors. At present the funds are available to a limited number of "good Puerto Rican medical students", as explicitly established by the private sponsors.

Federal Pell Grant

This grant helps undergraduate students (one who has not earned a bachelor's degree) to pay for their post-secondary education. The student must be enrolled in at least three (3) credits to receive the benefit and must meet the eligibility requirements of the Program.

Federal Family Education (FFELP)

This program is authorized in Part B of Title IV of the Higher Education Act of 1965, as amended in 1998. Under the FFELP program, students and their parents can obtain low-cost education loans to assist in the payment of higher education costs. The loan is guaranteed to protect the lender from loss in the event of the borrower's death, disability, bankruptcy, or default. The US Department of Education reinsures the guarantor.

Direct Subsidized Loan- **Subsidized Loans** are loans for undergraduate students with financial need, as determined by your cost of attendance minus expected family contribution and other financial aid (such as grants or scholarships). Subsidized Loans do not accrue interest while you are in school at least half-time or during deferment periods.

Direct Unsubsidized Loan-**Unsubsidized Loans** are loans for both undergraduate and graduate students that are not based on financial need. Eligibility is determined by your cost of attendance minus other financial aid (such as grants or scholarships). Interest is charged during in-school, deferment, and grace periods. Unlike a subsidized loan, you are responsible for the interest from the time the unsubsidized loan is disbursed until it's paid in full. You can choose to pay the interest or allow it to accrue (accumulate) and be capitalized (that is, added to the principal amount of your loan).

Grad Plus Loan Program-are loans for graduate and professional students who are ineligible for Unsubsidized Loans or need to supplement their Unsubsidized awards. The borrower is responsible for the interest from the time the PLUS Loan is disbursed until it's paid in full. Students should be aware that Graduate PLUS loans are subject to credit approval by the Department of Education.

Alternative Loan Program

This fund was created by private banking institutions for the students in need of additional help to cover their medical education. To be eligible, the student must be currently enrolled at least halftime in an AAMC approved medical school. The student is required to be a citizen or national of the US or a permanent resident without conditions and with proper evidence of eligibility. The student must also apply for a Stafford subsidized and unsubsidized loan before applying for ALP loan. The Annual Maximum is the Cost of Education minus other financial aid.

Emergency Loans

This is a UCC fund that was initially created by donations from Merck, Sharp and Dohme, other institutions and private sponsors. It provides up to a maximum of $500.00 for MD and Graduate Programs or $250.00 for undergraduate programs per semester to cover unanticipated emergency study expenses.

Student Work and Study Program

The Federal Work-Study Program of the Department of Education provides funds for part-time employment to help students in need, to finance the costs of postsecondary education. Students may be employed by: the institution itself; a federal, state, or local public agency; a private nonprofit organization; or a private for-profit organization.

Eligibility Criteria

In order to meet the eligibility requirements for all of the previously described programs, the student must:

1. Demonstrate financial need.
2. Have a high school diploma or a General Education Development (GED) Certificate for the undergraduate programs.
3. Have a bachelor's degree or the premed requirements for the graduate programs.
4. Be working toward a degree or certificate in an eligible program.
5. Be a U.S. citizen or eligible noncitizen.
6. Have a valid Social Security Number.
7. Maintain Satisfactory Academic Progress.
8. Submit the Free Application for Federal Student Aid (FAFSA) or Renewal FAFSA to the Financial Aid Office.
9. Register with the Selective Service, if required.
10. Be enrolled at least halftime, except for the Federal Pell Grant, which allows less than half-time enrollment.
11. Provide documentation of any information requested by the Office of Financial Aid.

Other particular criteria may apply for eligibility to institutional scholarships.

Deadlines

The Financial Aid Office set deadlines to apply for aid. The student have to file the applications by these deadlines for federal, state and institutional grants and scholarships.

OFFICE OF THE REGISTRAR

The Office of the Registrar is part of the Deanship of Academic Affairs. It is responsible for preparing the academic calendar, the registration of students, maintaining the student's academic records and for the preparation and/or remittance of official and unofficial academic transcripts, certifications of student, and certifications of degree earned in our university. It is also in charge of submitting to the Department of Education the in-school deferments of the students who receive federal student loans. In addition, the Office of the Registrar prepares the official list of classes and the official grade lists to each course offered during each academic period.

Address Change

Students are required to provide a permanent and current addresses to the Registrar's Office at the time of registration. Students are also required to notify this office of any change of address. The UCC is not responsible for university correspondence that fails to reach the student due to inaccurate address information.

Registration and Final Grades

A student who satisfies all admission requirements and is admitted to an Academic Program, must register according to the time schedule prepared by the Registrar's Office. In order to become an official student of the University, the registration form must be submitted to the Registrar's Office, where the student will receive a copy of the completed/official registration form.

At the beginning of each academic term, and after the registration process, the Office will send an official class list to the coordinator/professor of the course. At the end of each academic period the Official Grades Lists will be mailed to the professors/coordinator of each course to report the official grade obtained by each student. At the end of each academic period, the Registrar's Office will mail the official grades of the courses taken by the students during that academic period. Students who believe that their grades are incorrect must contact the Registrar's Office no later than the second week of the following term. Students who do not receive their grades by the beginning of the next term shall notify the Registrar's Office.

Grading System

Grading system is based on honor points.

Grades	Progress Description	Honor Points
A	Excellent	4
B	Good	3
C	Average	2
F	Failure	0
P	Passed	0
H	Passed with honors	0
IP	In progress	0
I	Incomplete coursework	0
W	Withdrawal	0

Credit Hours: are assigned to each course based on contact hours.
Quality Points ("QP"): Credit-hours multiplied by Honor points achieved by the student.
Quality Point Index ("QPI"): Total credit-hours divided by total honor points achieved in a semester.
Cumulative Quality Point Index ("CQPI"): Total credit-hours divided by total honor points accumulated by the student in his academic experience.

Assignment of Credit Hours

The UCC has two types of academic periods: semesters and quarters. A traditional fifteen weeks of coursework plus one exam week semester, is followed in all academic programs, both graduate and undergraduate, except the Substance Abuse Counseling Program that follows the quarter that consists of eleven weeks of course work plus one week of exams. The post associate certificates in Mammography, in Computerized Tomography and in Magnetic Resonance Imaging are designed for completion in one semester each.

One credit hour is equal to twelve hours of instruction in a quarter calendar and fifteen hours of instruction in the semester calendar.

A credit hour at the undergraduate program level is equivalent to 15 hours of lecture, or 30 hours of laboratory, or 60 hours of independent supervised study, or 110 hours of clinical experience.

At the graduate program level, a credit hour is equivalent to 12 hours of lecture, discussion or examination, or 24 hours of supervised independent study, or clinical skills laboratory, or 48 hours of scientific laboratory, research or supervised clinical experience.

At the program conducive to the MD degree each credit hour is equivalent to 15 hours of lecture, discussion or examination, or 30 contact hours of laboratory, or 72 contact hours of clinical experience or independent supervised work

General Rules for the Transferred / Convalidation of Credits / Courses

Courses to be transferred/convalidated have to be taken in higher education institutions authorized by the Puerto Rico Council on Education and accredited by one of the six regional accreditation agencies or a corresponding programmatic accreditation organization recognized by the United States Department of Education at the time the student completed the courses.

Any student who requests the transference/convalidation of courses is required to submit with his/her admission application, an official copy of his/her academic transcript along with copy of an Institutional Catalog where the course content and credit value is described or equivalent official evidence (course syllabus, electronic catalog, etc.). The catalog should cover the time when the student satisfactorily completed the course. The Admissions Office will submit to the dean/program director/program coordinator the supporting documents at least ten (10) days prior to the expected start-date when the student is to register in the program. The dean/program director/program coordinator will review the documentation and will notify the Registrar Office, via the corresponding form, which courses are approved or denied for transference/convalidation. The program response should be submitted to the Registrar Office at least three (3) days before the student's registration date.

Course/credits transferred/convalidation will be based on contact-hours or credit-hours, content, and academic level, as included in the official course description in the institutional documents when the course was approved and compared to the corresponding course at the UCC. Courses with a contact-hours or credit-hours value higher than the corresponding courses at the UCC will be transferred with the credit value assigned at the UCC to that course. The student will have to present relevant evidence of correspondence in terms of content and depth, if the requesting transference/convalidation of courses with contact-hour or credit-hour value is lower than the corresponding course at the UCC.

No course is to be transferred/convalidated if passed with a letter grade lower than "C" on a letter grade scale or 70% on a percentage grading scale.

Courses/credits to be transferred/convalidated should have been taken within the effective period. The UCC's rules and regulations for expiration of courses/credits will be applied.

Courses which have been used for the attainment of a higher/lower or equivalent degree as that applied for by the student will not be subject to transference/convalidation.

The number of courses/credits to be transferred/convalidated will depend on the curricular sequence of the academic program. The number of credits/courses transferred/convalidated will never exceed 50% the total courses/credits required for the degree at the UCC.

Course taken or credits earned in extension, correspondence, and online modes are subject to be transferred if such courses were considered towards the attainment of a degree by the conferring institution. Transfer of such course/credits are limited to 25% of all course/credits transferred. Acceptance of such courses/credits will be determined by the dean/program director/program coordinator according to this policy.

Courses/credits authorized for transference/convalidation will be annotated in the UCC's student record with a letter "T" as grade and the number of credits authorized. A comment will be added to identify the Institution and date the course/credit was approved. Grades reported for a transference/convalidation will not be considered in the determination of the student's GPA at the UCC.

Satisfactory Academic Progress Policy of Educational Services for Veteran Beneficiaries

Students registered in each of our academic offerings will be evaluated according to the program specific Rules and Regulations for Student Evaluation and Promotion. According to the regulations established in the Codes of Federal Regulations, Title 38 (38 U.S. Code) related to the educational benefits for veterans and its beneficiaries, the student must complete the academic program within the regular time-frame. Any student who extends his/her studies beyond the regular time frame will not be eligible to receive the veterans' benefits.

If the student receives “Pell Grant” financial aid, he/she can continue with this benefit during 50% of the additional time stipulated in Title IV Regulations.

Withdrawal Procedures

Authorized withdrawals will be granted following the established rules and regulations. The deadline for withdrawal from a course or courses will be stipulated in the academic calendar of the UCC.

The withdrawal process starts at the Registrar’s Office where the appropriate forms are provided. The student will follow the instructions and must collect the signature of the professors and the pertinent university officials. The student should explain in the withdrawal form the reason for its decision. The withdrawal becomes official when the Registrar or its representative signs the form.

At the time of withdrawal, authorized withdrawals are to be graded W, WP or WF according to the student’s academic performance in the course from which he/she is withdrawing.

In the Graduate Program in Biomedical Sciences unauthorized withdrawals constitute grounds for dismissal from the Program.

Auditing Students

Those students who wish to audit a course may do so by submitting a letter for the approval of the Chairperson of the Department offering the course(s) and if they register during the registration period. They must also pay the corresponding fees and charges.

Certifications and Transcripts

If a student needs an official transcript, certification of studies, and/or certification of degree earned, he/she should request it in writing, and pay the applicable fees. Official documents will be sent directly to the concerned college, university, industrial firm, etc. and will never be given directly to the student. However, students may obtain non-official copies of their academic record.

Students who consider that there are errors in their transcripts, must communicate it to the Registrar’s Office within seven (7) days after the receipt of the document.

Graduation

Application forms for graduation are obtained from the Registrar’s Office, and students must apply and pay the corresponding graduation fee no later than the date set in the Academic Calendar. Non-compliance with these requirements may postpone the conferring of the degree.

Diplomas

The diplomas will be distributed by the Registrar’s Office. All claims pertaining to the diplomas should be made no later than one month after the commencement date. The UCC is not responsible for diplomas that are not claimed one year after graduation.

Academic Honors

Academic honor will be given to those students of degree programs who have obtained the following cumulative averages, after completing all the Program's requirements.

"CQPI"	HONOR
3.75 a 4.00	SUMMA CUM LAUDE
3.50 a 3.74	MAGNA CUM LAUDE
3.25 a 3.49	CUM LAUDE

Certificates and non-degree program graduates academic honors will not be recorded in official documents.

SPECIFIC GRADUATION REQUIREMENTS

School of Chiropractic

Successful completion of four full academic years will be required for graduation. This includes having obtained at least a grade of C in all required courses and to pass the NBCE parts 1, 2 and 3. In order to obtain a chiropractic degree from this chiropractic school, the student must be enrolled in this institution for the final two academic years.

Please refer to other specific requirements for student promotion and graduation as contained in the Regulations for Student Evaluation and Promotion.

School of Medicine

Successful completion of four full academic years will be required for graduation. This includes having obtained at least a grade of C in all required courses, to pass the USMLE Step 1 and to pass the knowledge component of USMLE Step 2. In order to obtain a medical degree from this medical school, the student must be enrolled in this institution for the final two academic years.

Please refer to other specific requirements for student promotion and graduation as contained in the Regulations for Student Evaluation and Promotion.

Graduate Program in Biomedical Sciences

A MS/MA or PhD student must complete all the requirements and have turned in the final version of his/hers thesis/dissertation in order to participate in the Commencement Ceremony.

Student must remain enrolled until completing all graduation requirements and delivering the final version of the thesis / dissertation.

PhD Degree
Early in the doctoral work, a dissertation subject is chosen in the field of study and approved by the dissertation committee. The dissertation must represent original investigation that contributes new knowledge to the candidate's field. Upon completion of at least four (4) years of graduate study and a dissertation, the candidate must pass a dissertation defense.

1. Grade index: 3.0 or above
2. Credits As stipulated by the program of study, 72 credits minimum.
3. Residence: A minimum of 36 credits must be completed at UCC.
4. Time limitations: A maximum of 7 years to satisfy all the requirements.
5. Candidacy examination: Required of all students

6. Dissertation defense: Required of all students
7. Authorship: First author in at least one (1) manuscript or co-author in at least two (2) manuscripts accepted for publication in a peer-reviewed journal, which incorporates work that was performed by the student and is included in the student's dissertation. Brief / short communications do not necessarily meet this requirement. The dissertation committee must approve brief / short communications.

MS/MA Degree

1. Grade index: 3.0 or above
2. Credits: As stipulated by the program of study, 34 credits minimum.
3. Residence: A minimum of two year of full-time work must be completed at UCC
4. Time limitations: A maximum of 4 years to complete all the requirements
5. Comprehensive examination required of all MS and MA candidates
6. Thesis defense: Required of all MS candidates

The student must deliver the approved dissertation/thesis in a CD-ROM or flash drive, according to the Dissertation/Thesis Manual, to complete the graduation requirements and receive his/hers diploma. The Graduate Programs in Biomedical Sciences will print and bind three (3) copies of the thesis (one for the student, one for the department and one for the library).

Substance Abuse Counseling Program

Post-Baccalaureate Certificate in Substance Abuse Counseling

The student must: complete the 25 Credit Hours required for the Post-Baccalaureate Certificate in Substance Abuse Counseling with a grade point average of 2.5 or higher; complete a minimum of 18 credits at the UCC, complete all requirements for the Post-Baccalaureate Certificate in Substance Abuse Counseling within three (3) years from the date of admission, and comply with all academic and institutional requirements of the Program in Substance Abuse and the UCC.

Masters of Health Science in Substance Abuse Counseling

The student must complete the 44 Credit Hours required for the Masters of Health Science in Substance Abuse Counseling with a grade point average of 3.0 or higher. He/she must complete a minimum of 32 credits at the UCC, approve a comprehensive exam with a minimum score of 75% in each component of the exam, and comply with all academic and institutional requirements within five (5) years from the date of admission.

Medical Images Technology Program

In order to obtain a degree for all Medical Images Technology Program offerings, students must complete all the courses described in the program specific curriculum with a qualification of "C" or above. In addition, they must comply with all the administrative requirements established by the Universidad Central del Caribe.

ACADEMIC CALENDARS

Academic Calendar 2015-2016

First Semester	
June 5, 2015 (Friday)	**L**ast day of classes and to apply for authorized withdrawal for **3rd year MD students**.
June 18, 2015 (Thursday)	**L**ast day to apply for Authorized Withdrawal for **RT-203** (Summer Clinical Practice).
June 19, 2015 (Friday)	**L**ast day of classes for **RT-203** (Summer Clinical Practice).
June 22-23, 2015 (Monday -Tuesday)	**Orientation** period for new students in **MD faculty**. **Part I**
June 22, 2015 (Monday)	**Registration** process for **new students** in the **MD** faculty (PM).
July 2, 2015 (Thursday)	**L**ast day of classes and to apply for authorized withdrawal for students in the **4th quarter** of **Substance Abuse Counseling Program.**
July 4, 2015 (Saturday) (Holiday) observed on July 3, 2015 (Friday)*	**USA Independence Day**
July 6-10, 2015 (Monday thru Friday)	**O**rientation period for new students in the **Graduate Program in Biomedical Sciences**.
July 7, 9, 2015 (Tuesday- Thursday)	**F**inal examination period for students in the **4th quarter** of **Substance Abuse Counseling Program**.
July 14, 2015 (Tuesday)	**Registration** process for **3rd** year **MD students** (AM). **Registration** process for students in the **Graduate Program in Biomedical Sciences (PM).**
***July 15,17,18, 2015 (Wednesday, Friday & Saturday)	**Orientation** period for **new students** in the **Substance Abuse Counseling Program.**
July 15, 2015 (Wednesday)	**Registration** process for **new students** in the **Substance Abuse Counseling Program** (2:00-4:00 PM).
July 16, 2015 (Thursday)	**Registration** process for **2nd year MD students** (AM) and **2nd year students** in the **Associate Degree in Radiologic Technology** (PM).
July 17, 2015 (Friday)	**Registration** process for **4th year MD** students (PM).
July 25, (Saturday) (Holiday) observed on July 24, 2015 (Friday)*	**PR Constitution Day**
July 28-30, 2015 (Tuesday thru Thursday)	**Orientation** period for new students in **MD faculty**. **Part II**
August 3, 2015 (Monday)	**F**irst day of classes for students in the **MD** faculty, and **Graduate Program in Biomedical Sciences.**
August 3-7, 2015 (Monday thru Friday)	**L**ate Registration period for students in the **MD faculty**. **L**ate Registration period for students in the **Graduate Program in Biomedical Sciences**.
August 4, 2015 (Tuesday)	**Registration** process for **5th quarter** of **Substance Abuse Counseling Program**. **F**irst day of classes for students in the **1st & 5th** quarters of the **Substance Abuse Counseling Program.**
August 5-7, 2015 (Wednesday thru Friday)	**L**ate Registration period for students in the **1st & 5th** quarters of **Substance Abuse Counseling Program.**
August 5,6,7, 2015 (Wednesday thru Friday)	**Orientation** period for **new students** in the **Undergraduate Academic Programs.**
August 6, 2015 (Thursday)	**Registration** process for **1st year** students in the **Associate Degree in Radiologic Technology (AM) and the Post-Associate Certificate in Computerized Tomography (PM)**.
August 7, 2015 (Friday)	**Registration** process for **new students** in the **Bachelor of Science in Diagnostic Images , Post-Associate Certificate in Diagnostic Medical Sonography, Mammography and Computerized Tomography (PM**)
August 10, 2015 (Monday)	**F**irst day of classes for students in the **Undergraduate Academic Programs**.

August 10-14, 2015 (Monday thru Friday)	**L**ate Registration period for students in the **Undergraduate Academic Programs.**
August 21, 2015 (Friday)	**L**ast day for removal of Incomplete Work for students in **MD, Graduate Program in Biomedical Sciences and 1st and 5th** quarter **of Substance Abuse Counseling Program.**
August 28, 2015 (Friday)	**L**ast day for removal of Incomplete Work for students in **the Undergraduate Academic Programs.**
September 7, 2015 (Monday)* (Holiday)	**Labor Day**
September 30, 2015 (Wednesday)	**L**ast day to apply for admission /reclassification for January 2016.
October 12, 2015 (Monday)* (Holiday)	**Columbus Day**
October 22, 2015 (Thursday)	**L**ast day of classes and to apply for authorized withdrawal for students in the **1st & 5th** quarters in the **Substance Abuse Counseling Program.**
October 23, 2015 (Friday)	**E**lective Courses **Orientation** process for students in **3rd year MD** (PM)*
October 27, 2015 (Tuesday)	**R**egistration process and first day of classes for students in **2nd & 6th quarters** of **Substance Abuse Counseling Program** (2:00-4:00 PM).
October 28-30, 2015 (Wednesday thru Friday)	**L**ate registration period for students in the **2nd & 6th quarters** in **Substance Abuse Counseling Program.**
November 2, 2015 (Monday)	Deadline for late application for admission/reclassification for January 2016.
November 11, 2015 (Wednesday)* (Holiday)	**Veteran's Day**
November 12, 2015 (Thursday)	**L**ast day for removal of Incomplete work for students in the **1st & 5th** quarters in **Substance Abuse Counseling Program.**
November 13, 2015 (Friday)	**L**ast day to apply for Authorized Leave of Absence (LOA) for the second semester (Jan.-June 2016).
November 19, 2015 (Thursday)* (Holiday)	**Puerto Rico Discovery Day**
November 23-27, 2015 (Monday & Friday)*	**Thanksgiving Recess**
November 30, 2015 (Monday)	**Registration** process for **1st year** MD students (AM) & **2nd year** (PM).
November 30-December 4, 2015 (Monday thru Friday)	**F**inal examination period for the **Undergraduate Academic Programs.**
December 3,4, 2015 (Thursday & Friday)	**Registration** process for **4th year MD** students (AM)
December 4, 2015 (Friday)	**L**ast day of classes and to apply for authorized withdrawal for the **Undergraduate Academic Programs.** **L**ast day to submit the eligibility qualifications to obtain certificate/degree on December 18, 2015. **L**ast day to apply for authorized withdrawal for students in the **Graduate Program in Biomedical Sciences.** (Before the final class test.)
December 8, 2015 (Tuesday)	**Registration** process for **Graduate Program in Biomedical Sciences** (PM).
December 11, 2015 (Friday)	**L**ast day to submit to the Office of the Registrar the Official Grade Lists for the **Undergraduate Academic Programs**.
December 14, 2015 (Monday)	**L**ast day to apply for admission to the **MD Program**. (first year new students, August 2016)
December 17, 2015 (Thursday)	**L**ast day of classes for students of **Substance Abuse Counseling Program**. (Classes of the Substance Abuse Counseling Program will be meeting according Thursday schedule).
December 18, 2015 (Friday)	**L**ast day of classes and to apply for authorized withdrawal for **1st, 2nd & 4th year MD** students. **L**ast day of classes for the **Graduate Program in Biomedical Sciences.** **O**fficial date for conferring Certificate/Degree for students who have completed all the requirements during 2015.
December 23, 2015 - January 8, 2016	**Christmas Recess**

Second Semester	
January 11, 2016 (Monday)	**F**irst day of classes for **1st, 2nd and 4th year MD** students, the **Graduate Program in Biomedical Sciences** and **Substance Abuse Counseling Program**. **Registration** for students in the **Post-Associate Certificate in Diagnostic Medical Sonography** (AM), in the **Bachelor of Science in Diagnostic Images,** and in the **Post-Associate Certificate in Magnetic Resonance (PM).**
January 12-15, 2016 (Tuesday thru Friday)	**L**ate Registration period for students registered in December 2015 (4th year **MD** students), **Graduate Program in Biomedical Sciences** and **Undergraduate Academic Programs**.
January 15, 2016 (Friday)	**Registration** process for students of the Associate Degree in Rad. Tech. (1st year (AM), & 2nd year (PM).
January 18, 2016 (Monday)* (Holiday)	**Martin Luther King Day**
January 19, 2016 (Tuesday)	**F**irst day of classes for **Undergraduate Academic Programs**.
January 22, 2016 (Friday)	**L**ast day of classes and last day to apply for authorized withdrawal for **3rd year MD students.** **Registration** process for the **2nd semester** of **3rd year MD** students. **L**ast day for removal of Incomplete work for students in the **1st, 2nd & 4th year MD**, Graduate Program in Biomedical Sciences, PhD and Undergraduate Academic Programs.
January 25, 2016 (Monday)	**F**irst day of classes for the **2nd semester** of **3rd year MD students**.
January 25-29, 2016 (Monday thru Friday)	**L**ate registration period for the 2nd semester of **3rd year MD students**.
January 28, 2016 (Thursday)	**L**ast day of classes and last day to apply for authorized withdrawal for students in the **2nd & 6th quarters of Substance Abuse Counseling Program.**
February 2, 2016 (Tuesday)	**Registration** process for students in the **3rd & 7th quarters of Substance Abuse Counseling Program**. **F**irst day of classes for students in the **3rd & 7th quarters of Substance Abuse Counseling Program.**
February 3-5, 2016 (Wednesday thru Friday)	**L**ate registration period for students in the **3rd & 7th quarters of Substance Abuse Counseling Program.**
February 4, 2016 (Thursday)	**L**ast day for removal of Incomplete work for students in the **2nd & 6th quarters of Substance Abuse Counseling Program** and for students in **the Undergraduate Academic Programs.**
February 12, 2016 (Friday)	**L**ast day for removal of Incomplete work for students in **3rd year MD.**
February 15, 2016 (Monday)* (Holiday)	**President's Day**
March 24, 25, 2016 (Thursday & Friday)*	**Easter Recess**
March 30, 2016 (Wednesday)	**L**ast day to apply for admission /reclassification for August 2016.
April 15, 2016 (Friday)	**L**ast day of classes and to apply for authorized withdrawal for students in **2nd year MD.**
April 19 (Tuesday) thru May 13, 2016 (Friday)	**F**inal examination period for **2nd year MD.**
April 20, 2016 (Wednesday)	**L**ast day to apply for authorized withdrawal for students in the **Graduate Program in Biomedical Sciences** and in the **Undergraduate Academic Programs** (before the last course exam).
April 21, 2016 (Thursday)	**L**ast day of classes and last day to apply for authorized withdrawal for students in the **3rd & 7th quarters of Substance Abuse Counseling Program.**
April 26, 2016 (Tuesday)	**Registration** and first day of classes for students in **4th quarter of Substance Abuse Counseling Program.** **D**eadline for late application for admission/reclassification for August 2016 (except 1st year **MD Program**).
April 27-29, 2016 (Wednesday thru Friday)	**L**ate registration period for students in the **4th quarter of Substance Abuse Counseling Program**.

April 28, 2016 (Thursday)	**L**ast day for removal of Incomplete work for students in the **3rd & 7th quarters** of **Substance Abuse Counseling Program.**
April 29, 2016 (Friday)	**D**eadline for late application for admission/reclassification for January 2017.
May 6, 2016 (Friday)	**Registration** process for **RT-203 (Summer Clinical Practice).** **L**ast day of classes & to apply for authorized withdrawal for students in the **1st year MD**, **Graduate Program in Biomedical Sciences** and in the **Undergraduate Academic Programs.**
May 7, 2016 (Saturday)	**Comprehensive Exam for Substance Abuse Counseling Program**
May 9, 2016 (Monday)	**F**irst day of classes for **RT-203 (Summer Clinical Practice).**
May 9 (Monday) -20, 2016 (Friday)	**F**inal examination period for students in the **Undergraduate Academic Programs.**
May 9 (Monday) -27, 2016 (Friday)	**F**inal examination period for students in **1st year MD.**
May 27, 2016 (Friday)	**L**ast day of classes & to apply for authorized withdrawal for students in **4th year MD.** **L**ast day to submit to the Office of the Registrar the Official Grades Lists for the students in the **Undergraduate Academic Programs.**
May 30, 2016 (Monday)* (Holiday)	**Memorial Day**
June 4, 2016 (Saturday)	**Commencement Exercises**
June 10, 2016 (Friday)	**L**ast day of classes for **3rd year MD students**. **L**ast day to apply for Authorized Leave of Absence (LOA) **MD students** for 1st semester 2016-2017. **L**ast day of classes for **RT-203** (*Summer Clinical Practice*).
June 16, 2016 (Thursday)	**L**ast day to apply for authorized withdrawal for **RT-203 (*Summer Clinical Practice*)**.
June 20-24, 2016 (Monday thru Friday)	**O**rientation period for **new students** in the **MD** faculty.
June 20, 2016 (Monday)	**Registration** process for **new students** in the **MD faculty** (PM).
July 4, 2016 (Monday)* (Holiday)	**USA Independence Day**
July 7, 2016 (Thursday)	**L**ast day of classes and to apply for authorized withdrawal for students in the **4th quarter of Substance Abuse Counseling Program.**
July 11-15, 2016 (Monday thru Friday)	**Orientation** period for new students in the **Graduate Program in Biomedical Sciences**
July 12, 2016 (Tuesday)	**Registration** process for **3rd year MD** students (AM). **Registration** process for students in the **Graduate Program in Biomedical Sciences** (PM)
***July 13,15 & 16, 2016 (Wednesday, Friday & Saturday)	**Orientation** period for **new students** in the **Substance Abuse Counseling Program.**
July 13, 2016 (Wednesday)	**Registration** process for **new students** in the **Substance Abuse Counseling Program.**
July 14, 2016 (Thursday)	**Registration** process for **2nd year MD** students (AM) & for **2nd year students of the Associate Degree in Radiologic Technology (PM).**
July 15, 2016 (Friday)	**Registration** process for **4th year MD students** (PM).
July 25, 2016 (Monday)* (Holiday)	**PR Constitution Day**

*Subject to change.

The undergraduate academic programs include: Associate Degree in Radiologic Technology, Bachelor of Science in Diagnostic Images, Post-Associate Certificate in Mammography, Magnetic Resonance, Computerized Tomography, and Diagnostic Medical Sonography.

Every Thursday, from 12:00 to 2:00 PM, the "UNIVERSAL HOUR" will be observed for extracurricular purposes.

*UCC faculty can determine if during any Holiday an exam may be administered.

Academic Calendar 2016-2017

First Semester	
June 10, 2016 (Friday)	**L**ast day of classes and to apply for authorized withdrawal for **3rd year MD students**. **L**ast day to apply for Authorized Leave of Absence (LOA) **MD students** for 1st semester 2016-2017 (August-December 2016).
June 16, 2016 (Thursday)	**L**ast day to apply for Authorized Withdrawal for **RT-203** (Summer Clinical Practice).
June 17, 2016 (Friday)	**L**ast day of classes for **RT-203** (Summer Clinical Practice).
June 20, 2016 (Monday)	Registration process for **new students** in the **MD** faculty (PM).
June 20-21, 2016 (Monday, Tuesday)	Orientation period for new students in the **MD faculty**. **Part I**
June 30, 2016 (Thursday)	**L**ast day of classes and to apply for authorized withdrawal for students in the **4th quarter** of **Substance Abuse Counseling Program.**
July 4, 2016 (Monday)* (Holiday)	USA Independence Day
July 5, 7, 2016 (Tuesday- Thursday)	**Fi**nal examination period for students in the **4th quarter** of **Substance Abuse Counseling Program**.
July 11-15, 2016 (Monday thru Friday)	Orientation period for new students in the **Graduate Program in Biomedical Sciences**.
July 12, 2016 (Tuesday)	Registration process for **3rd** year **MD students** (AM). Registration process for students in the **Graduate Program in Biomedical Sciences (PM).**
***July 13, 15, 16, 2016 (Wednesday, Friday & Saturday)	Orientation period for **new students** in the **Substance Abuse Counseling Program.**
July 13, 2016 (Wednesday)	Registration process for **new students** in the **Substance Abuse Counseling Program** (2:00-4:00 PM).
July 14, 2016 (Thursday)	Registration process for **2nd year MD students** (AM) and **2nd year students** in the **Associate Degree in Radiologic Technology** (PM).
July 15, 2016 (Friday)	Registration process for **4th year MD** students (PM).
July 25, 2016 (Monday)* (Holiday)	**PR Constitution Day**
July 26-29, 2016 (Tuesday thru Friday)	Orientation period for new students in the **MD faculty**. **Part II**
August 1, 2016 (Monday)	**Fi**rst day of classes for students in the **MD faculty**, and **Graduate Program in Biomedical Sciences.** **L**ate Registration period for students in the **MD faculty.** **L**ate Registration period for students in the **Graduate Program in Biomedical Sciences.**
August 2, 2016 (Tuesday)	Registration process for **5th quarter** of **Substance Abuse Counseling Program**. **F**irst day of classes for students in the **1st & 5th** quarters of the **Substance Abuse Counseling Program.**
August 3, 2016 (Wednesday)	Registration process for students in the **Bachelor of Science in Diagnostic Images** (PM).
August 3-5, 2016 (Wednesday thru Friday)	**L**ate Registration period for students in the **1st & 5th** quarters of **Substance Abuse Counseling Program.** Orientation period for **new students** in the **Undergraduate Academic Programs.**
August 4, 2016 (Thursday)	Registration process for **1st year** students in the **Associate Degree Technology (AM) and the Post-Associate Certificate in Computerized Tomography (PM)**.
August 5, 2016 (Friday)	Registration process for new students in the **Bachelor of Science in Diagnostic Images and Mammography** (PM).
August 8, 2016 (Monday)	**F**irst day of classes for students in the **Undergraduate Academic Programs**. **L**ate Registration period for students in the **Undergraduate Academic Programs.**

August 19, 2016 (Friday)	**L**ast day for removal of Incomplete Work for students in **MD, Graduate Program in Biomedical Sciences and 1st and 5th** quarter **of Substance Abuse Counseling Program.**
August 26, 2016 (Friday)	Last day for removal of Incomplete Work for students in **the Undergraduate Academic Programs.**
September 5, 2016 (Monday)* (Holiday)	**Labor Day**
September 26, 2016 (Monday)	**L**ast day to apply for admission /reclassification for January 2017.
October 10, 2016 (Monday)* (Holiday)	**Columbus Day**
October 20, 2016 (Thursday)	**L**ast day of classes and to apply for authorized withdrawal for students in the **1st & 5th** quarters in the **Substance Abuse Counseling Program.**
October 21, 2016 (Friday)	Elective Courses **Orientation** process for students in **3rd year MD** (PM)*
October 25, 2016 (Tuesday)	**R**egistration process and first day of classes for students in **2nd & 6th quarters** of **Substance Abuse Counseling Program** (2:00-4:00 PM).
October 26-28, 2016 (Wednesday thru Friday)	**L**ate registration period for students in the **2nd & 6th quarters** in **Substance Abuse Counseling Program.**
October 31, 2016 (Monday)	**D**eadline for late application for admission/reclassification for January 2017.
November 10, 2016 (Thursday)	**L**ast day for removal of Incomplete work for students in the **1st & 5th** quarters in **Substance Abuse Counseling Program.** **L**ast day to apply for Authorized Leave of Absence (LOA) for the second semester (Jan.-June 2016).
November 11, 2016 (Friday)* (Holiday)	**Veteran's Day**
November 24-25, 2016 (Thursday & Friday)*	**Thanksgiving Recess**
November 28, 2016 (Monday)	**R**egistration process for **1st year** MD students (AM) & **2nd year** (PM).
November 28-December 2, 2016 (Monday thru Friday)	**F**inal examination period for the **Undergraduate Academic Programs.**
December 1-2, 2016 (Thursday and Friday)	**R**egistration process for **4th year MD** students (AM)
December 2, 2016 (Friday)	**L**ast day of classes and to apply for authorized withdrawal for the **Undergraduate Academic Programs.** **L**ast day to submit the eligibility qualifications to obtain certificate/degree on December 16, 2016. **L**ast day to apply for authorized withdrawal for students in the **Graduate Program in Biomedical Sciences.** (Before the final class test.)
December 6, 2016 (Tuesday)	**R**egistration process for **Graduate Program in Biomedical Sciences** (PM).
December 9, 2016 (Friday)	**L**ast day to submit to the Office of the Registrar the Official Grade Lists for the **Undergraduate Academic Programs**.
December 12, 2016 (Monday)	**L**ast day to apply for admission to the **MD Program**. (first year new students, August 2017)
December 15, 2016 (Thursday)	**L**ast day of classes for students of **Substance Abuse Counseling Program**. (Classes of the Substance Abuse Counseling Program will be meeting according Thursday schedule).
December 16, 2016 (Friday)	**L**ast day of classes and to apply for authorized withdrawal for **1st, 2nd & 4th year MD** students. **L**ast day of classes for the **Graduate Program in Biomedical Sciences.** Official date for conferring Certificate/Degree for students who have completed all the requirements during 2016.
December 23, 2016 - January 9, 2017	**Christmas Recess**
Second Semester	
January 8, 2017 (Monday)	**F**irst day of classes for **1st, 2nd and 4th year MD** students, the **Graduate Program in Biomedical Sciences** and **Substance Abuse Counseling Program**.

	Registration for students in the **Post-Associate Certificate in Diagnostic Medical Sonography** (AM), in the **Bachelor of Science in Diagnostic Images,** and in the **Post-Associate Certificate in Magnetic Resonance (PM).** Late Registration period for students registered in December 2016 (4th year **MD** students), **Graduate Program in Biomedical Sciences** and **Undergraduate Academic Programs**.
January 13, 2017 (Friday)	Registration process for students of the Associate Degree in Rad. Tech. (1st year (AM), & 2nd year (PM).
January 16, 2017 (Monday)* (Holiday)	**Martin Luther King Day**
January 17, 2018 (Tuesday)	First day of classes for **Undergraduate Academic Programs**. Late registration period for students in the **Undergraduate Academic Programs.**
January 20, 2017 (Friday)	Last day of classes and last day to apply for authorized withdrawal for **3rd year MD students.** Registration process for the 2nd semester of **3rd year MD** students. Last day for removal of Incomplete work for students in the **1st, 2nd & 4th year MD**, Graduate Program in Biomedical Sciences, PhD and Undergraduate Academic Programs.
January 23, 2017 (Monday)	First day of classes for the 2nd semester of **3rd year MD students**. Late registration period for the 2nd semester of **3rd year MD students**.
January 26, 2017 (Thursday)	Last day of classes and last day to apply for authorized withdrawal for students in the **2nd & 6th quarters of Substance Abuse Counseling Program.**
January 31, 2017 (Tuesday)	Registration process for students in the **3rd & 7th quarters of Substance Abuse Counseling Program**. First day of classes for students in the **3rd & 7th quarters of Substance Abuse Counseling Program.**
February 2, 2017 (Thursday)	Late registration period for students in the **3rd & 7th quarters of Substance Abuse Counseling Program.** Last day for removal of Incomplete work for students in the **2nd & 6th quarters of Substance Abuse Counseling Program** and for students in **the Undergraduate Academic Programs.**
February 10, 2017 (Friday)	Last day for removal of Incomplete work for students in **3rd year MD.**
February 20, 2017 (Monday)* (Holiday)	**President's Day**
March 29, 2017 (Wednesday)	Last day to apply for admission /reclassification for August 2017.
April 13, 14, 2017 (Thursday & Friday)	**Easter Recess**
April 14, 2017 (Friday)	Last day of classes and to apply for authorized withdrawal for students in **2nd year MD.**
April 18 (Tuesday) thru May 12, 2017(Friday)	Final examination period for **2nd year MD.**
April 19, 2017 (Wednesday)	Last day to apply for authorized withdrawal for students in the **Graduate Program in Biomedical Sciences** and in the **Undergraduate Academic Programs** (before the last course exam).
April 20, 2017 (Thursday)	Last day of classes and last day to apply for authorized withdrawal for students in the **3rd & 7th quarters of Substance Abuse Counseling Program.**
April 25, 2017 (Tuesday)	Registration and first day of classes for students in **4th quarter of Substance Abuse Counseling Program.** Deadline for late application for admission/reclassification for August 2017 (except 1st year **MD Program**).
April 27, 2017 (Thursday)	Late registration period for students in the **4th quarter of Substance Abuse Counseling Program**. Last day for removal of Incomplete work for students in the **3rd & 7th quarters** of **Substance Abuse Counseling Program.**

April 28, 2017 (Friday)	**D**eadline for late application for admission/reclassification for January 2018.
May 1-5, 2017 (Monday thru Friday)	**F**inal examination period for students in the **Undergraduate Academic Programs.**
May 5, 2017 (Friday)	**L**ast day of classes & to apply for authorized withdrawal for students in the **1st year MD**. Registration process for **RT-203 (Summer Clinical Practice).**
May 6, 2017 (Saturday)	**Comprehensive Exam for Substance Abuse Counseling Program**
May 8, 2017 (Monday)	**F**irst day of classes for **RT-203 (Summer Clinical Practice).**
May 8 (Monday) -26, 2017 (Friday)	**F**inal examination period for students in **1st year MD.**
May 19, 2017 (Friday)	**L**ast day of classes for students in the **Graduate Program in Biomedical Sciences** and in the **Undergraduate Academic Programs.**
May 26, 2017 (Friday)	**L**ast day of classes & to apply for authorized withdrawal for students in **4th year MD.** **L**ast day to submit to the Office of the Registrar the Official Grades Lists for the students in the **Undergraduate Academic Programs.**
May 29, 2017 (Monday)* (Holiday)	**Memorial Day**
June 3, 2017 (Saturday)	**Commencement Exercises**
June 9, 2017 (Friday)	**L**ast day of classes and to apply for authorized withdrawal for **3rd year MD students**. **L**ast day to apply for Authorized Leave of Absence (LOA) **MD students** for 1st semester 2017-2018. **L**ast day of classes for **RT-203** (*Summer Clinical Practice*).
June 15, 2017 (Thursday)	**L**ast day to apply for authorized withdrawal for **RT-203 (*Summer Clinical Practice*)**.
June 19-20, 2017 (Monday- Tuesday)	Orientation period for **new students** in the **MD** faculty. Part I
June 19, 2017 (Monday)	Registration process for **new students** in the **MD faculty** (PM).
July 4, 2017 (Tuesday)* (Holiday)	**USA Independence Day**
July 6, 2017 (Thursday)	Last day of classes and to apply for authorized withdrawal for students in the **4th quarter of Substance Abuse Counseling Program.**
July 10-14, 20187 (Monday-Friday)	Orientation period for new students in the **Graduate Program in Biomedical Sciences.**
July 11, 2017 (Tuesday)	Registration process for **3rd year MD** students (AM). Registration process for students in the **Graduate Program in Biomedical Sciences** (PM)
***July 12,14 & 15, 2017 (Wednesday, Friday & Saturday)	Orientation period for **new students** in the **Substance Abuse Counseling Program.**
July 12, 2017 (Wednesday)	Registration process for **new students** in the **Substance Abuse Counseling Program.**
July 13, 2017 (Thursday)	Registration process for **2nd year MD** students (AM) & for **2nd year students of the Associate Degree in Radiologic Technology (PM).**
July 14, 2017 (Friday)	Registration process for **4th year MD students** (PM).
July 25, 2017 (Tuesday)* (Holiday)	**PR Constitution Day**

*Subject to change.

The undergraduate academic programs include: Associate Degree in Radiologic Technology, Bachelor of Science in Diagnostic Images, Post-Associate Certificate in Mammography, Magnetic Resonance, Computerized Tomography, and Diagnostic Medical Sonography.

Every Thursday, from 12:00 to 2:00 PM, the "UNIVERSAL HOUR" will be observed for extracurricular purposes.

*UCC faculty can determine if during any Holiday an exam may be administered.

Academic Calendar 2017-2018

First Semester	
June 9, 2017 (Friday)	**L**ast day of classes and to apply for authorized withdrawal for **3rd year MD students**. **L**ast day of classes for **RT-203** (Summer Clinical Practice). **L**ast day to apply for Authorized Leave of Absence (LOA) **MD students** for 1st semester 2017-2018 (August-December 2017).
June 15, 2017 (Thursday)	**L**ast day to apply for Authorized Withdrawal for **RT-203** (Summer Clinical Practice).
June 19-20, 2017 (Monday -Tuesday)	**O**rientation period for new students in the **MD faculty**. **Part I**
June 19, 2017 (Monday)	**R**egistration process for **new students** in the **MD** faculty (PM).
June 29, 2017 (Thursday)	**L**ast day of classes and to apply for authorized withdrawal for students in the **4th quarter** of **Substance Abuse Counseling Program.**
July 4, 2015 (Tuesday)* (Holiday)	USA Independence Day
July 10-14, 2017 (Monday thru Friday)	**O**rientation period for new students in the **Graduate Program in Biomedical Sciences**.
July 11, 2015 (Tuesday)	**R**egistration process for **3rd** year **MD students** (AM). **R**egistration process for students in the **Graduate Program in Biomedical Sciences (PM).**
July 11,13, 2017 (Tuesday-Thursday)	**F**inal examination period for students in the **4th quarter** of **Substance Abuse Counseling Program**.
***July 12, 14 & 15, 2017 (Wednesday, Friday & Saturday)	**O**rientation period for **new students** in the **Substance Abuse Counseling Program.**
July 12, 2017 (Wednesday)	**R**egistration process for **new students** in the **Substance Abuse Counseling Program** (2:00-4:00 PM).
July 13, 2017 (Thursday)	**R**egistration process for **2nd year MD students** (AM) and **2nd year students** in the **Associate Degree in Radiologic Technology** (PM).
July 14, 2017 (Friday)	**R**egistration process for **4th year MD** students (PM).
July 25, 2017 (Tuesday)* (Holiday)	**PR Constitution Day**
July 26-28, 2017 (Thursday thru Friday)	**O**rientation period for new students in the **MD faculty**. **Part II**
July 31, 2017 (Monday)	**F**irst day of classes for students in the **MD faculty**, **and Graduate Program in Biomedical Sciences.** **L**ate Registration period for students in the **MD faculty**. **L**ate Registration period for students in the **Graduate Program in Biomedical Sciences**.
July 31- August 4, 2017 (Monday thru Friday)	**O**rientation period for **new students** in the **Undergraduate Academic Programs.**
August 1, 2017 (Tuesday)	**R**egistration process for **5th quarter** of **Substance Abuse Counseling Program**. **F**irst day of classes for students in the **1st & 5th** quarters of the **Substance Abuse Counseling Program.**
August 2, 2017 (Wednesday)	**R**egistration process for students in the **Bachelor of Science in Diagnostic Images & Post-Associate CertificatePost-Associate Certificate in Diagnostic Medical Sonography and Mammography** (PM).
August 2-4, 2017 (Wednesday thru Friday)	**L**ate Registration period for students in the **1st & 5th** quarters of **Substance Abuse Counseling Program.**
August 3, 2017 (Thursday)	Registration process for **1st year** students in the **Associate Degree in Radiologic Technology (AM) and the Post-Associate Certificate in Computerized Tomography (PM)**.
August 7, 2017 (Monday)	**F**irst day of classes for students in the **Undergraduate Academic Programs**. **L**ate Registration period for students in the **Undergraduate Academic Programs.**

August 18, 2017 (Friday)	**L**ast day for removal of Incomplete Work for students in **MD, Graduate Program in Biomedical Sciences and 1st and 5th** quarter **of Substance Abuse Counseling Program.**
August 25, 2017 (Friday)	**L**ast day for removal of Incomplete Work for students in **the Undergraduate Academic Programs.**
September 4, 2017 (Monday)* (Holiday)	**Labor Day**
September 25, 2017 (Monday)	**L**ast day to apply for admission /reclassification for January 2018.
	Columbus Day
October 19, 2017 (Thursday)	**L**ast day of classes and to apply for authorized withdrawal for students in the **1st & 5th** quarters in the **Substance Abuse Counseling Program.**
October 20, 2017 (Friday)	**E**lective Courses Orientation process for students in **3rd year MD** (PM)*
October 24, 2017 (Tuesday)	**R**egistration process and first day of classes for students in **2nd & 6th quarters** of **Substance Abuse Counseling Program** (2:00-4:00 PM).
October 25-27, 2017 (Wednesday thru Friday)	**L**ate registration period for students in the **2nd & 6th quarters** in **Substance Abuse Counseling Program.**
October 30, 2017 (Monday)	**D**eadline for late application for admission/reclassification for January 2018.
November 9, 2017 (Thursday)	**L**ast day for removal of Incomplete work for students in the **1st & 5th** quarters in **Substance Abuse Counseling Program.** **L**ast day to apply for authorized withdrawal and last day of classes for the **Undergraduate Academic Programs.** **L**ast day to apply for Authorized Leave of Absence (LOA) for the second semester (Jan.-June 2018).
November 23-24, 2017 (Thursday & Friday)*	**Thanksgiving Recess**
November 27, 2017 (Monday)	**R**egistration process for **1st year** MD students (AM) & **2nd year** (PM).
November 27-December 1, 2017 (Monday thru Friday)	**F**inal examination period for the **Undergraduate Academic Programs.**
November 30 - December 1, 2017 (Thursday and Friday)	**R**egistration process for **4th year MD** students (AM)
December 1, 2017 (Friday)	**L**ast day to submit the eligibility qualifications to obtain certificate/degree on December 15, 2017. **L**ast day to apply for authorized withdrawal for students in the **Graduate Program in Biomedical Sciences.** (Before the final class test.)
December 5, 2017 (Tuesday)	**R**egistration process for **Graduate Program in Biomedical Sciences** (PM).
December 8, 2017 (Friday)	**L**ast day to submit to the Office of the Registrar the Official Grade Lists for the **Undergraduate Academic Programs**.
December 11, 2017 (Monday)	**L**ast day to apply for admission to the **MD Program**. (first year new students, August 2018)
December 14, 2017 (Thursday)	**L**ast day of classes for students of **Substance Abuse Counseling Program**. (Classes of the Substance Abuse Counseling Program will be meeting according to Thursday schedule).
December 15, 2017 (Friday)	**L**ast day of classes and to apply for authorized withdrawal for **1st, 2nd & 4th year MD** students. **L**ast day of classes for the **Graduate Program in Biomedical Sciences.** Official date for conferring Certificate/Degree for students who have completed all the requirements during 2017.
December 25, 2017 - January 5, 2018	**Christmas Recess**
Second Semester	
January 8, 2018 (Monday)	**F**irst day of classes for **1st, 2nd and 4th year MD** students, the **Graduate Program in Biomedical Sciences** and **Substance Abuse Counseling Program**. **L**ate Registration period for students registered in December 2017 (4th year **MD** students), **Graduate Program in Biomedical Sciences**

	Registration for students in the **Post-Associate Certificate in Diagnostic Medical Sonography** (AM), in the **Bachelor of Science in Diagnostic Images,** and in the **Post-Associate Certificate in Magnetic Resonance (PM).**
January 12, 2018 (Friday)	**Registration** process for students of the Associate Degree in Rad. Tech. (1st year (AM), & 2nd year (PM).
January 15, 2018 (Monday)* (Holiday)	**Martin Luther King Day**
January 16, 2018 (Tuesday)	**F**irst day of classes for **Undergraduate Academic Programs**. **L**ate Registration period for students in the **Undergraduate Academic Programs.**
January 19, 2018 (Friday)	**L**ast day of classes and last day to apply for authorized withdrawal for **3rd year MD students.** Registration process for the 2nd semester of **3rd year MD** students.
	Last day for removal of Incomplete work for students in the **1st, 2nd & 4th year MD**, Graduate Program in Biomedical Sciences, PhD and Undergraduate Academic Programs.
January 22, 2018 (Monday)	**F**irst day of classes for the 2nd semester of **3rd year MD students**. **L**ate registration period for the 2nd semester of **3rd year MD students**.
	Last day of classes and last day to apply for authorized withdrawal for students in the **2nd & 6th quarters of Substance Abuse Counseling Program.**
January 25, 2018 (Thursday)	**L**ast day of classes for students in the **2nd & 6th quarters of Substance Abuse Counseling Program.**
January 30, 2018 (Tuesday)	Registration process for students in the **3rd & 7th quarters of Substance Abuse Counseling Program**. **F**irst day of classes for students in the **3rd & 7th quarters of Substance Abuse Counseling Program.**
January 31-February 2, 2018 (Wednesday thru Friday)	**L**ate registration period for students in the **3rd & 7th quarters of Substance Abuse Counseling Program.**
February 1, 2018 (Thursday)	**L**ast day for removal of Incomplete work for students in the **2nd & 6th quarters of Substance Abuse Counseling Program** and for students in **the Undergraduate Academic Programs.**
February 9, 2018 (Friday)	**L**ast day for removal of Incomplete work for students in **3rd year MD.**
February 19, 2018 (Monday)* (Holiday)	**President's Day**
March 28, 2018 (Wednesday)	Last day to apply for admission /reclassification for August 2018.
March 29-30, 2018 (Thursday & Friday)	**Easter Recess**
April 13, 2018 (Friday)	**L**ast day of classes and to apply for authorized withdrawal for students in **2nd year MD.**
April 16 (Monday) thru May 11, 2018 (Friday)	**F**inal examination period for **2nd year MD.**
April 18, 2018 (Wednesday)	**L**ast day to apply for authorized withdrawal for students in the **Graduate Program in Biomedical Sciences** and in the **Undergraduate Academic Programs** (before the last course exam).
April 19, 2018 (Thursday)	**L**ast day of classes and last day to apply for authorized withdrawal for students in the **3rd & 7th quarters of Substance Abuse Counseling Program.**
April 24, 2018 (Tuesday)	Registration and first day of classes for students in **4th quarter of Substance Abuse Counseling Program.** **D**eadline for late application for admission/reclassification for August 2018 (except 1st year **MD Program**).
April 25-27, 2018 (Wednesday thru Friday)	**L**ate registration period for students in the **4th quarter of Substance Abuse Counseling Program**.
April 26, 2018 (Thursday)	**L**ast day for removal of Incomplete work for students in the **3rd & 7th quarters** of **Substance Abuse Counseling Program.**
April 27, 2018 (Friday)	**L**ast day of classes & to apply for authorized withdrawal for students in the **1st year MD**.

	Last day of classes for students in the **Graduate Program in Biomedical Sciences** and in the **Undergraduate Academic Programs.** **D**eadline for late application for admission/reclassification for January 2019.
April 30 – May 4-, 2018 (Monday thru Friday)	**F**inal examination period for students in the **Undergraduate Academic Programs.**
May 4, 2018 (Friday)	Registration process for **RT-203 (Summer Clinical Practice).**
May 5, 2018 (Saturday)	**Comprehensive Exam for Substance Abuse Counseling Program**
May 7, 2018 (Monday)	**F**irst day of classes for **RT-203 (Summer Clinical Practice).**
May 7 (Monday) -25, 2018 (Friday)	**F**inal examination period for students in **1st year MD.**
May 18, 2018 (Friday)	**L**ast day to submit to the Office of the Registrar the Official Grades Lists for the students in the **Undergraduate Academic Programs.**
May 25, 2018 (Friday)	**L**ast day of classes & to apply for authorized withdrawal for students in **4th year MD.**
May 28, 2018 (Monday)* (Holiday)	**Memorial Day**
June 2, 2018 (Saturday)	**Commencement Exercises**
June 8, 2018 (Friday)	**L**ast day of classes and to apply for authorized withdrawal for **3rd year MD students**. **L**ast day to apply for Authorized Leave of Absence (LOA) **MD students** for 1st semester 2018-2019. (August-December 2018) **L**ast day of classes for **RT-203** (*Summer Clinical Practice*).
June 14, 2018 (Thursday)	**L**ast day to apply for authorized withdrawal for **RT-203 (*Summer Clinical Practice*)**.
June 18-22, 2018 (Monday- Friday)	Orientation period for **new students** in the **MD** faculty.
June 18, 2018 (Monday)	Registration process for **new students** in the **MD faculty** (PM).
July 4, 2018 (Wednesday)* (Holiday)	**USA Independence Day**
July 5, 2018 (Thursday)	**L**ast day of classes and to apply for authorized withdrawal for students in the **4th quarter of Substance Abuse Counseling Program.**
July 9-13, 2018 (Monday-Friday)	Orientation period for new students in the **Graduate Program in Biomedical Sciences**
July 10, 2018 (Tuesday)	Registration process for **3rd year MD** students (AM). Registration process for students in the **Graduate Program in Biomedical Sciences** (PM)
***July 11,13 & 14, 2018 (Wednesday, Friday & Saturday)	Orientation period for **new students** in the **Substance Abuse Counseling Program.**
July 11, 2018 (Wednesday)	Registration process for **new students** in the **Substance Abuse Counseling Program.**
July 12, 2018 (Thursday)	Registration process for **2nd year MD** students (AM) & for **2nd year students of the Associate Degree in Radiologic Technology (PM).**
July 13, 2018 (Friday)	Registration process for **4th year MD students** (PM).
July 25, 2018 (Wednesday)* (Holiday)	**PR Constitution Day**

*Subject to change.

The undergraduate academic programs include: Associate Degree in Radiologic Technology, Bachelor of Science in Diagnostic Images, Post-Associate Certificate in Mammography, Magnetic Resonance, Computerized Tomography, and Diagnostic Medical Sonography.

Every Thursday, from 12:00 to 2:00 PM, the "UNIVERSAL HOUR" will be observed for extracurricular purposes.

*UCC faculty can determine if during any Holiday an exam may be administered.

Academic Calendar 2018-2019

First Semester	
June 8, 2018 (Friday)	**L**ast day of classes and to apply for authorized withdrawal for **3rd year MD students**. **L**ast day of classes for **RT-203** (Summer Clinical Practice). **L**ast day to apply for Authorized Leave of Absence (LOA) **MD students** for 1st semester 2018-2019 (August-December 2018).
June 14, 2018 (Thursday)	**L**ast day to apply for Authorized Withdrawal for **RT-203** (Summer Clinical Practice).
June 26, 2018 (Tuesday)	**L**ast day of classes and to apply for authorized withdrawal for students in the **4th quarter** of **Substance Abuse Counseling Program.**
July 3-5, 2018 (Tuesday- Thursday)	**F**inal examination period for students in the **4th quarter** of **Substance Abuse Counseling Program**.
July 9-10, 2018 (Monday & Tuesday)	**O**rientation period for **new students** in the **Doctor of Chiropractic Program.**
July 9, 2018 (Monday)	**R**egistration process for **new students** in the **Doctor of Chiropractic Program** (PM).
***July 11, 13-14, 2018 (Wednesday, Friday & Saturday)	**O**rientation period for **new students** in the **Substance Abuse Counseling Program.**
July 12, 2018 (Thursday)	**R**egistration process for **2nd year MD students** (AM) and **2nd year students** in the **Associate Degree in Radiologic Technology** (PM).
July 13, 2018 (Friday)	**R**egistration process for 4th year MD students (PM).
July 16-20, 2018 (Monday thru Friday)	**O**rientation period for new students in the **Graduate Program in Biomedical Sciences**.
July 17, 2018 (Tuesday)	**R**egistration process for all students in the **Graduate Program in Biomedical Sciences (PM).**
July 23-27, 2018 (Monday thru Friday)	**O**rientation period for new students in the **MD Faculty**
July 23, 2018 (Monday)	**R**egistration process for **new students** in the **MD** faculty (PM).
July 30, 2018 (Monday)	**F**irst day of classes for the 1st, 2nd and 4th year **MD** students, 1st year **Doctor of Chiropractic** students and **Graduate Program in Biomedical Sciences.** **L**ate Registration period for students in the **MD faculty**. **L**ate Registration period for students in the **Graduate Program in Biomedical Sciences**. **O**rientation period for **new students** in the **Undergraduate Academic Programs.**
July 31, 2018 (Tuesday)	**R**egistration process for **5th quarter** and **new students** of **Substance Abuse Counseling Program**. (2:00-4:00 PM). **F**irst day of classes for students in the **1st & 5th** quarters of the **Substance Abuse Counseling Program.**
August 1, 2018 (Wednesday)	**R**egistration process for students in the **Bachelor of Science in Diagnostic Images & Post-Associate Certificates in Diagnostic Medical Sonography and Mammography** (PM).
August 1-3, 2018 (Wednesday thru Friday)	**L**ate Registration period for students in the **1st & 5th** quarters of **Substance Abuse Counseling Program.**
August 2, 2018 (Thursday)	**R**egistration process for **1st year** students in the **Associate Degree in Radiologic Technology (AM) and the Post-Associate Degree Certificate in Computerized Tomography (PM)**.
August 3, 2018 (Friday)	**R**egistration process for new students in the **Bachelor of Science in Diagnostic Images**.
August 6, 2018 (Monday)	**F**irst day of classes for students in the **Undergraduate Academic Programs**. **L**ate Registration period for students in the **Undergraduate Academic Programs.**
August 8, 2018 (Wednesday)	**R**egistration process for **3rd** year **MD students** (AM).
August 13, 2018 (Monday)	**F**irst day of classes for the 3rd year **MD** students.+

August 17, 2018 (Friday)	**L**ast day for removal of Incomplete Work for students in **MD, Graduate Program in Biomedical Sciences and 1st and 5th** quarter **of Substance Abuse Counseling Program.**
August 24, 2018 (Friday)	**L**ast day for removal of Incomplete Work for students in **the Undergraduate Academic Programs.**
October 1, 2018 (Monday)	**L**ast day to apply for admission /reclassification for January 2019.
October 18, 2018 (Thursday)	**L**ast day of classes and to apply for authorized withdrawal for students in the **1st & 5th** quarters in the **Substance Abuse Counseling Program.**
October 19, 2018 (Friday)	**E**lective Courses Orientation process for students in **3rd year MD** (PM)*
October 23, 2018 (Tuesday)	**R**egistration process and first day of classes for students in **2nd & 6th quarters** of **Substance Abuse Counseling Program** (2:00-4:00 PM).
October 24-26, 2018 (Wednesday thru Friday)	**L**ate registration period for students in the **2nd & 6th quarters** in **Substance Abuse Counseling Program.**
November 1, 2018 (Thursday)	**D**eadline for late application for admission/reclassification for January 2019.
November 8, 2018 (Thursday)	**L**ast day for removal of Incomplete work for students in the **1st & 5th** quarters in **Substance Abuse Counseling Program.** **L**ast day to apply for authorized withdrawal and last day of classes for the **Undergraduate Academic Programs.** **L**ast day to appaly fro Authorized Leave of Absence (LAO) for the second semester (January-June 2019).
November 22-23, 2018 (Thursday & Friday)	**Thanksgiving**
November 26, 2018 (Monday)	**R**egistration process for **1st year** MD students (AM) & **2nd year** (PM).
November 26-30, 2018 (Monday thru Friday)	**F**inal examination period for the **Undergraduate Academic Programs.**
November 30, 2018 (Friday)	**L**ast day of classes and to apply for authorized withdrawal for the **Undergraduate Academic Program.**
December 6 , 2018 (Thursday)	**R**egistration process for **4th year MD** students (AM)
December 7, 2018 (Friday)	**L**ast day to submit to the Office of the Registrar the Official Grade Lists for the **Undergraduate Academic Programs**. **L**ast day to submit the eligibility qualifications to obtain certificate/degree on December 14, 2018. **L**ast day to apply for authorized withdrawal for students in the **Graduate Program in Biomedical Sciences.** (before the final class test).
December 10, 2018 (Monday)	**L**ast day to apply for admission to the **MD Program**. (first year new students, August 2019)
December 13, 2018 (Thursday)	**L**ast day of classes for students of **Substance Abuse Counseling Program**. (Classes of the Substance Abuse Counseling Program will be meeting according Thursday schedule). **R**egistration process for **Graduate Program in Biomedical Sciences** (PM).
December 14, 2018 (Friday)	**L**ast day of classes and to apply for authorized withdrawal for **1st, 2nd & 4th year MD** students. **L**ast day of classes for the **Graduate Program in Biomedical Sciences.** Official date for conferring Certificate/Degree for students who have completed all the requirements during 2018.
December 24, 2018 - January 7, 2019	**Christmas**
Second Semester	
January 8, 2019 (Tuesday)	**F**irst day of classes for **1st, 2nd and 4th year MD** students , the **Graduate Program in Biomedical Sciences** and **Substance Abuse Counseling Program**. **Registration** for students in the **Post-Associate Certificate in Diagnostic Medical Sonography** (AM), in the **Bachelor of Science in Diagnostic Images,** and in the **Post-Associate Certificate in Magnetic Resonance (PM).**

January 11, 2019 (Friday)	Registration process for students of the **Associate Degree in Radiologic Technology** (1st year (AM), & 2nd year (PM). **L**ast day of classes and last day to apply for authorized withdrawal for **3rd year MD students.**
January 14, 2019 (Monday)	**F**irst day of classes for **Undergraduate Academic Programs**. **L**ate Registration period for students registered in December 2018 (4th year **MD** students), **Graduate Program in Biomedical Sciences** and **Undergraduate Academic Programs**. **F**irst day of classes for the 2nd semester of **3rd year MD** students. **L**ate registration period for the 2nd semester of **3rd year MD** students.
January 18, 2019 (Friday)	Registration Process for the 2nd semester of **3rd yeasr MD students**. **L**ast day for removal of Incomplete work for students in the **1st, 2nd & 4th year MD**, Graduate Program in Biomedical Sciences, PhD and Undergraduate Academic Programs.
January 31, 2019 (Thursday)	**L**ast day of classes and last day to apply for authorized withdrawal for students in the **2nd & 6th quarters of Substance Abuse Counseling Program.**
February 5, 2019 (Tuesday)	Registration process for students in the **3rd & 7th quarters of Substance Abuse Counseling Program**. **F**irst day of classes for students in the **3rd & 7th quarters of Substance Abuse Counseling Program.**
February 7, 2019 (Thursday)	**L**ate registration period for students in the **3rd & 7th quarters of Substance Abuse CounbselingProgram.** **L**ast day for removal of Incomplete work for students in the **2nd & 6th quarters of Substance Abuse Counseling Program** and for students in **the Undergraduate Academic Programs.**
February 8, 2019 (Friday)	**L**ast day for removal of Incomplete work for students in **3rd year MD.**
March 8, 2019 (Friday)	**D**eadline to apply for graduation for students ending December 2018 and June 2019
April 1, 2019 (Monday)	**L**ast day to apply for admission /reclassification for August 2019.
April 12, 2019 (Friday)	**L**ast day of classes and to apply for authorized withdrawal for students in **2nd year MD.**
April 16 (Tuesday) thru May 10, 2019 (Friday)	**F**inal examination period for **2nd year MD.**
April 17, 2019 (Wednesday)	**L**ast day to apply for authorized withdrawal for students in the **Graduate Program in Basic Biomedical Sciences** and in the **Undergraduate Academic Programs** (before the last course exam).
April 18-19, 2018 (Thursday & Friday)	**Easter**
April 23, 2019 (Tuesday)	Registration and first day of classes for students in **4th quarter of Substance Abuse Conseling Program.** **D**eadline for late application for admission/reclassification for August 2019 (except 1st year **MD Program**).
April 25, 2019 (Thursday)	**L**ast day of classes and last day to apply for authorized withdrawal for students in the **3rd & 7th quarters of Substance Abuse Counseling Program.**
April 26, 2019 (Friday)	**L**ast day of classes & to apply for authorized withdrawal for students in the **1st year MD**. **L**ast day of classes for students in the **Graduate Program in Biomedical Sciences** and in the **Undergraduate Academic Programs.** **D**eadline for late application for admission/reclassification for August 2019.
April 29 – May 3, 2019 (Monday thru Friday)	**F**inal examination period for students in the **Undergraduate Academic Programs.**
May 2, 2019 (Thursday)	**L**ate registration period for students in the **4th quarter of Substance Abuse Counseling Program**.

	Last day for removal of Incomplete work for students in the **3rd & 7th quarters** of **Substance Abuse Counseling Program.**
May 3, 2019 (Friday)	**R**egistration process for **RT-203 (Summer Clinical Practice).**
May 4, 2019 (Saturday)	**Comprehensive Exam for Substance Abuse Consseling Program**
May 6, 2019 (Monday)	**F**irst day of classes for **RT-203 (Summer Clinical Practice).**
May 6 (Monday) 31, 2019 (Friday)	**F**inal examination period for students in **1st year MD.**
May 17, 2019 (Friday)	**L**ast day to submit to the Office of the Registrar the Official Grades Lists for the students in the **Undergraduate Academic Programs.**
May 24, 2019 (Friday)	**L**ast day of classes & to apply for authorized withdrawal for students in **4th year MD.**
June 5, 2019 (Wednesday)	**Commencement Exercises**
June 7, 2019 (Friday)	**L**ast day of classes and to apply for authorized withdrawal for **3rd year MD students**. **L**ast day to apply for Authorized Leave of Absence (LOA) **MD students** for 1st semester 2019-2020. **L**ast day of classes for **RT-203** (*Summer Clinical Practice*).
June 13, 2019 (Thursday)	**L**ast day to apply for authorized withdrawal for **RT-203 (*Summer Clinical Practice*)**.
July 2, 2019 (Tuesday)	**L**ast day of classes and to apply for authorized withdrawal for students in the **4th quarter of Substance Abuse Program.**
July 8-12, 2019 (Monday-Friday)	**O**rientation period for new students in the **Graduate Program in Biomedical Sciences.**
July 9, 2019 (Tuesday)	**R**egistration process for **3rd year MD** students (AM). **R**egistration process for students in the **Graduate Program in Biomedical Sciences** (PM)
***July 10,12 & 13, 2019 (Wednesday, Friday & Saturday)	**O**rientation period for **new students** in the **Substance Abuse Counseling Program.**
July 10, 2019 (Wednesday)	**R**egistration process for **new students** in the **Substance Abuse Counseling Program.**
July 11, 2019 (Thursday)	**R**egistration process for **2nd year MD** students (AM) & for **2nd year students of the Associate Degree in Radiologic Technology** (PM).
July 12, 2019 (Friday)	**R**egistration process for **4th year MD students** (PM).

***Subject to change.**

The undergraduate academic programs include: Associate Degree in Radiologic Technology, Bachelor of Sciences in Diagnostic Images, Post-Associate Degree Certificates in Mammography, Magnetic Resonance, Computerized Tomography, and Diagnostic Medical Sonography.

Every Thursday, from 12:00 to 2:00 PM, the "UNIVERSAL HOUR" will be observed for extracurricular purposes.

*UCC faculty can determine if during any Holiday an exam would be administered.

Academic Calendar 2019-2020

First Semester	
June 7, 2019 (Friday)	**L**ast day of classes and to apply for authorized withdrawal for **3rd year MD students**. **L**ast day of classes for **RT-203** (Summer Clinical Practice). **L**ast day to apply for Authorized Leave of Absence (LOA) **MD students** for 1st semester 2019-2020 (August-December 2019).
June 13, 2019 (Thursday)	**L**ast day to apply for Authorized Withdrawal for **RT-203** (Summer Clinical Practice).
June 17-18, 2019 (Monday-Tuesday)	**O**rientation period for new students in the **MD faculty**. **Part I**
June 17, 2019 (Monday)	**R**egistration process for **new students** in the **MD** faculty (PM).
June 27, 2019 (Thursday)	**L**ast day of classes and to apply for authorized withdrawal for students in the **4th quarter** of **Substance Abuse Counseling Program.**
July 4, 2019 (Thursday)* (Holiday)	USA Independence Day
July 9-11, 2019 (Tuesday-Thursday)	**F**inal examination period for students in the **4th quarter** of **Substance Abuse Counseling Program**.
July 15-19, 2019 (Monday thru Friday)	**O**rientation period for new students in the **Graduate Program in Biomedical Sciences**.
July 16, 2019 (Tuesday)	**R**egistration process for **3rd** year **MD students** (AM). **R**egistration process for students in the **Graduate Program in Biomedical Sciences (PM).**
***July 17,19, 20 2019 (Wednesday, Friday & Saturday)	**O**rientation period for **new students** in the **Substance Abuse Counseling Program.**
July 17, 2019 (Wednesday)	**R**egistration process for **new students** in the **Substance Abuse Counseling Program** (2:00-4:00 PM).
July 18, 2019 (Tuesday)	**R**egistration process for **2nd year MD students** (AM) and **2nd year students** in the **Associate Degree in Radiologic Technology** (PM).
July 19, 2019 (Friday)	**R**egistration process for **4th year MD** students (PM).
July 23-26, 2019 (Tuesday thru Friday)	**O**rientation period for new students in the **MD faculty. Part II**
July 25, 2019 (Thursday)* (Holiday)	PR Constitution Day
August 5, 2019 (Monday)	**F**irst day of classes for students in the **MD** faculty, and **Graduate Program in Biomedical Sciences.** **L**ate Registration period for students in the **MD faculty**. **L**ate Registration period for students in the **Graduate Program in Biomedical Sciences**.
August 5-9, 2019 (Monday thru Friday)	**O**rientation period for **new students** in the **Undergraduate Academic Programs.**
August 6, 2019 (Tuesday)	**R**egistration process for 1st and **5th quarters** of **Substance Abuse Counseling Program**. **F**irst day of classes for students in the **1st & 5th** quarters of the **Substance Abuse Counseling Program.**
August 7, 2019 (Wednesday)	**R**egistration process for students in the **Bachelor of Science in Diagnostic Images & Post-Associate CertificatePost-Associate Certificate in Diagnostic Medical Sonography and Mammography** (PM).
August 7, 8, 9 2019 (Wednesday thru Friday)	**L**ate Registration period for students in the **1st & 5th** quarters of **Substance Abuse Counseling Program.**
August 8, 2019 (Thursday)	**R**egistration process for **1st year** students in the **Associate Degree in Radiologic Technology (AM) and the Post-Associate Certificate in Computerized Tomography (PM)**.
August 12, 2019 (Monday)	**F**irst day of classes for students in the **Undergraduate Academic Programs**. **L**ate Registration period for students in the **Undergraduate Academic Programs.**

August 15, 2019 (Friday)	**L**ast day for removal of Incomplete Work for students in **MD, Graduate Program in Biomedical Sciences and 1st and 5th** quarter **of Substance Abuse Counseling Program.**
August 23, 2019 (Friday)	**L**ast day for removal of Incomplete Work for students in **the Undergraduate Academic Programs.**
September 2, 2019 (Monday)* (Holiday)	**Labor Day**
September 23, 2019 (Monday)	**L**ast day to apply for admission /reclassification for January 2020.
October 14, 2019 (Monday)* (Holiday)	**Columbus Day**
October 24, 2019 (Thursday)	**L**ast day of classes and to apply for authorized withdrawal for students in the 1st & 5th quarters in the Substance Abuse Counseling Program.
October 25, 2019 (Friday)	**E**lective Courses Orientation process for students in **3rd year MD** (PM)*
October 29, 2019 (Tuesday)	**R**egistration process and first day of classes for students in **2nd & 6th quarters** of **Substance Abuse Counseling Program** (2:00-4:00 PM).
October 30, 31-Nov. 1 2019 (Wednesday thru Friday)	**L**ate registration period for students in the **2nd & 6th quarters** in **Substance Abuse Counseling Program.**
November 4, 2019 (Monday)	**D**eadline for late application for admission/reclassification for January 2020.
November 13, 2019 (Wednesday)* (Holiday)	**Veteran's Day**
November 14, 2019 (Thursday)	**L**ast day for removal of Incomplete work for students in the **1st & 5th** quarters in **Substance Abuse Counseling Program.**
November 15, 2019 (Friday)	**L**ast day to apply for Authorized Leave of Absence (LOA) for the second semester (Jan.-June 2020).
November 21, 2019 (Thursday)* (Holiday)	**Puerto Rico Discovery Day**
November 28-29, 2019 (Thursday & Friday)*	**Thanksgiving**
December 1, 2019 (Monday)	**R**egistration process for **1st year** MD students (AM) & **2nd year** (PM).
December 2-December 6, 2019 (Monday thru Friday)	**F**inal examination period for the **Undergraduate Academic Programs.**
December 6, 2019 (Friday)	**R**egistration process for **4th year MD** students. **L**ast day of classes and apply for authorized withdrawal for the **Undergraduate Academic Programs.** **L**ast day to submit the eligibility qualifications to obtain certificate/degree on December 20, 2019. **L**ast day to apply for authorized withdrawal for students in the **Graduate Program in Biomedical Sciences.** (Before the final class test.)
December 10, 2019 (Tuesday)	**R**egistration process for **Graduate Program in Biomedical Sciences** (PM).
December 13, 2019 (Friday)	**L**ast day to submit to the Office of the Registrar the Official Grade Lists for the **Undergraduate Academic Programs**.
December 16, 2019 (Monday)	**L**ast day to apply for admission to the **MD Program**. (first year new students, August 2020)
December 17, 2019 (Tuesday)	**L**ast day of classes for students of **Substance Abuse Counseling Program**. (Classes of the Substance Abuse Counseling Program will be meeting according Thursday schedule).
December 20, 2019 (Friday)	**L**ast day of classes and to apply for authorized withdrawal for **1st, 2nd & 4th year MD** students. Last day of classes for the **Graduate Program in Biomedical Sciences.** **O**fficial date for conferring Certificate/Degree for students who have completed all the requirements during 2019.
December 23, 2019 - January 7, 2020	**Christmas**

Second Semester	
January 14, 2020 (Tuesday)	**F**irst day of classes for **1st, 2nd and 4th year MD** students, the **Graduate Program in Biomedical Sciences** and **Substance Abuse Counseling Program**. Registration for students in the **Post-Associate Certificate in Diagnostic Medical Sonography** (AM), in the **Bachelor of Science in Diagnostic Images,** and in the **Post-Associate Certificate in Magnetic Resonance (PM).**
January 17, 2020 (Friday)	Registration process for students of the Associate Degree in Rad. Tech. (1st year (AM), & 2nd year (PM).
January 20, 2016 (Monday)* (Holiday)	**Martin Luther King Day**
January 21, 2020 (Tuesday)	**F**irst day of classes for **Undergraduate Academic Programs**.
January 28-31, 2020 (Tuesday-Friday)	**L**ate Registration period for students registered in December 2019 (4th year **MD** students), **Graduate Program in Biomedical Sciences** and **Undergraduate Academic Programs**.
January 24, 2020 (Friday)	**L**ast day of classes and last day to apply for authorized withdrawal for **3rd year MD students.** Registration process for the 2nd semester of **3rd year MD** students.
	Last day for removal of Incomplete work for students in the **1st, 2nd & 4th year MD**, **Graduate Program in Biomedical Sciences, PhD** and **Undergraduate Academic Programs.**
January 27, 2020 (Monday)	**F**irst day of classes for the 2nd semester of **3rd year MD students**.
January 27-31, 2020 (Monday thru Friday)	**L**ate registration period for the 2nd semester of **3rd year MD students**.
January 28-30, 2020 (Tuesday-Thursday)	**L**ast day of classes and last day to apply for authorized withdrawal for students in the **2nd & 6th quarters of Substance Abuse Counseling Program.**
January 30, 2020 (Thursday)	**L**ast day of classes for students in the **2nd & 6th quarters of Substance Abuse Counseling Program.**
February 3, 2020 (Tuesday)	Registration process for students in the **3rd & 7th quarters of Substance Abuse Counseling Program**. **F**irst day of classes for students in the **3rd & 7th quarters of Substance Abuse Counseling Program.**
February 5-7, 2020 (Wednesday thru Friday)	**L**ate registration period for students in the **3rd & 7th quarters of Substance Abuse Counseling Program.**
February 6, 2020 (Thursday)	**L**ast day for removal of Incomplete work for students in the **2nd & 6th quarters of Substance Abuse Counseling Program** and for students in **the Undergraduate Academic Programs.**
February 14, 2020 (Friday)	**L**ast day for removal of Incomplete work for students in **3rd year MD.**
February 17, 2020 (Monday) *(Holiday)	**President's Day**
March 26-27, 2020 (Thursday & Friday)*	**Easter**
April 1, 2020 (Wednesday)	**L**ast day to apply for admission /reclassification for August 2020.
April 17, 2020 (Friday)	**L**ast day of classes and to apply for authorized withdrawal for students in **2nd year MD.**
April 20, 2020 (Monday)*(Holiday)	**José de Diego Day**
April 21 (Tuesday) thru May 13, 2020 (Wednesday)	**F**inal examination period for **2nd year MD.**
April 22, 2020 (Wednesday)	**L**ast day to apply for authorized withdrawal for students in the **Graduate Program in Biomedical Sciences** and in the **Undergraduate Academic Programs** (before the last course exam).
April 23, 2020 (Thursday)	**L**ast day of classes and last day to apply for authorized withdrawal for students in the **3rd & 7th quarters of Substance Abuse Counseling Program.**

April 28, 2020 (Tuesday)	Registration and first day of classes for students in **4th quarter of Substance Abuse Counseling Program.** Deadline for late application for admission/reclassification for August 2020 (except 1st year **MD Program**).
April 29, 30-May 1st. 2020 (Wednesday thru Friday)	**L**ate registration period for students in the **4th quarter of Substance Abuse Counseling Program**.
April 30, 2020 (Thursday)	**L**ast day for removal of Incomplete work for students in the **3rd & 7th quarters** of **Substance Abuse Counseling Program.**
May 4 (Monday)-15 (Friday), 2020	**F**inal examination period for students in the **Undergraduate Academic Programs.**
May 4 (Monday) -22, 2020 (Friday)	**F**inal examination period for students in **1st year MD.**
May 8, 2020 (Friday)	Registration process for **RT-203 (Summer Clinical Practice).** **L**ast day of classes and to apply for authorized withdrawal for students in the **1st year MD**, **Graduate Program in Biomedical Sciences** and in the **Undergraduate Academic Programs.**
May 9, 2020 (Saturday)	**Comprehensive Exam for Substance Abuse Counseling Program**
May 11, 2020 (Monday)	**F**irst day of classes for **RT-203 (Summer Clinical Practice).**
May 22, 2020 (Friday)	**L**ast day to submit to the Office of the Registrar the Official Grades Lists for the students in the **Undergraduate Academic Programs.**
May 29, 2020 (Friday)	**L**ast day of classes & to apply for authorized withdrawal for students in **4th year MD.**
May 30, 2020 (Friday)*(Holiday)	**Memorial Day**
June 5, 2020 (Thursday)	**Commencement Exercises**
June 12, 2020 (Friday)	**L**ast day of classes and to apply for authorized withdrawal for **3rd year MD students**. **L**ast day to apply for Authorized Leave of Absence (LOA) **MD students** for 1st semester 2020-2021. **L**ast day of classes for **RT-203** (*Summer Clinical Practice*).
June 18, 2020 (Thursday)	**L**ast day to apply for authorized withdrawal for **RT-203 (*Summer Clinical Practice*)**.
June 22-26, 2020 (Monday-Friday)	Orientation period for **new students** in the **MD** faculty.
June 22, 2020 (Monday)	Registration process for **new students** in the **MD faculty** (PM).
July 6, 2020 (Monday)*(Holiday)	**USA Independence Day**
July 9, 2020 (Thursday)	**L**ast day of classes and to apply for authorized withdrawal for students in the **4th quarter of Substance Abuse Counseling Program.**
July 13-17, 2020 (Monday-Friday)	Orientation period for new students in the **Graduate Program in Biomedical Sciences.**
July 14, 2020 (Tuesday)	Registration process for **3rd year MD** students (AM). Registration process for students in the **Graduate Program in Biomedical Sciences** (PM)
***July 15,16 & 17, 2020 (Wednesday, Friday & Saturday)	Orientation period for **new students** in the **Substance Abuse Counseling Program.**
July 15, 2020 (Wednesday)	Registration process for **new students** in the **Substance Abuse Counseling Program.**
July 16, 2020 (Thursday)	Registration process for **2nd year MD** students (AM) & for **2nd year students of the Associate Degree in Radiologic Technology (PM).**
July 17, 2020 (Friday)	Registration process for **4th year MD students** (PM).
July 20, 2020 (Monday) *(Holiday)	**Luis Muñoz Rivera Day**
July 29, 2020 (Wednesday)*Holiday)	**José Celso Barbosa Day**

***Subject to change.**

The undergraduate academic programs include: Associate Degree in Radiologic Technology, Bachelor of Science in Diagnostic Images, Post-Associate Certificate in Mammography, Magnetic Resonance, Computerized Tomography, and Diagnostic Medical Sonography.

Every Thursday, from 12:00 to 2:00 PM, the "UNIVERSAL HOUR" will be observed for extracurricular purposes.

*UCC faculty can determine if during any Holiday an exam may be administered.

BURSARS OFFICE

General Fees

The following fees are applicable for all students:

ID Cards (replacement)	$15.00
Parking per year	$40.00
Parking label replacement	$10.00
Activity fee (per year) evening classes	$50.00
CPR course	$50.00
Accident insurance (per year)	$12.00
*Health Insurance	

*All students are required to carry a health insurance plan. If the student has no insurance, the University will provide one at market cost. These costs may change per semester.

Other Fees

Transcripts	$5.00
Dean's Letter	$10.00
Study Certification	$10.00
Grade Certification	$10.00
Diploma Certification	$10.00
Translation of Medical School Diploma	$25.00
Certification of Payments and Costs	$5.00
Copy of the Diploma for:	
Medicine	$75.00
All the other programs	$50.00
Affidavit	$60.00
Student File Copy (per sheet)	$2.00
Graduate Medical Education Certification	$50.00
Mail:	
Priority Mail	$5.00
Express Mail	$20.00
Lockers (non-refundable)	$10.00
Fax (per sheet)	$1.00
Dosimeter (replacement)	$50.00
School Badge	$10.00

APPLICABLE TUITION AND FEES FOR:

School of Chiropractic

Tuition for resident chiropractic students of Puerto Rico is $32,000.00 per year while tuition for non-resident chiropractic students is $34,048 per year. Other fees are:

Admission, with application (non-refundable beginning on academic year 2018-2019)	$200.00
Readmission, with application	$100.00
Deposit to hold place (non-refundable)	$100.00
Clinical laboratory (per year)	$2,000.00
General fee (per year)	$700.00
Technology Resources (per year)	$700.00

Orientation activity fee (First year)	$400.00
Graduation fee	$500.00
Endowment fee (per year)	$725.00
NBCE Part 1	$685.00
NBCE Part 2,3	$2,200.00/each

School of Medicine

Tuition for resident medical students of Puerto Rico is $34,250.00 per year while tuition for non-resident medical students is $42,255.00 per year. Other fees are:

Admission, with application (non-refundable beginning on academic year 2016-2017)	$200.00
Readmission, with application	$100.00
Deposit to hold place (non-refundable)	$100.00
Clinical laboratory (per year)	$2,000.00
General fee (per year)	$700.00
Technology Resources (per year)	$700.00
Orientation activity fee (First year)	$400.00
Graduation fee	$500.00
Endowment fee (per year)	$725.00
NBME Reposition Exam	$225.00

Biomedical Sciences Graduate Program

Tuition for the Biomedical Sciences Graduate Program of Studies is $335.00 per credit. Fees are the following:

Admission, with application (non-refundable)	$50.00
Late admission	$150.00
Readmission, with application	$50.00
Deposit to hold place	$100.00
Technology Resources (per year)	$600.00
General fee (per year)	$400.00
Laboratory fee (per year)	$500.00
Graduation fee	$250.00
Activity fee	$50.00
Endowment fee (per year)	$700.00
Software fee (per year)	$60.00
Comprehensive test	$50.00
Thesis printing	$200.00
Reclassification	$50.00

Substance Abuse Counseling Program

Tuition for the Substance Abuse Counseling Program is $275.00 per credit. Fees are the following:

Admission, with application (non-refundable)	$50.00
Readmission, with application	$50.00
Late admission	$150.00
Deposit to hold place	$100.00
Technology Resources (per year)	$600.00
General fee (per year)	$400.00
Graduation fee	$250.00
Reclassification	$50.00

Medical Images Technology Program

(Associate Degree in Radiologic Technology, Post-Associate Certificate in Diagnostic Medical Sonography, Post-Associate Certificate in Mammography, Post-Associate Certificate in Computerized Tomography, Post-Associate Certificate in Magnetic Resonance and Bachelor of Science in Diagnostic Images)

Tuition for the Medical Images Technology Program is $180.00 per credit. Students must be responsible for all costs pertaining to uniforms, transportation and lodging, incurred to comply with clinical practice as part of their training. Fees are the following:

Admission, with application (non-refundable)	$25.00
Readmission, with application	$25.00
Late admission	$100.00
Deposit to hold place	$100.00
Technical Resources (per year)	$500.00
General Fee (per year)	$150.00
Graduation Fee	$125.00
Clinical Training (per year)	$200.00
Reclassification	$25.00
Late reclassification	$30.00

Reimbursement of Tuition Fees

The university has a tuition refund policy that stipulates the amount of tuition and fees that are refunded to a student who withdraws from all classes during a term. The following chart shows the amount of tuition and fees returned to a student, depending on withdrawal date.

Time of Withdrawal	% of Charges Refunded
Before the 1st day of class	100% tuition; 100% fees
Within the first week of classes	80% tuition; 0% fees
During the second week of classes	50% tuition; 0% fees
After the second week of classes	0% tuition; 0% fees

-Registration deposit guaranteeing admissions is not refundable.

Return of Federal (Title IV) Financial Aid

As an Institution that participates and distributes students' financial aid Title IV Funds, the Universidad Central del Caribe adheres to federal guidelines governing refunds related to said program. The return of the Title IV Funds Policy applies to all registered students who qualify and participate in the federal financial aid program and later withdraw or are administratively withdrawn. The policy determines the amount of funds the student spends at the moment of withdrawal up to sixty (60) percent of the academic term; after this period refunds are not applicable.

Refunds will be made within thirty (30) days from the date that the University determines that the student had withdrawn. Requests for withdrawal must be submitted in writing to the registrar.

THE SCHOOL OF CHIROPRACTIC

SCHOOL OF CHIROPRACTIC

Waleska Crespo, DrPH, MHSA
President/Dean of Health Allied Sciences

Alex Adorno Bruno, DC
Director of School of Chiropractic

Nereida Díaz Rodríguez, PhD
Dean of Academic Affairs

Omar Pérez, PhD
Dean of Admissions and Student Affairs

Emilia Soto, MHSA
Dean of Administration

Mildred Rivera Marrero, MPH
Dean of Institutional Development and Strategic Planning

Yari Marrero Pagán, MHS
Director of Institutional Effectiveness Office

Kimberleve Rolón, PhD
Coordinator of Basic Sciences Curriculum

Mission, Vision and Scope

Mission

To educate highly qualified, caring and committed Doctors of Chiropractic (D.C.) to serve as primary wellness healthcare providers and promoters of evidence-based integrative practices.

Vision

UCCSC will be recognized as the gold standard institution for interprofessional collaboration in allopathic and integrative medicine, with the finest education and training of healthcare professionals, through innovative teaching methods and clinical experience in preventive medicine, chiropractic treatment and wellness healthcare.

Core Values

- Excellence
- Integrity and Leadership
- Evidence-Based Driven
- Innovation
- Patient-Focused
- Diversity and Inclusion
- Respect and Collegiality

Educational Goals and Objectives

Program Objectives

1. Students will demonstrate appropriate knowledge of the history and principles of chiropractic as a separate and distinct health care specialty profession.

2. Students will demonstrate an understanding of the principles of the synergetic relationship between the musculoskeletal structures and neurological and physiological functions of the human body.

3. Students will demonstrate the ability to critically appraise scientific information to document and improve chiropractic healthcare practices.

4. Students will demonstrate competence in clinical skills eliciting patient history, performing examination procedures, and ordering pertinent laboratory/imaging tests to elaborate a diagnosis and assess the need for chiropractic care and/or further appropriate interprofessional management plans with the proper health record documentation.

5. Students will demonstrate the ability to guide patients and communities appropriately with regard to healthy lifestyles, as well as the maintenance and promotion of health.

6. Students will show understanding and rigorous implementation of all standards of professional ethics and jurisprudence as well as further professional development.

7. Students will understand the research design and methodologies to further develop research protocols to contribute positively to the chiropractic profession, healthcare knowledge and practices and patient and community wellbeing.

8. Students will demonstrate an understanding of the role of the community in the individual health status by actively participating in outreach activities.

9. Students will demonstrate clinical confidence in evaluating, treating and co-managing the most frequent musculoskeletal pain pathologies.

Educational Program

DC Program Description

The academic program conducive to a Doctor of Chiropractic (DC) degree of the Universidad Central del Caribe, combines a solid foundation in basic sciences and clinical skills, together with an in-depth immersion into the evidence-based chiropractic field. The student will have access to cutting edge biomechanic laboratories, a state of the art manipulation instructional setting, a clinical skills development center including high fidelity simulators and standardized patients, and experiences in different healthcare facilities that support the teamwork among the health professionals. The DC program is a rigorous eight academic semester doctoral program that can be completed in eight semesters or three and a half years.

Throughout the basic science courses, the curriculum has been organized to allow the student integrate all disciplines content around organ systems and in the context of a patient case scenario. The clinical experiences combine hospital, ambulatory healthcare and community settings where the student can build up the sense of being part of the healthcare team.
UCC Doctor of Chiropractic students are educated in a holistic approach to health care and wellness, which includes clinical reasoning, adjusting skills and therapeutics, rehabilitation, community support, functional nutrition and lifestyle management.

Research and critical appraisal of evidence bring a solid base to the modern chiropractic professional, thus the UCC Doctor of Chiropractic program utilizes strong courses that support this practice with incorporation of evidence-based practice skills among all other learning experiences. The student will be capable of developing a research proposal or collaborate with other professionals in the bench, clinical or community environment.

The UCC Doctor of Chiropractic program emphasizes the preventive role of the profession in maintaining the individual and community health status through emphasis on public health, functional nutrition and lifestyle, where the students learn while providing community service to different populations.
The program highlights the role of the chiropractor as a spine care expert contributing to the initiatives to ease the pain killer crisis in the national scenario.

The DC program is oriented to develop a professional dedicated to the patient and the community, offering the best chiropractic evidence-based healthcare in an interprofessional collaboration with the highest standards of professional ethics.

Doctor of Chiropractic Program Meta-Competencies

1. Assessment and diagnosis
2. Knowledge for practice
3. Management plan
4. Health promotion and disease prevention
5. Communication and record keeping
6. Professional ethics and jurisprudence
7. Information and technology literacy
8. Chiropractic Adjustment/Manipulation
9. Interprofessional Education
10. Systems-Based Practice and professional development

Courses of Study

UCC- Doctor of Chiropractic Program, Credit Distribution by Academic Year

Academic Year	Credits
First Year	52
Second Year	57
Third Year	48
Fourth Year	52
TOTAL	**209**

UCC Doctor of Chiropractic Program, List of Courses by Academic Year

AY 1		
Course	**ID Code**	**Credits**
HMX Foundations of Sciences	DCHM101	4
Human Gross and Developmental Anatomy	DCAN101	10
Biochemistry and Cell Biology	DCBC101	10
Principles of Chiropractic I	DCCH101	2
Principles of Chiropractic II	DCCH102	1
Principles of Chiropractic III	DCCH103	2
Diagnostic Imaging I	DCDI101	1
Bioethics and Humanities I	DCET101	1
Histology	DCHI101	4
Introduction to Clinical Skills	DCCS101	2
Neurosciences	DCNE101	5
Problem Based Learning I	DCPB101	1
Public Health & Wellness	DCPH101	2
Physiology	DCPH101	5
Introduction to Research	DCRE101	1
Translational Research	DCRE102	1
	Total Credits Year 1	**52**

***One year duration**

AY 2		
Course	**ID Code**	**Credits**
Advanced Anatomy	DCAN202	10
Behavioral Medicine	DCBE201	2
Chiropractic Preceptorship 1	DCCC201	1
Chiropractic Preceptorship 2	DCCC202	1
Clinical Diagnosis I	DCCD201	3
Principles of Chiropractic IV	DCCH204	3
Principles of Chiropractic V	DCCH205	2
Principles of Chiropractic VI	DCCH206	2
Diagnostic Imaging II	DCDI202	1
Bioethics and Humanities II	DCET202	1
Microbiology and Immunology	DCMI201	9
Problem Based Learning II	DCPB202	1

AY 2		
Course	**ID Code**	**Credits**
Pharmacology	DCPR201	6
Lifestyle Diseases and Risk Reduction	DCPH202	1
Pathology and Mechanism of Disease	DCPM201	13
Research in Complementary/ Alternative Healthcare	DCRE203	1
	Total Credits Year 2	**57**

***One year duration**

AY 3		
Course	**ID Code**	**Credits**
Chiropractic Clinic	DCCC303	2
Principles of Chiropractic VII	DCCH307	5
Pediatrics and OBGYN	DCCC304	4
Family Medicine	DCCC305	4
Neurology	DCCC306	4
Physical Medicine & Rehabilitation	DCCC307	4
Spine Surgery	DCCC308	4
Clinical Diagnosis II	DCCD302	5
Principles of Chiropractic VIII	DCCH308	2
Diagnostic Imaging III	DCDI303	3
Diagnostic Imaging IV	DCDI304	3
Evidence Based Chiropractic Care I	DCEB301	1
Evidence Based Chiropractic Care II	DCEB302	1
Functional Approach to Basic Nutrition	DCFU301	3
Functional Medicine and Nutritional Therapy	DCFU302	2
Wellness in the Community	DCPH303	1
	Total Credits Year 3	**48**

AY 4		
Course	**ID Code**	**Credits**
Mastering Your Business	DCBU401	4
Patient Safety and CQI	DCCC409	4
Integrative Approach to Pain Management	DCCC410	4
Clinical Rotation I	DCCC401	9
Clinical Rotations II	DCCC402	14
Electives	DCCC403	4
Principles of Chiropractic IX	DCCH409	4
Functional Chiropractic Neurorehabilitation	DCCH410	3
Evidence Based Chiropractic Care III	DCEB403	1
Nutritional Therapy in the Chiropractic Practice	DCFU403	2
Chiropractic Sports Medicine, and Fitness Counseling	DCSM 401	3
	Total Credits Year 4	**52**

Description of Courses

ACADEMIC YEAR 1

DCHM101 Foundation of Sciences
4 Credits

This online course is focused on bringing the student the core concepts in medicine through clinical applications so the learner can be prepared for the highly demanding curriculum of the Doctor of Chiropractic Program. Using videos and real patient interactions the student will realize the relevance of basic concepts in the healthcare of patients. The course is offered online using trending strategies in medical education. This course includes the topics of Biochemistry, Genetics, Immunology, and Physiology. The student will be evaluated by participation in forums and periodical assessment with feedback. The certification of achievement is required to pass the course.

DCBC101 Biochemistry and Cell Biology
10 Credits

The Biochemistry and Cell Biology for Chiropractic Students course integrates the five disciplines of biochemistry, molecular genetics, genetics, molecular cell biology and molecular nutrition and presents the essential concepts of each. The course is conducted over ten weeks in the fall semester of the first year of chiropractic studies and is divided into three units. The course features 112 scheduled student contact hours of conferences. In these classes, the course professors present essential concepts and include clinical correlations chosen to illustrate these concepts. The presenting professors are encouraged to promote student interaction so that these conferences are not overly didactic. The course includes 13 computer-based self-instruction modules (SIMs) which present essential material that cannot be discussed in conferences due to time constraints. The course also features 10 active-learning sessions. Six of these are clinical application exercises (CAEs) which are clinical case-based small group discussion sessions that apply and reinforce concepts that are learned either in the conferences or in the SIMs. Three of the active learning sessions are postexamination discussions designed to help the student consolidate the learned material. Student knowledge is evaluated with three unit examinations and a comprehensive final examination.

DCAN101 Human Gross and Developmental Anatomy
10 Credits

This course will survey the regional, functional and developmental anatomy of the human body with emphasis on the anatomical correlates of clinical medicine. The study and visualization of the different components of the human body will be accomplished through prosections and complete dissection of a human cadaver. Teaching strategies used in this course are Lectures, Group Discussions, and Clinical Correlations, Medical Imaging Studies, Human Body Dissections, VH Dissector Pro Computer Program and 3D multiview anatomy system. Assessment strategic includes three Written Examinations (have a value of 48% of the final grade), three Laboratory Examinations (have a value of 32% of the final grade), and a Final Exam (has a value of 20% of the final grade).

DCCH101 Principles of Chiropractic I: History, Philosophy, and Theory
2 Credits

This course will introduce the student to the historical background, the philosophy of its foundation and the theories of the vertebral subluxation complex (VSC). The course will follow a chronological succession of the events following the invention by DD Palmer of the concept known as chiropractic and the follow up progression to legitimize it. A historical overview of the profession will be taught to ensure that the student understand the myths, prejudice and future of our young profession. The course will also cover in detail the philosophical view, which have distinguished us from the allopathic community, and how has it been challenged lately. An overview will be given of the challenges that we have as health providers, the socioeconomic impact of our profession in Puerto Rico and its background history, from the pioneers to the present, and how has it developed in the last decades. The VSC will be discussed from a philosophical, research and medical standpoint to create a cognitive and critical interpretation, for the student to follow in his/her own career. Assessment and evaluation strategies of this course include MCQ Exams, Oral Presentations and Written Homework.

DCCH102 Principles of Chiropractic II: Psychomotor Skills, Palpation and Motion Palpation
1 Credit

This course is conducted in an active learning environment to develop the palpation and psychomotor skills which serve as the motor and sensory abilities of the chiropractic evaluation. These abilities will be taught with exercises that focus on core strengthening, core stability, eye hand coordination and proprioceptive skills. The course is taught in a practicum and hands-on workshop, in which the student must perform maneuvers, verbalized procedure and demonstrate competence of motor skills. A comprehensive discussion in parallel to the basic sciences courses of the evaluation of soft tissues, tissue pull, joint range of motion, joint play and joint dysfunction will be approached synergistically. The course will also serve as an introduction of the chiropractic nomenclature and listings with the respective manipulative procedures to correct them. A thorough demonstration of the proper biomechanical and ergonomic postures and patient positioning will be taught utilizing the quantitative and qualitative measures acquired through the utilization of the FSTT.
A rubric criterion-based rating scale will be utilized to assess the student's accomplishments and identify areas of improvement. Assessment and evaluation strategies for this course include MCQ Exams, Performance Evaluations, Clinical Performance Ratings, Practical Examinations and Workshops (FSTT).

DCCH103 Principles of Chiropractic III: Thoracic Spinal Manipulation Technique
2 Credits

This course will serve as an introduction to the art, science and evidence-based spinal manipulation. It will be a practicum application of the biomechanical concepts of spinal joint dysfunction (subluxation), palpation and psychomotor skills through spinal manipulative procedures. The course will focus on demonstrating the physiological characteristics and biomechanical functions of the thoracic spinal region and its associated structures. Complemented by various chiropractic techniques (e.g. Full Spine, Diversified) applicable for the correction and rehabilitation of this region. In addition, the course will teach the student the chiropractic biomechanical nomenclature listings, the contact points of delivering the thrust, ergonomics of doctor-patient positioning, professional communicative terminology and technical skills. A specific educational resource (Force Sensing Table Technology) will be utilized for teaching purposes allowing the faculty instructor to quantitative and qualitative assess the student, enhancing therefore the skills development and the learning experience. Use of this instrument has been proven in research to produce highly skilled prospects and validate the standardization of the chiropractic adjustment. Assessment and evaluation strategies for this course include: MCQ Exams, a criterion-based rating scale will be utilized to assess the student's accomplishments and identify areas of improvement, FSTT Performance quantitative values, Clinical Performance Ratings, Practical Examinations, O.S.C.E. and Workshops.

DCDI101 Diagnostic Imaging I: Normal Anatomy
1 Credit

This course will be taught together with Human Gross and Developmental Anatomy to maximize the student's anatomic knowledge and is designed to delineate the normal radiographic anatomy of the human body. The course will discuss the history and development of x-ray, x-ray physics, ionizing radiation, basic physical science, x-ray machine and generator, units of radiation and patient positioning. Workshops will include visualization of radiographic normal anatomical variants and spinal patient positioning. Assessment and evaluation strategies will include: Quizzes, Performance checklist.

DCET101 Bioethics and Humanities I
1 Credit

The first year of the Bioethics and Humanities course is devoted to the fundamental issues of Bioethics: Principles of Bioethics, Moral Reasoning, and Doctor/Patient relationship, including integrity, confidentiality, informed consent, and decisional capacity. The contents of this course, along with the materials of the second-year course (bioethical issues concerning the beginning and end of life), constitute the indispensable foundations for the application of bioethical principles in the rotations that will begin on the third year. The Bioethics content is complemented and supported by activities and workshops on Medical Humanities. In this course, students will participate in Action Writing and Medical Narrative workshops led by the Medical Humanities staff. The educational activities include the discussion of a film, using a primary method for the analysis of narratives primarily designed for our chiropractic students, and exercises in creative writing and role-playing. These activities will promote in our chiropractic students' lifelong skills such as awareness, concentration, observation, trust, teamwork, empathy, communication, critical thinking, moral reasoning, and imagination. In this program, the student begins his/her chiropractic education with this course. It is not by

accident. In this way, we seek to underline the importance of the material covered in the overall training (in contrast to instruction) of the chiropractic student, the future primary care physician. Assessment and evaluation strategies for this course consist of Departmental Exams, 2 Quizzes, Group Discussions and Role Playing.

DCHI101 Histology
4 Credits

This course has been designed to provide fundamental instruction in basic body organization in such a manner as to not only limit the course to a description of the human body from the microscopic point of view but also give its functional correlation. The primary concern in teaching a functional Histology course is to develop in the student a sense of inquiry, understanding and an appreciation of the structural organization at the cellular level of the human organism as it correlates to normal function and health. The Histology course meets the educational mission/curriculum requirements of the Universidad Central del Caribe by offering a solid background in modern molecular and cellular biology, tissue, organ systems and clinical correlations, which are the basis for the pathology course and the biological understanding of medicine. The student will learn to recognize and describe normal histology specimens as well as how to analyze, synthesize and organize information using high-level thinking. The Histology course encourages attendance to correlated clinical lectures, case discussion sessions, and textbook independent study, in addition to library research. Students will be evaluated through MCQ Exams and Formative Quizzes.

DCCS101 Introduction to Clinical Skills
2 Credits

The Introduction to Clinical Skills Course will focus on preparing the student to perform an organized, thorough physical examination, history and case presentation. The student will learn to select elements of the complete examination for application in problem specific situations. Topics will be arranged as a systems basis and will parallel topics cover in the Human Gross and Developmental Anatomy Course. It is important for the student to understand the relationship between material presented in this course and that covered in parallel courses. An emphasis in the neuro-musculoskeletal system is reinforced, exposing students to posture analysis, gait locomotion analysis and neurological examination. Educational strategies used in this course are: lectures, workshops, demonstration and simulations. This course will be graded, and the students will be evaluated using the following strategies: departmental exams, conferences and laboratories attendance and Objective Structured Clinical Examination (OSCE).

DCNE101 Neurosciences
5 Credits

Neuroscience is a multidisciplinary course integrating the areas of Anatomy, Biochemistry, Physiology, Pharmacology, Neurology, Neuroradiology, Neurosurgery and Neuropathology. These areas have been experiencing a revolution due to the conceptual and technological improvements of cellular and molecular biology, imaging of the live brain, and other advancements. These new approaches, together with classical ones, have allowed us to develop a more comprehensive view of the overall complex interaction of the peripheral and central nervous tissue. In the development of the topics, the students will discuss information ranging from the basic ultrastructural level to establishing neurophysiological and cellular correlates of behavior. The order of presentation of the topics is intended to provide the student with the morphological information required to understand the physiological and pathological processes related to the nervous system. The clinical correlation sessions, presented by neurologists and neuroradiologists, will serve that goal. In the end, the student will also be introduced to a new avenue of Neuroscience delineated by the development of non-invasive approaches and instruments for the in vivo study and analysis of brain tissue. These are some examples: Magnetic Resonance Imaging (MRI); Computer Assisted Tomography (CT); Proton Emission Tomography (PET) scans, Electro-encephalogram (EEG) Polysomnograms, EMG and Evoked Potentials. The Neuroscience Course Goals are reached through diverse educational strategies such as Lectures, Laboratories, and Small and Large Group Discussions. Evaluation is based on Partial and Practical Computer-Based examination using the LXR testing program. Besides, written and oral quizzes sometimes including "Clickers," are incorporated both as formative as well as summative strategies.

DCPB101 Problem Based Learning I
1 Credit

The class will be divided into groups of 6-8 students, and a format of small group discussion will be followed. There will also be a facilitator, who is a member of the faculty. Sequential simulations of patient's problems will be presented. Three sessions will be spent on each simulation. The students will take responsibility for the discussion of the issue, identifying what they need to know to understand better and manage the problem, and determining what resources they will use to acquire new information. Each student will be responsible for looking up some part of the needed information and will prepare a report on it. This report will be presented to the rest of the group in the next session.

Self-study skills, as well as the evaluation of the levels of evidence from the information gathered, will be promoted with this course. Students are encouraged to look for information from a variety of sources such as Learning Resources Center (books, journals, Internet sites, etc.), Clinical Skills Center (models, videos), private and government agencies, as well as faculty members (as experts on a given matter). Students will be assessed through Formative and Summative Evaluation Checklists, Narrative Evaluations, Group Portfolio and an Oral Presentation.

DCPH101 Public Health & Wellness
2 Credits

This course is designed to give the chiropractic student a sound educational foundation in the issues of public health topics. Some topics included are a historical perspective of public health, the purpose of public health organizations, structure and functions, social and behavioral factors affecting public health, injuries as a community health problem, safety and health in the workplace, environmental factors in disease transmission and inhibition of disease and epidemiology. It will also present the basic concepts of wellness applied to public health. The educational strategy of this course consists of lectures focused on the topics previously mentioned. Student assessment and evaluation strategies will include MCQ Exams, Oral Presentation, and a Community Awareness Project.

DCPH101 Physiology
5 Credits

The Physiology course will present the current biological, chemical and physical concepts underlying the normal function of organ systems. The objectives will be attained using lectures, clinical correlations, and group discussions. The topics to be presented during the lectures will include the physiology of muscle tissues and that about the process of hemostasis and the cardiovascular, respiratory, renal, gastrointestinal, endocrine and reproductive systems. A short review of basic concepts of cellular physiology and the foundations of acid/base disorders will also be discussed. The course will also include small group discussion sessions in which a stronger student-faculty interaction will be established. These activities are designed to help the students understand the material presented in the course, clarify doubts, increase their interest for further knowledge and help them integrate the concepts and principles of physiology to other basic sciences. Students will be evaluated through the following assessment strategies: seven Partial Examinations, Summative Quizzes, and a Subject Final Exam.

DCRE101 Introduction to Research
1 Credit

The Introduction to Research course is a fifteen-hour course designed to provide first-year chiropractic students with basic principles of research. The course topics include how research is developed, conducted and, evaluated. Students discuss ethical and legal issues of research as well. Lectures by invited faculty and other teaching strategies are used in the course. This is a pass or fail course; it is evaluated with a quiz, discussion forums, and a concept mapping presentation.

DCRE102 Translational Research
1 Credit

This course is an introduction to the translational research, including discoveries generated during research in the laboratory and preclinical studies applied to the development of trials and studies in humans, and the efficacy and cost-effectiveness of prevention and treatment strategies to accelerate adoption of best practices in communities and populations. Educational strategies are lectures, small group discussions, and workshops. This course is graded as pass/fail course; it is evaluated with quizzes, discussion forums, and concept mapping presentation.

ACADEMIC YEAR 2

DCAN202 Advanced Anatomy
10 Credits

This course will focus on the functional anatomy of the vertebral column, vertebrae, joints, ligaments, relevant neurovascular structures and the spinal cord as well as the biomechanics of the vertebral column. Students will also learn about osteology, joint articulations, and biomechanics of the upper and lower extremities. Emphasis will be placed on clinical considerations and its integration with chiropractic. The professor will present/discuss the musculoskeletal anatomy and basic biomechanical principles necessary to understand and apply chiropractic manipulative procedures. As well as the effects of loads on all forms of connective tissue and the relationship between forces applied to the body and the consequences of those forces on human motion. An academic picture of the applied anatomy and clinical biomechanics of the musculoskeletal system should present a nonmathematical approach to defining clinically useful biomechanical concepts necessary to describe and interpret changes in joint function. Assessment and evaluation strategies used in this course are Lectures, Group Discussions, and
Clinical Correlations, Medical Imaging Studies, Human Body Dissections, VH Dissector Pro Computer Program, three Written Examinations, three Laboratory Examinations, and a Final Exam.

DCBE201 Behavioral Medicine
2 Credits

As implied by the course name, the course will provide the student the necessary knowledge and clinical skills to perform a complete psychiatric evaluation, including mental status exam, and to identify the primary pathological manifestations of mental health, and initiate standard-of-care somatic and psychological treatments. The course will feature experienced faculty specialized in the conditions and therapies to be covered, using as reference the course's primary textbook, Kaplan & Sadock's, Synopsis of Psychiatry, 10th edition, and the NBME Behavioral Science Review Series. We will also organize the course sections and chapters, as well as study the most recent principal diagnostic changes, toby the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5). Each faculty member will utilize the necessary teaching strategies to promote the acquisition of the stated course goals and objectives. These are the available methods: lectures, textbook and handouts (readings), vignettes (case discussions), role-playing (simulated experiences), PRS questions and answers (problem solving and practice exam questions), and discussion board, deemed most appropriate. The student will be evaluated using four (4) quizzes, two (2) partial departmental exams, and one
(1) final exam consisting of the National Board of Medical Examiners' Behavioral Science Subject Exam.

DCCC201 Chiropractic Preceptorship I
1 Credit

This course exposes the students to innovative learning and service methods. The students will learn and apply professional standards of a Primary Chiropractor using two different approaches:

1. Lectures. Students will be taught the roles of a Chiropractor, the code of ethics, professional behavior, laws and jurisprudence, scope of practice, professional associations and an introduction to the health care systems.
2. Preceptorship. Students will learn by experience the role of a Chiropractor in a clinical setting.

Assessment and evaluation strategies consist of Preceptorship Evaluations (Criterion-based rating scales), Case Presentations.

DCCC202 Chiropractic Preceptorship II
1 Credit

This course exposes the students to innovative learning and service methods. The students will learn and apply professional standards of a Primary Chiropractor using two different approaches:

1. Teaching Methods. Students will participate in workshops, role-play, case discussion, covering sensitive professional misconduct, legal connotations and preventive measures.
2. Preceptorship. Students will be exposed to chiropractic specialists in the fields of pediatrics, sports, neurology or family practice and may participate actively in the history interview of an assign patient in the clinical setting. The chiropractic faculty preceptors will be chosen and align with a diversity of specialties to enhance the preceptorship experience.

Assessment and evaluation strategies consist of Preceptorship Evaluations (Criterion-based rating scales), Case Presentations.

DCCD201 Clinical Diagnosis I
3 Credits

The emphasis of this course is to provide students with a rational, efficient, practicebased/systems-based learning, and a thorough approach to history and physical examination. Topics are arranged as systems-based with parallel systems covered in other concurrent courses. Structured observation using real and standardized patients are used for formative as well as summative evaluations. An Objective Structured Clinical Examination (OSCE) is given as a final practical exam. With this goal in mind, we invite the student to approach with enthusiasm this course, because the history and physical examination are the building block of clinical medicine.

DCCH204 Principles of Chiropractic IV: Spinal Manipulation Lumbar and Lumbo-Pelvic Region
3 Credits

It will be a practicum application of the biomechanical concepts of spinal joint dysfunction (subluxation), palpation and psychomotor skills through spinal manipulative procedures. The course will focus on demonstrating the physiological characteristics and biomechanical functions of the Lumbar and Lumbo-Pelvic spinal region and its associated structures. The course will cover various chiropractic techniques (e.g., HVLA, LVLA, Diversified, gravity assisted table technique) applicable for the correction and rehabilitation of this regions. In addition, the course will teach the student the chiropractic biomechanical nomenclature listings, the contact points of delivering the thrust, ergonomics of doctor-patient positioning, professional, communicative terminology and technical skills. A specific educational resource, (Force Sensing Table Technology) will be utilized for teaching purposes allowing the faculty instructor to quantitative and qualitatively assess the student, enhancing, therefore, the feedback and academic experience. Use of this instrument has been proven in research to produce highly skilled prospects and validates the standardization of the manipulative procedure. Assessment and evaluation strategies for this course include MCQ Exams, Clinical Performance Ratings, FSTT Performance, Practical Examinations, O.S.C.E. and Workshops.

DCCH205 Principles of Chiropractic V: Spinal Manipulation Upper and Lower Extremities Region
2 Credits

This course will emphasize on the identification and management of global proprioceptive deficits and advanced techniques of extremity adjusting. The course will discuss the interrelationship of the upper and lower extremities and the spine from a biomechanical and neurological point of view. It is a practicum application of the biomechanical concepts of spinal joint dysfunction, palpation and psychomotor skills through HVLA, LVLA, gravity assisted table technique and other manipulative procedures. The course will focus on demonstrating the physiological characteristics and biomechanical functions of the upper and lower extremities and extra spinal regions and its associated structures. Complemented by the various chiropractic techniques applicable for the correction and rehabilitation of this regions.

In addition, the course will teach the student the chiropractic biomechanical nomenclature listings, the contact points of delivering the thrust, ergonomics of doctor-patient positioning, professional, communicative terminology and technical skills. A specific educational resource (Force Sensing Table Technology) will be utilized for teaching purposes allowing the faculty instructor to perform quantitative and qualitative assessments of the student, enhancing, therefore, the feedback and academic experience. Use of this

instrument has been proven in research to produce highly skilled prospects and validates the standardization of the manipulative procedure. Assessment and evaluation strategies for this course include MCQ Exams, Performance Rubric Evaluations, FSTT Performance, Practical Examinations, O.S.C.E. and Workshops.

DCCH206 Principles of Chiropractic VI: Occiput, Cervical, CT, and TMJ
2 Credits

It is an advanced practicum application of the biomechanical concepts of spinal joint dysfunction (subluxation), palpation and psychomotor skills through spinal manipulative procedures. The course will focus on demonstrating the physiological characteristics and biomechanical functions of the cervical spine, occiput and temporomandibular joint region and its associated structures, and complemented by various chiropractic techniques (e.g., HVLA, LVLA, gravity assisted table technique, other) applicable for the correction and rehabilitation of this region. Also, the course will teach the student the chiropractic biomechanical nomenclature listings, the contact points of delivering the thrust, ergonomics of doctor-patient positioning, professional, communicative terminology and technical skills. A specific educational resource (Force Sensing Table Technology) will be utilized for teaching purposes allowing the faculty instructor to perform quantitative and qualitative assessments to the student, enhancing, therefore, the feedback and academic experience. Use of this instrument has been proven in research to produce highly skilled prospects and validates the standardization of the manipulative procedure. Assessment and evaluation strategies for this course include MCQ Exams, FSTT Performance, Practical Examinations, O.S.C.E. and Workshops.

DCDI202 Diagnostic Imaging II: Spine, Pelvis, and Extremities
1 Credit

This course is designed to delineate radiographic abnormalities with a focus on the spine, pelvis, and extremities. Lecture topics will include congenital anomalies, deviations and arthritic disorders. Workshops include application of radiological assessments, patient positioning and case presentation. Assessment and evaluation strategies will consist of Quizzes, Performance check list.

DCET202 Bioethics and Humanities II
1 Credit

The second year of the Bioethics and Humanities course is devoted to the beginning and the end of life. The contents of this course, along with the materials of the first-year curriculum, constitute the indispensable foundations for the application of bioethical principles in the rotations that will begin in the third year. The following topics are presented and discussed during the second year of Bioethics and Medical Humanities: a) bioethical issues concerning the beginning and the end of life; b) bioethical matters concerning the treatment of fetus, newborns, infants, and children; c) bioethical issues concerning end of life care; d) bioethical issues concerning euthanasia and assisted suicide. During the academic year, the presentation and discussion of these bioethical matters will be complemented with the analysis of the movie *Mar Adentro* (The Sea Inside) and role-playing exercises. Assessment and evaluation strategies for this course consist of Written Exams, Summative Quizzes, Group Discussions and Humanities Workshop.

DCMI201 Microbiology and Immunology
9 Credits

Microbiology and Immunology is a full academic year course in pathogenic Microbiology and Immunology designed to provide the necessary concepts required for all subsequent pre-clinical and clinical studies dealing with infectious diseases. This course includes many etiological agents responsible for global infectious diseases. Since the territory covered by infections and the immune response expands each year, we focus on pathogenic mechanisms to foster students' ability to solve problems in their future clinical career.

Repeatedly throughout the course, the Faculty makes appropriate correlations between fundamental principles of medical microbiology and infectious processes, although the emphasis is placed on the understanding of fundamental principles needed now as a student and in the future as a practicing primary care physician. Moreover, it is the Department's responsibility to acquaint the student with enough information that enables him/her to follow the scientific advances in the medicine and medical related sciences.

The course is divided into immunology, virology, cell and molecular microbiology, bacteriology, mycology, and parasitology. Content covers pathogenic microorganisms (bacteria, viruses, fungi, and parasites), host-pathogen interactions, microbial virulence determinants, host immune responses, signs and symptoms of

disease presentation, epidemiology, laboratory diagnosis, prevention (vaccines) and therapy (antimicrobials).

Teaching/ learning methods/strategies used to enable the achievement of learning outcomes are lectures, laboratory practices, small/large group discussions and clinical correlations. Assessment methods, which would allow students to demonstrate the learning outcomes, are surveys in Blackboard, Patient-Oriented Problem Solving (POPS) and quizzes, among others.

DCPB202 Problem Based Learning II
1 Credit

In this course, the students will be exposed to patient simulations in a problem-based, student-centered and evidence-based approach. This educational methodology will help students develop more responsibility for their learning since it is the students who determine what they need to learn to better understand the patient's problems better. The content of the simulations will be based on the topics covered in the Second-Year courses (Pathology/ Mechanism of Disease, LPCP, Microbiology, Psychopathology, Behavioral Sciences, and Clinical Skills) as well as content from the First-Year courses (Anatomy, Neuroscience, Physiology). The simulations are designed to promote the integration of knowledge from clinical and basic sciences disciplines.

The class will be divided into groups of eight to nine students, and a format of small group discussion will be followed. There will also be a facilitator, who is a member of the faculty. Sequential simulations of patient's problems will be presented. Three sessions will be spent on each simulation. The students will take responsibility for the discussion of the issue, identifying what they need to know to understand better and manage the problem, and determining what resources they will use to acquire new information. Each student will be responsible for looking up some part of the needed information and will prepare a report on it. This report will be presented to the rest of the group in the next session.

Self-study skills are promoted with this course, and students are encouraged to look for information from a variety of sources. Among those, there are Learning Resources Center (books, journals, practice guidelines, Internet sites, etc.), Clinical Skills Center (models, videos), private and government agencies, as well as faculty members (as experts on a given matter). The course will incorporate the concepts of PICO questions as well as the searching of empirical evidence from peer-reviewed sources.

DCPR201 Pharmacology
6 Credits

This course encompasses the presentation and discussion of the chemistry and activity of drugs, pharmacokinetics and pharmaco-genetic principles, pharmacological effects, mechanisms of actions, clinical uses, adverse side effects, toxicities and interactions of medications used in the diagnosis, prevention, and treatment of disease. As far as it is possible, it also emphasizes the physiological and pharmacological effects of both endogenous and exogenous substances at the cellular level. The course involves the discussion and presentation of such topics as general pharmacological principles, pharmacological aspects of drugs affecting the autonomic and the central nervous system, the cardiovascular, respiratory, renal, gastrointestinal and the endocrine systems. It also includes the discussion and presentation of the agents used in the treatment of infectious diseases such as antibiotics, antiviral and antifungal drugs, anti-helminitics and antimalarials. Cancer chemotherapy, principles of immune-pharmacology and the study of the autacoids are also presented in detail. Finally, a section in Clinical Toxicology is also shown, where the essential aspects of environmental, industrial, agricultural and household toxic agents are discussed. Student assessment strategies for this course will include MCQ Exams and Summative Quizzes.

DCPH202 Lifestyle Diseases and Risk Reduction
1 Credit

This course examines the etiology and development of significant lifestyle diseases such as cardiovascular diseases, cancer, obesity, nutritional disorders, and selected infectious diseases. Lectures will emphasize on identifying risk factors and examination of successful risk-reduction programs. The educational strategy utilized in this course consists of lectures and group discussions. This course will also discuss Lifestyle Medicine, which is the evidence-based therapeutic approach to prevent, treat and reverse lifestyle-related chronic diseases. As well as comprehensive lifestyle interventions (including nutrition, physical activity, stress

management, sleep, social support and environmental exposures) address underlying disease risks, thereby decreasing illness burden and improving clinical outcomes within value-based medicine. The students will be evaluated through the following strategies: MCQ Exams, Written and Oral Presentation and a Final Project/Portfolio.

DCPM201 Pathology and Mechanisms of Disease
13 Credits

This course presents all aspects of the development of disease, with particular reference to the causes and their development, as well as the structural and functional changes in cells and organs that result from the disease process. It is offered longitudinally throughout the academic year. It consists of lectures, as well as discussion, large and small groups, case-based learning, independent learning, team-based learning, and tutorials. The grading methodology will include integrated partial institutionally developed, computer-based exams, summative quizzes, participation, self-assessment, and final exam (NBST). This course has as the prerequisite of the first-year curriculum of doctor of chiropractic, computer literacy, and the basics of evidence-based (research, appraisal of validity and reliability of information, and fundamentals of statistical analysis of such data).

DCRE203 Research in Complementary and Alternative Healthcare
1 Credit

This course will discuss and critically analyze Complementary and Alternative Medicine (CAM) from various perspectives: historical, philosophical, scientific, and clinical, and will allow the student to be familiar with a large number of research areas related to CAM. Educational strategies utilized in this course consist of lectures, small and large group discussions, workshops, case-based learning and independent learning. Students will be evaluated through the following strategies: MCQ Exams, Quizzes, Written and Oral Presentation, and a Research Proposal. As part of the final evaluation of this course, students will develop a research paper/proposal with a topic related to chiropractic.

ACADEMIC YEAR 3

DCCC303 Chiropractic Clinic
2 Credits

This course will serve as a practicum for students to implement several techniques learned during the previous courses. Students will use the model of peer assessment and will take advantage of the feedback provided by their peers. The student must show the clinical competency of medical history taking, evaluation, treatment, clinical reasoning and proper documentation of encounters. These duties will be evaluated, overseen and measured quantitative and qualitatively by the faculty clinician. A rubric criterion-based rating scale will be utilized to assess the student's accomplishments and identify areas for improvement.
A clinical supervisor will oversee the students, provide observations checklists and progress reports as means of evaluation. This course will be a practicum application of the biomechanical concepts of spinal joint dysfunction, palpation and psychomotor skills through spinal manipulative procedures.

DCCH307 Principles of Chiropractic VII: Physiotherapy and Exercise in Chiropractic Rehabilitation
5 Credits

To complement the educational proficiency of the DC student, the active and passive chiropractic care course will introduce the protocols, management, and fundamentals of physical rehabilitation and prevention in a hands-on practical setting. This course design will give the student the skills and critical thought process of preparing a tailored exercise and physiotherapeutic program according to their patients' particular goals and neuromusculoskeletal health status. A course objective is to develop the clinical experience of the student to integrate different techniques of stretching, core strengthening, and balance programs; instrument assisted soft tissue techniques, active and passive ranges of motion, myofascial trigger point release techniques and related matters. Moreover, this course will also engage the student in acquiring critical clinicians' applications of innovative, evidence-based therapeutic modalities to modulate pain levels and speed recovery times quantitatively. Students will learn about the benefits and contraindications of specific modalities applied during passive care protocols such as angular spinal decompression, electrical stimulation, ultrasound, phototherapy laser therapy, pulsed electromagnetic fields, hyperbaric oxygen therapy, vibro-therapy, Kinesio-taping, biphasic electrical stimulation, Russian stimulation, microcurrent, paraffin, cryotherapy, and athletic taping. The set of skills learned in this course will complement the set of tools that the clinician will be able to apply

to a comprehensive patient treatment plan. Assessment and evaluation strategies for this course include MCQ Exams, Written and Oral Presentations, Performance Clinical Performance Ratings, Practical Examinations, O.S.C.E. and Workshops.

DCCC304 Pediatrics and OBGYN
4 Credits

The Pediatric and Gynecology clerkship experience introduces the chiropractic student to a unique, sophisticated and challenging field of medicine. In chiropractic, the pregnant woman and pediatric patient are covered by a combination of medical specialties: Pediatrics and OBGYN. This clerkship provides the student with a mix of patient and clinical experiences both in outpatient and inpatient settings. The students will be divided into two groups: group A will go the first two weeks in pediatrics, and the remaining 2 in OBG; group B will alternate the schedule. Half of the day will happen in a clinical site for inpatient experience with allopathic attending physicians and the other half of the day in an outpatient clinic with a chiropractic with a fellow on PED/OBG. The students are evaluated using the following strategies: oral presentations, clinical case presentations, O.S.C.E., departmental examinations, patient encounter, one exam and the daily performance evaluation given by the preceptor and the National Board Subject Examination. Pediatric component emphasizes those aspects of general pediatrics essential for the chiropractic students and will provide a foundation for those students who elect to further study the health care of infants, children, and adolescents. Students will have the opportunity to participate in the clinical activities of general pediatric services, with emphasis placed on essential general pediatrics, common illnesses and professional, ethical and cultural issues. The clerkship has the responsibility to teach the knowledge, skills, and attitudes fundamental to the development of a competent general physician/chiropractic. Educational strategies developed in this course are lectures, morning reports, teaching rounds and rotations. The students will be evaluated using the following strategies: clinical skills, and departmental exams. The primary learning site for students to developing knowledge, skills, and attitudes are at the Puerto Rico Children's Hospital and San Jorge Children's Hospital.

OBGYN component: Student will be exposed to obstetrical and gynecological experiences under supervision. The class is divided into small groups assigned to the gynecology service, the ordinary and complicated obstetrics service, the labor room and emergency service, and outpatient clinics. At these stations, they will rotate for three (3) days with the responsibility to shadow the process of admission of patient, history and physical examination, daily rounds, follow up of patients, post operative care and discharge summary. At these stations, the daily work will be supervised by full-time instructors. The student should read and be familiar with material related to their cases, and be able to present and discuss their cases in daily rounds as well as with the assigned attending. The primary learning sites are San Juan City Hospital, HIMA, and chiropractic offices. The primary learning sites for students for developing knowledge, skills, and attitudes are at the Puerto Rico Children's Hospital and the Ramon Ruiz Arnau University Hospital.

DCCC305 Family Medicine
4 Credits

This six-week clerkship gives the third-year chiropractic students an opportunity to practice under the supervision of a Family Physician in outpatient settings mostly located in the metropolitan area or adjacent towns in Puerto Rico. Many sites were identified and evaluated, but the chosen ones were carefully selected because they have outstanding family physicians that offer a broad and high-quality experience in family practice. The primary emphasis is on acquiring knowledge and skills in assessing and managing common health problems (listed below) among both adults and children. The students provide continuous care for families, emphasizing prevention, patient education, and health promotion. During this experience, the student is exposed to the primary procedures performed in primary care. Close attention is given to the clinical skills to assure consistency in meeting the educational objectives of the clerkship. Every preceptor has a copy of the syllabus, which contains the clerkship objectives and evaluation forms (Clinical Tool Kit).

The educational strategies developed in this course are lectures, daily case presentations, clinical discussions, ethics group case-discussion and home visits. The students are evaluated using the following strategies: oral presentations, clinical case presentations, O.S.C.E., departmental examinations, patient encounter, one exam and the daily performance evaluation given by the preceptor and the National Board Subject Examination. All student work-up is supervised, discussed and countersigned by the attending physician. The patient logbook is evaluated at midrotation to identify the diagnoses to which the students need

to be exposed order to guarantee the clerkship requirements were accomplished. Written feedback is obtained from the students about the various clinical sites and the preceptors. Each student must work-up four to five new patients and follow twenty patients per week.

DCCC306 Neurology
4 Credits

This Clerkship/Course will expose 3rd-year chiropractic students to the diagnosis and treatments of diverse neurological conditions that are commonly encountered in practice. The student must show proficiency in proposing a chiropractic intervention if feasible or the correct pathway of care according to the evidence in research. It comprises several Educational Workshops, such as the following: Clinical Conferences, Ambulatory Rotations, Recaps and Reviews Sessions, and Competences. We will also be evaluating the performance of each of the different teams in which this Neurology clerkship will be divided. The Global Group Grade will be assigned a tenpercent of the total course/clerkship grade. Each team will be complying with those tasks assigned during the four-week duration of this course. Participation of every team member will be taken into account in the Global Group Grade.

DCCC307 Physical Medicine and Rehabilitation
4 Credits

This course offers hands-on exposure to the practice of physical medicine and rehabilitation (PMR) with an emphasis on musculoskeletal and neurological rehabilitation. Patients may have an acute illness, trauma, surgical procedures, and hospitalization, and the student will have an opportunity to follow the patients' post-acute care. The primary responsibility is the care of these patients with spinal cord injury, stroke, amputations/complex fractures, multiple trauma, traumatic brain injury, and general debilitation. The faculty will define participation in patient care. The student will be expected to: [1] Participate in the evaluation, functional diagnosis, and treatment of individuals with significant impairment and disability who require long-term hospitalization to achieve maximal independence, and [2] Integrate medical and surgical knowledge in the care of patients in the hospital for rehabilitation and the outpatient clinic. Additionally, adult and pediatric outpatient clinics are available to expose students to the longterm problems that these patients encounter. The students are evaluated using the following strategies: oral presentations, clinical case presentations, OSCE, departmental examinations, patient encounter, one exam and the daily performance evaluation given by the preceptor and the National Board Subject Examination. All student work-up is supervised, discussed and countersigned by the attending physician. The patient logbook is evaluated at mid-rotation to identify the diagnoses to which the students need to be exposed to guarantee the clerkship requirements were accomplished. Written feedback is obtained from the students about the various clinical sites and the preceptors.

DCCC308 Spine Surgery
4 Credits

This course will expose 3rd-year chiropractic students to observational roles of surgical interventions of the spine and the standard guidelines of rehabilitation for post-operative care. Students will shadow orthopedic surgeons and neurosurgeons who are actively engaged in the practice of spinal surgery. Students will participate in patient care based on their level of competency and at the discretion of their surgeon attending. The students are evaluated using the following strategies: oral presentations, clinical case presentations, O.S.C.E., departmental examinations, patient encounter, one exam and the daily performance evaluation given by the preceptor and the National Board Subject Examination. All student work-up is supervised, discussed and countersigned by the attending physician. The patient logbook is evaluated at mid-rotation to identify the diagnoses to which the students need to be exposed order to guarantee the clerkship requirements were accomplished. Written feedback is obtained from the students about the various clinical sites and the preceptors.

DCCD302 Clinical Diagnosis II: Orthopedics and Neurology
5 Credits

The Orthopedic and Neurology course will form a DC student that will be proficient in applying the proper evaluation of the patient to work a diagnosis according to the patient's specific presentation. The student will sharpen the skills of performing, communicating and applying clinical rationale to the orthopedic and neurological examination to accurately understand the pathological references of each exam and its results. This course will cover the orthopedic and neurological examination and testing of the spinal column, upper

and lower extremities, vascular disorders, space-occupying lesions and spinal cord injury, with case studies to develop the diagnostic criteria. Resulting in a capacitated clinician with the cognitive development to correctly apply the evidence-based examination to the proper working diagnosis. The clinical management, chiropractic relevance and the rehabilitation considerations will also be explained to the student during this course and emphasized accordingly. Structured observation using real and standardized patients are used for formative as well as summative evaluations. An objective structured clinical examination (OSCE) is given as a final practical exam.

DCCH308 Principles of Chiropractic VIII: Advanced Chiropractic Techniques
2 Credits

This course is intended to provide a practicum workshop overview of Full Spine and Diversified Techniques and will proceed to teach and integrate advanced chiropractic techniques such as Flexion/Distraction (Cox Protocols), gravity assisted table techniques, Instrument assisted technique, Gonstead, CBP, among other techniques in the patient management. This course is designed to expose the chiropractic student to various chiropractic techniques and their respective research with the goal of broadening the students' knowledge and adjustive skills, as well as serve as motivation to be actively involved in research. Assessment and evaluation strategies for this course include MCQ Exams, Written and Oral Presentations, Performance Evaluations, Practical Examinations, O.S.C.E. and Workshops.

DCDI303 Diagnostic Imaging III: Bone and Joint
3 Credits

The Bone and Joint extensive imaging course consist of lectures that cover the most common musculoskeletal pathologies from diverse etiologies. Among those pathologies include but are not limited to congenital malformations of the spine and skeletal systems; endocrine disorders of the musculoskeletal system; tumor and tumor-like processes of the spine and extremities; arthritic pathologies in the spine and extremities, traumatic imaging studies and degenerative changes of the spine and joints. A digital imaging library will serve as a database for the student to access the reviews for development of the clinical skills necessary for diagnostic imaging. Each of the pathologies will be described in depth of demographic details, various location, and recent evidence base etiologies. Assessment and evaluation strategies will include Quizzes, Digital imaging identify exams, MCQ Exams, and Self-Assessment.

DCDI304 Diagnostic Imaging IV: Advanced Imaging
3 Credits

The advanced imaging course consists of lectures focused on identifying spinal, CNS and CNS vascular pathologies most commonly observed in a clinical setting. This course will teach the student the differences between advanced imaging studies, their clinical applications, the radiological nomenclature of the pathologies and case studies to optimize his/her clinical judgment. It will also focus on the chiropractic management and future technological developments of advanced imaging in research. This course will cover topics of MRI nomenclature, MRI T1/T2 weighted significance, radiolucency and radiopacities and their applications according to the location and imaging characteristics. It will discuss in detail the intervertebral disc pathologies, radiological findings, and terminology of the various findings. It will also cover the pathologies most commonly encountered that can mimic musculoskeletal pain, such as neoplastic processes, vascular diseases, and neurological pathologies. Assessment and evaluation strategies will include Quizzes, Written Homework, MCQ Exams, clinical vignettes, and Self-Assessment.

DCEB301 Evidence-Based Chiropractic Care I
1 Credit

An introduction to the practice of implementing scientific evidence into the clinical decisionmaking process. The student will develop expertise in the creation of relevant clinical questions, searching the literature databases, critical appraisal of scientific articles, applying the evidence, and the evaluation of the process that was involved, combining scientific evidence with clinical experience and patient values. The course will review specific research designs that are commonly encountered in chiropractic-related literature as well as properties and use of clinical outcome measures, bias, validity, reliability, sensitivity, specificity, and concepts in statistics. Through case-based instructional learning and small group discussion, the student will be able to acquire the knowledge of EBP and put into practice case-based learning. The assessment strategies of this course include Written Short Exams, Portfolio-Based Assessment, Clinical Documentation Review, Peer Assessment and Literature Search Performance.

DCEB302 Evidence Based Chiropractic Care II
1 Credit

This course is intended to be a sequel to Evidence-Based Chiropractic Care I. It is expected to continue the development of expertise in clinical questioning, demonstrating how to use the literature databases, critical appraisal of scientific articles, applying the evidence, and the evaluation of the process, combining scientific evidence with clinical experience and patient values. The student will be able to analyze research designs that are commonly encountered in chiropractic-related literature and be able to use clinical outcome measures, bias, validity, reliability, sensitivity, specificity, and concepts in statistics. Through case-based instructional learning and small group discussion, the student will be able to enhance the knowledge of EBP and put in practice case based-learning. The assessment strategies of this course include Written Short Exams, Portfolio-Based Assessment, Clinical Documentation Review, Peer Assessment and Literature Search Performance.

DCFU301 Functional Approach to Basic Nutrition
3 Credits

Basic Human Nutrition for the primary health care practitioner focuses on gaining mastery over the concepts essential to understanding health and nutrition from a holistic perspective. This course consists of lectures covering the following topics: an overview of general principles about carbohydrates, lipids, proteins, vitamins and minerals, water, macronutrients and micronutrients, dietary assessment, and controversies in nutritional therapy. Additional topics focus on nutrition, environment, and common nutritional problems. This course will discuss essential trend topics of health such as diets, juicing, lifestyles (vegan, flexitarian, paleo), nutrition in fitness, intermittent fasting, clinical detox, and a guide to a 21-day plan to thrive in health. The assessment and evaluation strategies for this course include Summative MCQ Exams, Oral Presentation, and a Terminology Project.

DCFU302 Functional Medicine and Nutritional Therapy
2 Credits

This course's approach is in improving patient's outcomes across a wide range of chronic health conditions through careful analysis of common underlying pathways that interact to produce disease and dysfunction or health and vitality. Students will be able to fully integrate an understanding of the underlying functional mechanisms of disease with therapeutics and prevention, utilizing food and nutraceuticals as the first line of therapy when applying clinical nutrition in the patient's care plan.

The course is organized to cover from the essential topics of functional medicine, through the most related disorders, to the hands-on practice of formulating nutraceuticals. The course will be delivered using lectures, case discussions, oral presentations, assignments and VLOGs, and assessed through MCQ Exams, Oral Presentations, and a Final Project.

DCPH303 Wellness in the Community
1 Credit

The Wellness in the Community course reviews the 15 core competencies for prescribing, recommending and sustaining healthy lifestyle practices for the community to attempt lifestyle change, make improvements, and achieve lifestyle goals. Case studies and community activities highlight the management of a typical patient with chronic disease conditions and risk factors (including hypertension, pre-diabetes, obesity, sedentary lifestyle, and social isolation with a complicating mood disorder), to demonstrate the application of these skills in clinical practice. The students will be evaluated through the following strategies: Summative MCQ Exams, Oral Presentation, a Final Project and Participation in Community Activities.

ACADEMIC YEAR 4

DCBU401 Mastering your business
4 Credits

This business course emphasizes on the business skills necessary for a rewarding and successful private practice. The curriculum topic areas are Personal Assessment, Career Assessment,

Professional Skills Development, Employment Preparation, Business Preparation, Practice Management, Marketing, and Entrepreneurship Ecosystem Awareness. Course delivery methods include lectures and workshops using active learning techniques and guest speakers addressing specialized topics when needed

(i.e., federal and state business permits and regulations, government tax system, financing mechanisms, entrepreneurship ecosystems). Assessment and evaluation strategies will consist of Small/Large Group Discussions, Workshops, Clinical Application Exercises (CAEs), and Quizzes.

DCCC409 Patient Safety and Continuous Quality Improvement
4 Credits

The Patient Safety and Quality Care Improvement course will introduce the fundamentals of patient safety, evaluation of quality and quality measures and principles of quality improvement to a student working in any aspect of healthcare or health services research. The course will examine the importance, background, and implications of patient safety in healthcare today as well as the central concepts, recommendations, and practices required to be part of a skilled multidisciplinary team. A combination of methodologies and carefully selected resources will facilitate the learning process and active student engagement.

The course will be organized into these three overlapping topic areas and will consist of lectures, group activities and project work. We will survey essential topic areas in patient safety. We will explore the components of quality measures and their construction and evaluation in the current healthcare milieu. Students will review and create quality measures within their chosen field and develop a quality improvement project to improve a process or outcome.

DCCC410 Integrative Approach to Pain Management
4 Credits

This course focuses on the etiology, chiropractic care management, nutrition, medical procedures and case studies of pain management. The course will broaden the spectrum of co-management of the most common neuro-musculoskeletal complaints seen in chiropractic settings through research, protocols and integrative care. Students will apply the clinical critical thinking skills developed in previous courses to manage appropriately and maintain best practices protocols in evaluating, treating and co-managing painful neuromuscular skeletal conditions. Assessment and evaluation strategies include MCQ exams, Case Presentations, Written Homework, and a Final Project.

DCCC401 Clinical Rotation 1
9 Credits

The Clinical Rotation 1 course is a clinical clerkship internship where the student will be able to evaluate, assess, order studies, diagnose and perform treatment with continuous supervision of the mentor or attending faculty clinician. By this stage of the educational development program, the student will be capable of sharpening the functions of a chiropractic practitioner with confidence and skill to deliver the adequate care. The clinical rotation will be performed at multisite outpatient clinical environments where integrative care is rendered, and collaborative management is encouraged and facilitated. The students are evaluated using the following strategies: oral presentations, clinical case presentations, O.S.C.E., departmental examinations, patient encounter, one exam and the daily performance evaluation given by the preceptor and the National Board Subject Examination. All student work-up is supervised, discussed and countersigned by the attending faculty clinician. The patient logbook is evaluated at mid-rotation to identify the diagnoses to which the students need to be exposed to guarantee the clerkship requirements were accomplished. Written feedback is obtained from the students about the various clinical sites and the preceptors.

DCCC402 Clinical Rotation II
14 Credits

The Clinical Rotation 2 course is a clinical clerkship internship where the student will be able to evaluate, assess, order studies, diagnose and perform treatment with continuous supervision of the mentor or attending faculty clinician. By this stage of the educational development program, the student will be capable of sharpening the functions of a chiropractic practitioner with confidence and skills to deliver the adequate care. The clinical rotation will be performed at multisite outpatient clinical environment were integrative care is rendered and collaborative management is encouraged and facilitated. The students are evaluated using the following strategies: oral presentations, clinical case presentations, O.S.C.E., departmental examinations, patient encounter, one exam and the daily performance evaluation given by the preceptor and the National Board Subject Examination. All student work-up is supervised, discussed and countersigned by the attending faculty clinician. The patient logbook is evaluated at mid-rotation to identify the diagnoses to which the students need to be exposed to guarantee the clerkship requirements were accomplished. Written feedback is obtained from the students about the various clinical sites and the preceptors.

DCCC403 Electives
4 Credits

The elective course is a three-module component where the student can choose the track of his/her choice within the chiropractic sports sciences, functional nutrition, and pediatrics. This module will expand the knowledge and clinical experience of the student to enhance and motivate him/her to pursue specific career opportunities. The students are evaluated using the following strategies: oral presentations, clinical case presentations, patient encounter, one exam and the daily performance evaluation given by the preceptor. All student work-up is supervised, discussed and countersigned by the attending faculty clinician. The patient logbook is evaluated at mid-rotation to identify the diagnoses to which the students need to be exposed to guarantee the clerkship requirements were accomplished. Written feedback is obtained from the students about the various clinical sites and the preceptors.

DCCH409 Principles of Chiropractic IX: Special Populations
4 Credits

This course is focused on group populations who can benefit from chiropractic care as coadjuvant to help them overcome their chronic poor health status. People with a diagnosis of HIV/AIDS, Cancer, Stroke, Drug abuse, and disabilities, among others are the focus of this course, and the student will have the opportunity to learn through lectures, workshops and direct care to patients in outpatient clinics. The focus is far away from controversies and directed to provide relief and creating an opportunity to educate patients on a wellness-based lifestyle that involves chiropractic care making a daily difference in the lives of people living with chronic conditions. Chiropractic interns will render care under the mentorship and continuous observation of the faculty clinician to impact these populations through wellness education, prescribed exercises; and self-care advice. The people with chronic conditions are often given pain medications and muscle relaxants to deal with chronic pain, and a chiropractor can offer them long-term, corrective care alternatives through so they can be proactive in their health versus reactive to their suffering. The student will be evaluated using MCQ Exams, the clinical experience rubric criterion-based rating scale will be utilized to assess the student's accomplishments and identify areas for improvement, OSCE, and Workshops.

DCCH410 Functional Chiropractic Neurorehabilitation
3 Credits

Recent advances in brain imaging have allowed researchers to observe previously unknown dynamic properties of the brain. Brain cells once regarded as being fixed or static were now proven otherwise. Mature neurons were shown capable of increasing their communication with other nerve cells, and of promoting further growth. The adult brain is currently perceived with a capacity to re-organize itself, maximize its efficiency, and compensate for the loss of functions. These observations gave rise to the concept of neuroplasticity. From chiropractic, neuromechanical and neurophysiological perspective methods of patient evaluation to localize and subsequently correct central nervous system weakness was developed. Neuro-ophthalmic pathways have allowed further CNS evaluations and subsequent synergistic therapeutic stimulation. Therefore, this course will give a review of the appropriate integration of brainbased evaluations and therapies to allow the chiropractor to develop optimal protocols of neurorehabilitation, and for athletic equilibrium and balance enhancement. Assessment and evaluation strategies for this course include MCQ Exams, Written and Oral Presentations, Performance Evaluations, Practical Examinations, and Workshops.

DCEB403 Evidence-Based Chiropractic Care III
1 Credit

This course is intended to be a sequel to Evidence-Based Chiropractic Care 2. It is expected to master the student competency in the clinical questioning and patient management, demonstrating how to use the literature databases, critical appraisal of scientific articles, applying the evidence, and the evaluation of the process, combining scientific evidence with clinical experience and patient values. The student will be able to analyze research designs that are commonly encountered in chiropractic-related literature, and be able to use clinical outcome measures, bias, validity, reliability, sensitivity, specificity, and concepts in statistics. Through case-based instructional learning and small group discussion, the student will be able to enhance the knowledge of EBP and put into practice case-based learning. The assessment strategies of this course include Portfolio-Based Assessment, Case Reports/Presentations, Professional Development Plan, Clinical Documentation Review, and Peer Assessment.

DCFU403 Nutritional Therapy in the Chiropractic Practice
2 Credits

Nutrition is the sum of all the processes and functions by which growth, development, maintenance and repair of the body occur and by which reproduction is accomplished. This course presents the principles and practice of scientifically based clinical nutrition. Lecture topics include nutritional assessment (nutritional implications of the physical exam, laboratory studies, etc.), macronutrients, micronutrients, phytonutrients, enzymes, and other factors. Various conditions are discussed with emphasis on the understanding that they are a different expression of imbalances and dysfunctions that are preventable and correctable and covers the role of nutrition in the prevention and treatment of disease.

This course will pay attention to individual nutritional requirements by organ system of the body. Particular emphasis will be given to gut lining, dysbiosis, and microbiome, including Pre and Probiotics usage to repopulate. It will also cover the basic concepts of clinical detoxification processes with special mention of tonic water fasting and whole food plant-based diet as a chronic disease reversal therapy. Assessment and evaluation strategies for this course include Summative MCQ Exams, Oral Presentation, and a Terminology Project.

DCSM401 Chiropractic Sports Medicine and Fitness Counseling
3 Credits

This course is designed to expose the student to various areas of action of the chiropractor, inside the specialty of sports chiropractic physicians, combining the scientific knowledge from biomechanics, kinesiology, and physiology with the practical experience with athletes at the laboratory of biomechanics, and in the sports field. Additionally, the students will have the opportunity to be involved in the evaluation and design of rehabilitation programs through specific workshops and group discussions. Student assessment and evaluation strategies include MCQ Exams, Written and Oral Presentations, Practical Exams, and On-Field Performance Exams.

THE SCHOOL OF MEDICINE

SCHOOL OF MEDICINE

José Ginel Rodríguez, MD
Dean of Medicine

Omar Pérez, PhD
Dean of Admissions and Student Affairs

Zilka Ríos, MS
Associate Dean of Academic Affairs of Medicine

Emilia Soto, MHSA
Dean of Administration

Delia Camacho, PhD
Associate Dean of Research and Graduate Studies

Harry Mercado, MD
Associate Dean of Faculty and Clinical Affairs

Frances García, MD
Director, Bioethics and Medical Humanities Center
Director of Graduate Medical Education Office

Michael Vélez Crespo, MS
Director of Academic Research & Assessment Office

Vacant
Director, Office of Electives

Jose Luis Oliver, DMD
Director, Multidisciplinary Clinical Skills Training Center

Department Chairpersons

Chairpersons of the Preclinical Sciences Departments

Anatomy and Cell Biology ..... Sofia Jiménez, PhD
Biochemistry..... Richard Hann, MD
Microbiology and Immunology ..... Zilka Ríos, MS (Interim)
Pharmacology ..... Héctor Maldonado, PhD
Physiology..... Priscilla Sanabria, PhD
Neurosciences……..……Vesna Eterovic, PhD

Chairpersons of the Clinical Sciences Departments

Family Medicine and Community Health ..... Eric González, MD
Psychiatry..... José A. Franceschini, MD
Internal Medicine..... Melba Colón, MD
Obstetrics-Gynecology..... Alfonso Serrano Ysern, MD
Pathology and Laboratory Medicine ..... Angelisa Franceschini, MD
Pediatrics ..... Fermín Sánchez, MD
Surgery ..... Carlos Ramírez-Tánchez, MD

Mission, Vision and Scope

Mission
To form competent diverse health professionals with an excellent academic preparation within a humanistic and holistic framework. Our guiding principle is to ensure that our graduates possess a strong sense of professionalism and commitment to their social duties and to offer service to Puerto Rico and Hispanic communities in the mainland.

Vision
To be a School of Medicine that pursues the highest standards of excellence in education, research and clinical services, intrinsically committed to our community and societal needs.

Scope
The School of Medicine (SOM) is committed to provide our students with integrated knowledge in the sciences basic to medicine with the skills of critical thinking and analysis, with a dedication to lifelong learning and with the attitudes of compassion and respect for human dignity.

The School of Medicine contributes to the enrichment and enhancement of knowledge by strengthening a creative environment that fosters the development of research in the biomedical, clinical, and psychosocial sciences oriented towards the health needs of our community.

Within the scope of its mission, the School of Medicine offers quality health services at the primary care level and in specialized curative and rehabilitative services in a cost-effective and accessible manner to the population that it serves.

Educational Goals and Objectives

Goal

Prepare qualified physicians, with a humanistic outlook, geared toward primary medicine, with a commitment to continuous education, interested in research and capable of performing adequately in accredited postgraduate medical education programs.

The educational program of the SOM aims to achieve the following general objectives:

Patient Care

- Develop the clinical skills and attitudes to provide patient care in an appropriate and culturally sensitive manner.
- Demonstrate a doctor-patient relationship that facilitates patients' abilities for the decision making and management of their own health maintenance and disease treatment.

Medical Knowledge

- Develop knowledge and skills of the biomedical, clinical, epidemiological, social-behavioral, ethics, biostatistics and public health sciences.
- Demonstrate mastery of key concepts and principles in the basic sciences and clinical disciplines that are the basis of current and future medical practice.

Interpersonal and Communication Skills

- Develop effective interpersonal and communication skills to exchange information with patients, families, colleagues and other members of the health team.
- Integrate knowledge from the basic sciences, clinical disciplines, evidence-based medicine, and population-based medicine with specific information about the patient and the patient's life situation.

Professionalism

- Develop the professional attitudes, manners and ethical values of integrity and respect for human dignity; compassion, dedication and social responsibilities towards the interaction with peers, patients, families, and health professionals.

- Apply basic precepts of the medical profession: altruism, respect, compassion, honesty, integrity and confidentiality, to the needs of patients that supersedes self-interest.

Practice-based Learning and Improvement

- Develop the skills and attitudes required for professional and life-long learning through appraisal and assimilation of scientific evidence, and improvement in patient care.
- Understand health systems and how physicians can work effectively in health care organizations, including:
  - Electronic communication and database management for patient care.
  - Quality assessment and improvement.
  - Cost-effectiveness of health interventions.
  - Assessment of patient satisfaction.
  - Identification and alleviation of medical errors.

System-based Practice

- Develop knowledge and skills of the health care system to provide optimal services in ambulatory and hospital settings.
- Understand the healthcare needs of society to contribute to society both in the medical field and in the broader contexts of societal needs.

Affiliated Institutions

1. Dr. Ramón Ruiz Arnau University Hospital
   (Formerly Bayamón Regional Hospital)
   Bayamón, Puerto Rico, Main teaching hospital

2. San Juan City Hospital
   San Juan, Puerto Rico

3. VA Caribbean Healthcare System
   San Juan, Puerto Rico

4. Puerto Rico Children's Hospital
   Bayamon, Puerto Rico

5. First Hospital Panamericano
   Cidra, Puerto Rico

6. San Jorge Children's Hospital
   San Juan, Puerto Rico

7. MetroPavia
   Hato Rey, Puerto Rico

8. HIMA San Pablo Hospital, Caguas
   Caguas, Puerto Rico

9. HIMA San Pablo Hospital, Bayamón
   Bayamón, Puerto Rico

10. Manatí Medical Center Hospital
    Manatí, Puerto Rico

11. Metropolitan Hospital
    Rio Piedras, Puerto Rico

12. Ashford Presbyterian Hospital
    San Juan, Puerto Rico

In addition, the School of Medicine holds over 30 affiliations for clinical experiences in the Medical Degree Program throughout Puerto Rico.

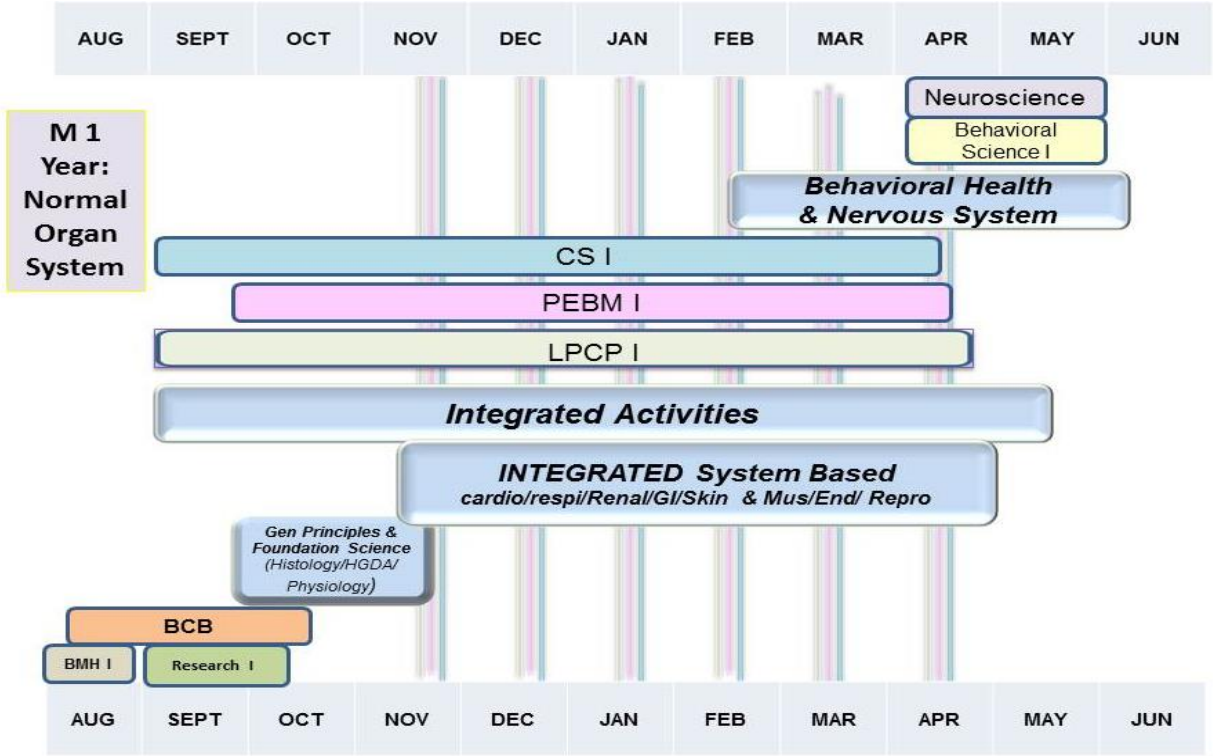
Educational Program

The curriculum of the School of Medicine consists of four years of studies. It incorporates the successful aspects of a conventional curriculum with problem-based and student-centered learning; early clinical skills learning coupled with sustained, community-based learning; the incorporation of a population and behavioral perspective into the clinical years; peer teaching; computer-assisted instruction; and biweekly seminars on professional responsibility. The curriculum also addresses the historically unmet as well as changing health care needs of our population and changing learning needs of future physicians.

In the first two years it provides students with a basic foundation in both biomedical sciences and clinical skills. The students are introduced early to standardized patients as they learn communication, observation, and examination skills. They have an opportunity to use their newly acquired skills with real patients in the Longitudinal Primary Care Preceptorship under the supervision of community preceptors. The students receive formative evaluations from the patients and faculty during the sessions in which standardized patients are used.

Figure I and II show the courses and their distribution during the first two years. The subjects are covered in separate courses, although integration of the content in all courses is closely monitored by the course coordinators who meet regularly for this purpose.

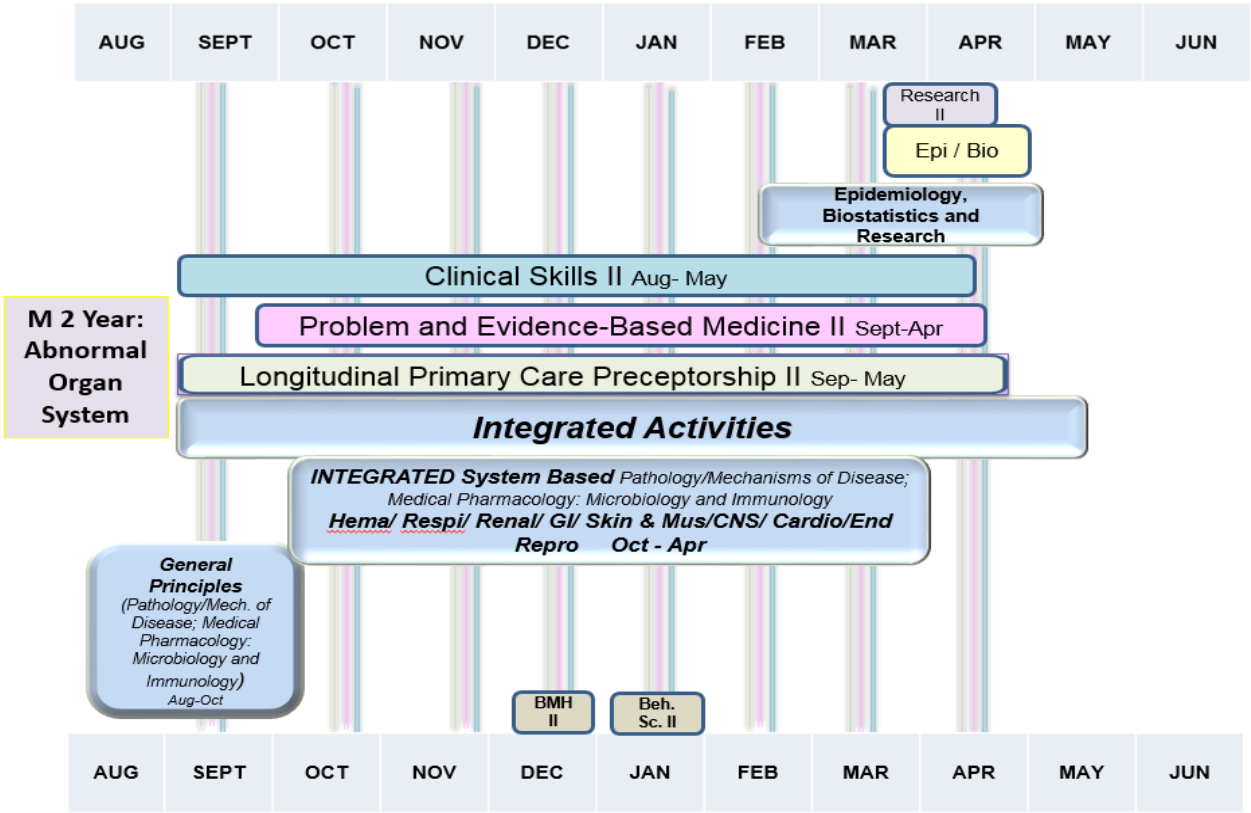
Figure I: Year 1 Course Sequence



B = Biological
P = Psychosocial
S = Skills
I = Integration

For example, the laboratory sessions of the Anatomy, Histology, and the Clinical Skills experience are given simultaneously. The class is divided into three groups of twenty students each, rotating through the Gross Anatomy laboratory session, the Histology laboratory session, and the Center for the Development of Clinical Skills to practice the corresponding organ-system of the physical examination.

FIGURE II: YEAR 2 COURSE SEQUENCE



The general principles include topics of foundational sciences of Pathology, Immunology, Microbiology and Pharmacology. This includes topics concerning those normal and abnormal processes that are not limited to specific organ systems. The integrated system based includes topics concerning specific organ systems, approached from the disciplines of Pathology, Microbiology and Pharmacology. The Clinical Skills, Problem and Evidence-Based Medicine and Longitudinal Primary Care Preceptorship courses, provide the integration of basic and clinical sciences.

Table I illustrates some of the instructional formats used in our curriculum. The Problem Based Learning courses in the first and second year facilitate integration of the material covered in other courses. Small-group discussions are used in courses such as Bioethics, Biochemistry, Physiology, and Anatomy, in which students interact with faculty and have the opportunity to receive direct feedback.

Table 1. Basic Sciences Curriculum Instructional Methods

FIRST YEAR	SECOND YEAR
Case-Based Instructional/Learning Clinical Correlations Concept Mapping Laboratory Large Group Discussions (>12) Lectures Problem Solving Preceptorship Problem Based Learning Service Learning Activity Small Group Discussions (<12) Structured Sessions with Anatomic Simulators Team-Based Learning	Case-Based Instructional/Learning Clinical Exercises Concept Mapping Laboratory Large Group Discussions (>12) Lectures Problem Solving Preceptorship Problem Based Learning Patient Oriented Problem Solving (POPS Service Learning Activity Simulations Small Group Discussions (<12) Structured Sessions with Anatomic Simulators Team-Based Learning

Course coordinators are using the most recent educational technology and are offering their courses on-line.

Third and Fourth Year Curriculum

The third year is composed of clinical rotations. After completion of a transition to the clinical year experience, students spend most of their time at the hospitals and at different ambulatory settings. The third year schedule is uniform for all students in terms of experiences; however, students have some flexibility in terms of the order in which they take the clerkship. Students spend 9 weeks in Surgery, 9 weeks in Internal Medicine, 6 weeks in Pediatrics, 6 weeks in Psychiatry, 6 weeks in Family Medicine, 6 weeks in Obstetrics/Gynecology and 2 weeks in Transition to Clinical Years/Radiology/Emergency Medicine. At the end of the third year, students will have a broad understanding of medicine and be ready to further develop and refine their skills in the coming year.

Fourth year students have required experiences that were specifically designed to address the needs for physicians to practice in the new health environment. Students spend 6 weeks in Ambulatory Medicine and Community Research, 4 weeks in Clinical Neurology, 2 weeks in Selected Topics and 2 weeks in Bioethics/Humanities in Medicine IV. Students must complete 18 weeks of elective experience. They have ample flexibility in designing their schedule and are encouraged to broaden their learning experiences by sampling areas in which their exposure has been limited.

Courses of Study

First Year

Code	Course Title	Credits
UCC 635	Behavioral Science	2
UCC 510D	Biochemistry and Cell Biology	10
UCC 514B	Bioethics and Humanities in Medicine I	1
UCC 503B	Histology	4
UCC 502	Human Gross and Developmental Anatomy	10
UCC 619A	Introduction to Clinical Skills	2
UCC 590-1C	Longitudinal Primary Care Preceptorship I*	3
UCC 580A	Neuroscience	5
UCC 530C	Physiology	5
UCC 515CI	Problem and Evidence Based Medicine I*	2
UCC 505R-II	Research I	1

Second Year

Code	Course Title	Credits
UCC 635A	Behavioral Science II	2
UCC 514C	Bioethics and Humanities in Medicine II	1
UCC 620D	Clinical Skills II*	3
UCC 590-2A	Longitudinal Primary Care Preceptorship II*	5
UCC 540A	Medical Pharmacology*	6
UCC 520A	Medical Microbiology and Immunology *	9
UCC 553	Pathology and Mechanism of Disease*	13
UCC 516BI	Problem and Evidence Based Medicine II *	1
UCC 505R-2	Research II	1

Third Year

Code	Course Title	Credits
UCC 615A	Transition to Clinical Years	2
UCC 615	Basic Radiology	1
UCC 670B	Family Medicine Clerkship	4
UCC 623A	Internal Medicine Clerkship	6
UCC 660B	Obstetrics-Gynecology Clerkship	4
UCC 650B	Pediatrics Clerkship	4
UCC 631B	Psychiatry Clerkship	4
UCC 640C	Surgery Clerkship (including Subspecialties)	6

Fourth Year

Code	Course Title	Credits
UCC 675A	Ambulatory Medicine and Research	4
UCC 518	Bioethics and Humanities in Medicine IV	2
UCC 700	Elective courses (18 weeks)	N/C
UCC 629A	Neurology	3
UCC 607	Selected Topics	3

*One-year duration course

Total Credits: 129

Description of Courses

First Year

UCC 635 Behavioral Science
2 Credits

Basing itself on the biopsychosocial model of healthcare and a relationship-centered approach, the Behavioral Science I course will introduce the student to key knowledge and skills to (1) assess the biological, psychological and social aspects of their patient's mental health, (2) effectively and empathically communicate with patients and other healthcare providers, and (3) promote patient self-efficacy and behavior change needed for health promotion, disease prevention and chronic disease management. The student will be empowered to analyze and manage complex psychological and social scenarios threatening the general health and well-being of his or her patients, and to accordingly direct their care within the healthcare system.

Topics will include:

1. Normal brain development and physiology involved in the production of human thoughts, emotions, cognition, and behavior, including sexuality and addictions.
2. Normal childhood developmental milestones.
   Common biological, psychological and social challenges to the maintenance of physical and mental health throughout the life cycle.

UCC 510D Biochemistry and Cell Biology
10 Credits

The Biochemistry and Cell Biology for Medical Students course integrates the five disciplines of biochemistry, molecular genetics, genetics, molecular cell biology and molecular nutrition and presents the most important concepts of each. The course is conducted over 10 weeks in the fall semester of the first year of medical studies and is divided into 3 units. The course features 108 scheduled student contact hours of conferences. In these classes, the course professors present important concepts and include clinical correlations chosen to illustrate these concepts. The presenting professors are encouraged to promote student interaction so that these conferences are not overly didactic in nature. The course includes 14 computer-based self-instruction modules (SIMs) which present essential material that cannot be discussed in conferences due to time constraints. The course also features 10 active-learning sessions. Six of these are clinical application exercises (CAEs) which are clinical case-based small group discussion sessions which apply and reinforce concepts that are learned either in the conferences or in the SIMs. Three of the active learning sessions are post-examination discussions designed to help the student consolidate learned material. Student knowledge is evaluated with 3 unit examinations and a comprehensive final examination.

UCC 514B Bioethics and Humanities in Medicine I
1 Credit

The first year of the Bioethics and Humanities in Medicine I course is devoted to the fundamental issues of Bioethics: Principles of Bioethics, Moral Reasoning, and Doctor/Patient relationship, including veracity, confidentiality, informed consent, and decisional capacity. The contents of this course, along with the contents of the second year course (bioethical issues concerning the beginning and end of life) constitute the indispensable foundations for the application of bioethical principles in the rotations that will begin on the third year. The Bioethics content is complemented and supported by activities and workshops on the Medical Humanities. Students participate in Action Writing and Medical Narrative workshops led by the Medical Humanities staff. The educational activities include the discussion of a film using a basic method for the analysis of narratives especially designed for our medical students, and exercises in creative writing and role-playing. These activities will promote in our medical students lifelong skills such as awareness, concentration, observation, trust, teamwork, empathy, communication, critical thinking, moral reasoning, and imagination. In this school the student begins his/her medical education with this course. It is not an accident. In this way we seek to underline the importance of the material covered in the overall education (in contrast to instruction) of the medical student, the future physician.

UCC 503B Histology
4 Credits

The Histology course is designed to cover the discipline at an appropriate level. The course meets the educational mission/curriculum requirements of the Universidad Central del Caribe School of Medicine by offering a solid background in modern molecular and cellular biology, tissue, organ systems and clinical correlations, which are the basis for the pathology course and the biological understanding of medicine.

In the practical part of the course the student will learn to recognize and describe normal histology specimens as well as how to analyze, synthesize and organize information using high level thinking.

The histology course encourages didactic lecture, small group discussion sessions, and textbook independent study, in addition to library research.

UCC 502 Human Gross and Developmental Anatomy
10 Credits

This course surveys the regional, functional and developmental anatomy of the human body with emphasis on the anatomical correlates of clinical medicine. The study and visualization of the different components of the human body is accomplished through a complete dissection and prosections of the human body in the following sequence: Back, Upper, and Lower Limbs; Thorax; Abdomen, Pelvis and Perineum; and Head and Neck.

The lecture series has been designed to enliven the descriptive and topographic aspects of the lab work by including such topics as: (1) the biomechanics of the locomotor apparatus; (2) the morphological principles of respiration, circulation, digestion, reproduction and other physiological processes; (3) the clinically relevant landmarks of surface anatomy; (4) case studies in clinical and surgical anatomy. Special attention is given to the principles of building a broad medical vocabulary.

Laboratory sessions includes a traditional prosection-dissection work correlated with the study of radiological anatomy (including modern methods of imaging), cross sectional anatomy, surface–projection anatomy and some principles of physical examination. Different strategies are used to evaluate the performance of the students such as written exams, laboratory exams identifying structures in the human cadaver and computer images, and the National Board of Medical Examiners Subject Exam.

UCC 619A Introduction to Clinical Skills
2 Credits

The Introduction to Clinical Skills Course will focus on preparing the student to perform an organized, thorough physical examination, history and case presentation. The student will learn to select elements of the complete examination for application in problem specific situations. Topics will be arranged as a systems basis and will parallel systems covered in the Human Gross and Developmental Anatomy Course. It is important for the student to understand the relationship between material presented in this course and that covered in parallel courses. Material presented in one area should be recognized as complementary to and not apart from that presented in other areas. Educational strategies used in this course are: lectures and laboratories. This course will be graded as pass or fail and the students will be evaluated using the following strategies: departmental exams, conferences and laboratories attendance and Objective Structured Clinical Examination (OSCE).

UCC 590-1C Longitudinal Primary Care Preceptorship I
3 Credits

This course is multidisciplinary in nature and exposes the students to innovative learning and service methods. The students will learn and apply the care concepts of Primary Medicine by means of 3 different approaches:

1. Lectures: Students will be exposed to basic concept of Medicine, Public Health and Social Issues related to the clinical conditions.
2. Preceptorship: Students will learn by experience the role of a primary care physician and the community factors that impact on health and delivery of health care. Students will learn by

literature review and practice how to communicate successfully with a diverse group of people; to work in a multidisciplinary team; and to understand different Health Care Delivery Systems.

3. Community Intervention: We will introduce students to the field of Urban and Community Medicine. Our students will develop knowledge, professional skills and strategies in health promotion, disease prevention and public health issues, in order to modify unhealthy life styles that affect their performance and the relation with the community.

UCC 580A Neuroscience
5 Credits

Neuroscience is a multidisciplinary course integrating the areas of Anatomy, Biochemistry, Physiology, Pharmacology, Neurology, Neuroradiology, Neurosurgery and Neuropathology. All of these areas have been experiencing a revolution due to the conceptual and technological advancements of cellular and molecular biology, imaging of the living brain, and other advances. These new approaches, together with classical ones, have allowed us to develop a more comprehensive view of the overall complex interaction of the peripheral and central nervous tissue. In the development of the topics the students will discuss information ranging from the basic ultrastructural level to establishing neurophysiological and cellular correlates of behavior.

The order of presentation of the topics is intended to provide the student with the morphological information required to understand the physiological and pathological processes related to the nervous system. The clinical correlation sessions, presented by neurologists and neuroradiologists will serve the latter goal. At the end the student will also be introduced to a new avenue in Neuroscience delineated by the development of non-invasive approaches and instruments for the in vivo study and analysis of brain tissue, such as: Magnetic Resonance Imaging (MRI); Computer Assisted Tomography (CT); Proton Emission Tomography (PET) scans, Electro-encephalogram (EEG), Polysomnograms, EMG and Evoked Potentials.

The Neuroscience Course Goals are reached through diverse educational strategies such as: Lectures, Laboratories, Small and Large Group Discussions. Evaluation is based on partial and practical computer-based examination using the LXR testing program. In addition, written and oral quizzes, sometimes including “Clickers”, are incorporated both as formative as well as summative strategies.

UCC 530C Physiology
5 Credits

Human Physiology will present the current biological, chemical and physical concepts underlying the normal function of organ systems. The objectives will be attained though the use of lectures, clinical correlations and group discussions. The topics to be presented during the lectures will include the physiology of muscle tissues and that pertaining to the process of hemostasis and the cardiovascular, respiratory, renal, gastrointestinal, endocrine and reproductive systems. A short review of basic concepts of cellular physiology and the foundations of acid/base disorders will also be discussed. The course will also include small group discussion sessions in which a stronger student faculty interaction will be established. These activities are designed to help the students understand the material presented in the course, clarify doubts, increase their interest for further knowledge and help them integrate the concepts and principles of physiology to other basic sciences.

UCC 515CI Problem and Evidence Based Medicine I
2 Credits

The class will be divided into groups of 8-9 students, and a format of small group discussion will be followed. There will also be a facilitator who is a member of the faculty. Sequential simulations of patient’s problems will be presented. Three sessions will be spent on each simulation. The students will take responsibility for the discussion of the problem, identifying what they need to know to better understand and manage the problem, and determining what resources they will use to acquire new information. Each student will be responsible for looking up some part of the needed information, and will prepare a report on it. This report will be presented to the rest of the group in the next session. Self-study skills as well as the evaluation of the levels of evidence from the information gathered will be promoted with this course. Students are encouraged to look for information from a variety of sources such as: Learning Resources

Center (books, journals, CD-ROMs, Internet sites, etc.); Clinical Skills Center (models, videos), private and government agencies, as well as faculty members (as experts on a given matter).

UCC 505R-II Research I
1 Credit

The Research I course is a fifteen-hour course designed to provide first-year medical students with basic principles of clinical and translational research. The course topics include how research is conducted, evaluated, explained to participants, and applied to patient care. Students are expected to discuss ethical and legal issues of research as well. Lectures by invited faculty and other teaching strategies are used in the course. This is a pass or fail course, evaluated with quizzes, classroom exercises, and a concept map.

Second Year

UCC 635A Behavioral Science II
2 Credits

As implied by the course name, the course will provide the medical student the necessary knowledge and clinical skills to perform a complete psychiatric evaluation, including mental status exam, and to identify the main pathological manifestations of mental health, and initiate standard-of-care somatic and psychological treatments. The course will feature experienced faculty specialized in the conditions and therapies to be covered, using as reference the course's primary textbook, Kaplan & Sadock's *Synopsis of Psychiatry*, 10th edition, and the NBME Behavioral Science Review Series. We will also organize the course sections and chapters, as well as study the most recent principal diagnostic changes, in accordance to the *Diagnostic and Statistical Manual of Mental Disorders*, Fifth Edition (DSM-5). Each faculty member will utilize the necessary teaching strategies to promote the acquisition of the stated course goals and objectives, choosing amongst the following methods: lectures, textbook and handouts (readings), vignettes (case discussions), role playing (simulated experiences), PRS questions and answers (problem solving and practice exam questions), and discussion board, deemed most appropriate.

UCC 514C Bioethics and Humanities in Medicine II
1 Credit

The second year of the Bioethics and Humanities in Medicine course is devoted to the beginning and the end of life. The contents of this course, along with the contents of the first year course constitute the indispensable foundations for the application of bioethical principles in the rotations that will begin in the third year.

The following topics are presented and discussed during the second year of Bioethics and Medical Humanities: a) bioethical issues concerning the beginning and the end of life; b) bioethical issues concerning the treatment of fetus, newborns, infants, and children; c) bioethical issues concerning end of life care; d) bioethical issues concerning euthanasia and assisted suicide. During the academic year 2006-2007, the presentation and discussion of these bioethical issues will be complemented with the discussion of the movie Mar Adentro (The Sea Inside) and role playing exercises.

UCC 620D Clinical Skills II
3 Credits

During the past decades widespread advances in diagnostic technology have enabled physicians and medical students to establish diagnosis with accuracy. However, it is also being used inappropriately, contributing to the rapidly escalating cost of health care. Most importantly, this reliance on technology has contributed to the lack of history taking and physical examination skills of medical students. A sense of how to take information from the history and physical examination and from that construct a diagnosis and a plan of action often remains underdeveloped.

The emphasis in this course is to provide students with a rational, effective, practice-based/systems-based learning, and thorough approach to history and physical examination. Topics are arranged as a systems-based and parallel systems covered in other concurrent courses. Structured observation using real and standardized patients are used for formative as well as summative evaluations. An Objective Structured Clinical Examination (OSCE) is given as a final practical exam.

With this goal in mind, we invite the student to approach with enthusiasm this course, because the history and physical examination are the building blocks of clinical medicine.

UCC 590-2A Longitudinal Primary Care Preceptorship II
5 Credits

This course is multidisciplinary in nature and exposes the students to innovative learning and service methods. We use lectures and case presentations as learning strategies. The cases presentations will be organized in a manner that the topic correlates clearly with the ones discussed in the year courses. It serves as an integration activity of the different concepts related with the discussed themes in these presentations. In this course the student will be exposed to several medical conditions throughout the academic year. It will be organized as experiences obtained in the case presentations and community interventions as well as through the longitudinal experience in the preceptorship. In this activity the student will have as a guide a list of medical topics which correlate with the most common conditions seen in the clinical primary scenario. The student would be assigned as well: Family Medicine, Internal Medicine, Pediatrics, and Ob-Gyn. In this course the student will also be exposed to fundamental concepts of Epidemiology and Biostatistics, which will introduce them to an important area of the medical investigation and research.

UCC 540A Medical Pharmacology
6 Credits

This course encompasses the presentation and discussion of the chemistry and activity of drugs, pharmacokinetics and pharmacogenetic principles, pharmacological effects, mechanisms of actions, clinical uses, adverse side effects, toxicities and interactions of drugs used in the diagnosis, prevention and treatment of disease. As far as it is possible, it also emphasizes the physiological and pharmacological effects of both endogenous and exogenous substances at the cellular level. The course involves the discussion and presentation of such topics as general pharmacological principles, pharmacological aspects of drugs affecting the autonomic and the central nervous system, the cardiovascular, respiratory, renal, gastrointestinal and the endocrine systems. It also includes the discussion and presentation of the agents used in the treatment of infectious diseases such as antibiotics, antiviral and antifungal drugs, antihelminitics and antimalarials. Cancer chemotherapy, principles of immunopharmacology and the study of the autacoids are also presented in detail. Finally, a section in Clinical Toxicology is also presented where the important aspects of the environmental, industrial agricultural and household toxic agents are discussed.

UCC 520A Medical Microbiology and Immunology
9 Credits

Medical Microbiology and Immunology is a full academic year course in pathogenic Microbiology and Immunology designed to provide the basic concepts required for all subsequent pre-clinical and clinical studies dealing with infectious diseases. This course includes many etiological agents responsible for global infectious diseases. Since the territory covered by infections and the immune response expands each year, we focus on pathogenic mechanisms in order to foster students' ability to solve problems in their future clinical career. Repeatedly throughout the course, the Faculty makes appropriate correlations between fundamental principles of medical microbiology and infectious processes, although emphasis is placed on the understanding of basic principles needed now as a student and in the future as a practicing physician. Moreover, it is the Department's responsibility to acquaint the student with enough information that enables him/her to follow, as a professional, scientific advances in the medical and medical related sciences. The course is divided into: medical immunology, virology, cell & molecular microbiology, bacteriology, mycology, and parasitology. Teaching/ learning methods/strategies used to enable the achievement of learning outcomes are: lectures, laboratory practices, small/large group discussions and clinical correlations. Assessment methods, which enable students to demonstrate the learning outcomes, are: surveys in Blackboard, Patient Oriented Problem Solving (POPS) and quizzes, among others.

UCC 553 Pathology and Mechanism of Disease
13 Credits

This course presents all aspects of the development of disease, with special reference to the causes and its development, as well as the structural and functional changes in cells and organs that result from the disease process. It is offered longitudinally throughout the academic year. It consists of lectures, as well as large and small group discussion. It also includes activities with interactive computer programs and clinical correlation. The grading methodology will include: integrated partial exams, formative and

summative quizzes, small group clinical case discussions, professionalism, active participation, and final exam (NBST). This course has as prerequisite the first year curriculum of medicine, computer literacy, and the basics of evidence based medicine (research, appraisal of validity and reliability of information, and basics of statistical analysis of such information).

UCC 516BI Problem and Evidence Based Medicine II
1 Credit

In this course the students will be exposed to patient simulations in a problem-based, student-centered and evidence-based approach. This educational methodology will help students develop more responsibility for their own learning, for it is the group of students whom determines what they need to learn in order to better understand the patient's problems. The content of the simulations will be based on the topics covered in the Second Year courses (Pathology/ Mechanism of Disease, Microbiology, Psychopathology, Behavioral Sciences and Clinical Skills) as well as content from the First Year courses (Anatomy, Neuroscience, Physiology). The simulations are designed to promote the integration of knowledge from clinical and basic sciences disciplines. The class will be divided into groups of eight to nine students, and a format of small group discussion will be followed. There will also be a facilitator who is a member of the faculty. Sequential simulations of patient's problems will be presented. Three sessions will be spent on each simulation. The students will take responsibility for the discussion of the problem, identifying what they need to know to better understand and manage the problem, and determining what resources they will use to acquire new information. Each student will be responsible for looking up some part of the needed information, and will prepare a report on it. This report will be presented to the rest of the group in the next session. Self-study skills are promoted with this course, and students are encouraged to look for information from a variety of sources such as: Learning Resources Center (books, journals, practice guidelines, Internet sites, etc.); Clinical Skills Center (models, videos), private and government agencies, as well as faculty members (as experts on a given matter). The course will incorporate the concepts of PICO questions as well as the searching of empirical evidence from peer- reviewed sources.

UCC 505R-2 Research II
1 Credit

The Research II course is a fifteen-hour course designed to provide second-year medical students with basic principles of clinical and translational research, including research article evaluation through journal clubs. These exercises include developing critical thinking skills to critically read, understand, and discuss the scientific literature. These activities are intended to promote a high degree of preparation for discussion of specific papers, their results, and the implications. Journal club presentations about each system are presented by the students. Lectures by invited faculty and other teaching strategies are used in the course. This is a pass or fail course, evaluated with quizzes, classroom exercises, and journal club presentation.

Third Year

UCC 615A Transition to Clinical Years
2 Credits

This course has been designed to introduce the rising third year medical student to the complexities and new environment of the clinical years. This course emphasizes active, as well as, passive learning where group and self-directed study sessions give students the opportunity to apply and evaluate learned concepts and apply acquired skills in a controlled environment. The course introduces the medical student to: • possible emergent situations in the clinical environment and the basic established protocols to follow under such situations • the appropriate level concepts in, and application of, proper studies in the initial evaluation of patients in emergency scenarios. • The interaction with residents and faculty in a clinical environment and what is expected for this level of training and experience. • Common policies governing behavior in the clinical environment (mistreatment, harassment, workplace safety, impaired physician, etc.), appropriate documentation in the medical record, the SOAP, and physician note writing.

UCC 615 Basic Radiology
1 Credit

In medicine, the discipline of radiology plays a crucial role in the diagnosis and treatment of disease. Imaging and image-guided therapy will play an integral role in the medical practice. In addition to learning about the strengths and limitations of different imaging studies, students will be able to relate abnormal radiologic findings to pathophysiology with logic and confidence. This will lead to a more efficient imaging work-up of the patient. The course will offer the student an opportunity to observe how radiology contributes to patient care. It is hoped that the student will acquire an appreciation for the various imaging modalities and their application to the evaluation of multiple diseases. The course provides, through slide presentations, plain films of chest, abdomen, skull and extremities. In addition, computerized tomography, sonogram, MRI, and contrast studies: IVP, UGIS, ERCP, oral cholecystogram, etc., will be presented as part of the diagnostic option in the medical field. Special attention is given to correlate film interpretation with clinical finding appropriateness criteria.

UCC 650B Pediatrics Clerkship
4 Credits

The pediatric clerkship experience introduces the student to a unique, complex and challenging field of medicine. It emphasizes those aspects of general pediatrics important for all medical students and will provide a foundation for those students who elect to further study the health care of infants, children and adolescents. Students have the opportunity to participate in the clinical activities of both general and subspecialty pediatric services, but the emphasis in all services is placed on basic general pediatrics common illnesses and professional, ethical and cultural issues. Subspecialists have the opportunity to emphasize aspects of their particular area of focus that are important for the education of the general physician. As one of the core clerkships during the third year of medical school, pediatrics shares with family medicine, internal medicine, obstetrics/gynecology, psychiatry, and surgery the common responsibility to teach the knowledge, skills and attitudes basic to the development of a competent general physician. Educational strategies developed in this course are: lectures, morning reports, teaching rounds and rotations. The students will be evaluated using the following strategies: clinical skills, departmental exams and National Board Subject Examination. The major learning site for students to developing knowledge, skills and attitudes are at the Puerto Rico Children's Hospital and San Jorge Children's Hospital.

UCC 660B Obstetrics and Gynecology Clerkship
4 Credits

Student will be exposed to obstetrical and gynecological experiences under supervision. The class is divided into small groups assigned to the gynecology service, the normal and complicated obstetrics service, the labor room and emergency service, and outpatient clinics. At these stations, they will rotate for a period of four (4) weeks with responsibility for admission of patient, history and physical examination, daily rounds, follow up of patients, attendance at surgical procedures, post- operative care and discharge summary. Notably, at these stations the daily work will be supervised by full time instructors. The student should read and be familiar with material related to their cases, and be able to present and discuss their cases in daily rounds as well as with the assigned attending.

UCC 623A Internal Medicine Clerkship
6 Credits

The Internal Medicine Clinical Clerkship is designed to provide for students to obtain the knowledge, skills, and attitudes that will enable them to recognize, diagnose, prevent and either manage or recommend courses of management in the most frequently encountered problems and disease entities related to the field of Internal Medicine. In this clerkship, the student will: 1. Describe and explain etiology, pathogenesis, symptoms, and signs, likely diagnoses, prognosis and treatment of the medical problems in the field of medicine. 2. Establish a reasonable differential diagnoses as well as identify and interpret the essential laboratory test and other procedures necessary to compliments his/her clinical observations, for the management of and to make recommendations concerning management of a condition. 3. Perform laboratory test done by physicians. 4. Analyze all the data collected on the record and outline the salient features for the establishment of a reasonable management program. The student will acquire the knowledge, clinical skills and professional behavior necessary to evaluate and care for patients in a comprehensive manner. The students participate in outpatient clinics, direct patient care, group discussion sessions and clinical procedures.

UCC 640C Surgery Clerkship
6 Credits

The surgical clerkship introduces the medical student to the complex, unique and demanding world of General Surgery and its subspecialties. General Surgical principles, the evaluation and initial analysis and management concepts of the patient are explored.

This course is designed to familiarize medical students with the clinical presentation (history and physical examination), diagnostic process and management of medical-surgical problems. Students will go through the process of learning the theoretical aspects of surgery and their practical application in this rapidly evolving field of medicine. This course will aid in the development of the behavioral, professional and ethical traits expected of a complete, culturally aware and competent physician. These include but are not limited to: reliability, trust, worthiness, perseverance, intellectual honesty, self-evaluation, punctuality, efficiency, organization of time, appropriate appearance, good habits, neatness, and appropriate interaction with staff, patients and peers.

The students will have scheduled conferences by selected general and subspecialty surgeons. They will get insight into the field of surgery and basic knowledge of the most common conditions encountered. These will be supplemented by audiovisual, computer assisted teaching, suture technique laboratory exercises, clinical skills laboratory, clinical case exposures, and electronic internet data base programs. Students will also have clinical rotations through the clinics, wards, operating rooms, peer review sessions and doctor practices in which they will get involved with the diagnostic process at every level (Initial evaluations, Consultations, Pre-op, Intra-op and Post-op care of patients). The clerks will meet with the coordinator and proctors for feedback and feed forward on the progress of the clerkship, deficiency corrections, evaluations, case analysis and presentations, log reviews, on-call log reviews, and OSCE deficiency reviews. The course will provide basic surgical knowledge useful for all future clinical practices.

The clerkship and initiation of basic clinical competence in surgery will afford an opportunity for the student to directly apply knowledge and skills learned in all the basic sciences and other clinical clerkships in the evaluation and management of patients' clinical problems. They will develop professional skills in communications, history taking, physical examination, differential diagnosis, plan of analysis, management, and the capacity to handle clinical internet based data programs.

UCC 631B Psychiatry Clerkship
4 Credits

This clerkship provides the third year medical student with a review of 27 topics in clinical psychiatry as well as the opportunity to evaluate patients for diagnosis and treatment both in the general hospital and psychiatric hospital setting, 24 hours of group discussion and 24 hours in patient contact complete the course work.

UCC 670B Family Medicine Clerkship
4 Credits

This six-week clerkship gives the third year medical students an opportunity to practice under the supervision of a Family Physician in outpatient settings mostly located in the metropolitan area or in adjacent towns in Puerto Rico. Many sites were identified and evaluated but the chosen ones were carefully selected because they have outstanding family physicians that offer a broad and high quality experience in family practice. The main emphasis is on acquiring knowledge and skills in assessing and managing common health problems (listed below) among both adults and children. The students provide continuous care for families, emphasizing prevention, patient education, and health promotion. During this experience, the student is exposed to the main procedures performed in primary care. Close attention is given to the clinical experiences to assure consistency in meeting the educational objectives of the clerkship. Every preceptor has a copy of the syllabus, which contains the clerkship objectives and evaluation forms (Clinical Tool Kit). The educational strategies developed in this course are: lectures, daily case presentations, clinical discussions, ethics group case discussion and home visits. The students are evaluated using the following strategies: oral presentations, clinical case presentations, O.S.C.E., Med-U Cases, departmental examinations, patient encounter, one exam, and the daily performance evaluation given by the preceptor and the National Board Subject Examination. All student work-up is supervised, discussed and countersigned by the attending physician. Patient logbook is evaluated at mid rotation to identify the diagnoses that the students need to be exposed in order to guarantee the clerkship requirements were accomplished. Written feedback is obtained from the students about the various

clinical sites and the preceptors. Each student must provide evidence of at least thirty (30) different outpatient encounter evaluations.

Fourth Year

UCC 518 Bioethics and Humanities in Medicine IV
2 Credits

Bioethics and Medical Humanities provide future doctors with the development of ethical sensibility, moral integrity, communication skills, evenness, humility, self-knowledge and creativity. It should not be seen merely as an accessory but as an inseparable compliment to the knowledge and skills pertaining to any clinical specialization. They also provide them with tools such as observation and concentration skills, awareness, critical thinking, and general culture that will allow them not only to deal with the pain related to disease and death but also to enjoy life in its beauty and wonder.

The fourth year course of the Bioethics and Medical Humanities Program is devoted to discussing topics related to social bioethics and reviewing concepts studied during the previous years. Students will engage in the application of the learned material into an artistic/educational project. The contents of this course, along with the contents of the first and second year courses constitute the indispensable foundations for the application of bioethical principles in the internship, residency programs, and later in the professional life in the soon-to-graduate medical students.

The following topics are presented and discussed during the fourth year of Bioethics and Medical Humanities:

a. Bioethical issues concerning the clinical encounter between the patient and the physician: virtuosity in the physician, veracity, confidentiality, patient's autonomy, informed consent, communicating bad news, and the physician's role as advocate.

The presentation and discussion of these bioethical issues will be done through introductory lectures, case discussions and the production of a short video (5 minutes) by the students, about a conflictive ethical situation in the clinical setting.

UCC 675A Ambulatory Medicine and Research
4 Credits

Consonant to the School of Medicine's goal to prepare competent physicians with an excellent academic preparation within a holistic framework and due to the growing importance of primary care as a specialty and as a knowledge base for all sub specialists, the Ambulatory Care and Research Clerkship has been created. Today, owing to new technologies and alternative care settings, an emphasis on cost-containment, and patients indiscriminately exposed to divergent and changing medical information, the range of conditions treated on an outpatient basis is broader than ever. This required six-week experience is aimed to expose medical students to the most prevalent form of medical care: attention provided in the physicians' office or community based centers. It also aims to expose students to the basic principles of clinical research.

The duration of the rotation is six weeks. This clerkship emphasizes training in ambulatory care knowledge and skills in one of three primary fields: Family Practice, Pediatrics and Internal Medicine. The major part of the student's time is spent in clinical practice with a faculty preceptor in general internal medicine, pediatrics or family medicine. Many of these practices are located in the San Juan Metropolitan Area, and adjacent towns. Students also attend teaching sessions once a week, for workshop and case presentations on a variety of topics relevant to primary practice.

Concomitantly with the clinical experience, the students will work on a research project, chosen at the beginning of the rotation and based on the student's clinical experience or need. Students are expected to collect data directly from the patients (and/or their medical records), analyze and present the information, and write a final report.

UCC 700 Electives
18 weeks required

Elective courses are offered in scheduled periods throughout the student's fourth year. These electives are available for the students who have satisfactorily completed the specific prerequisites. Students at the UCC School of Medicine are required to approve 18 weeks in elective courses. At the UCC elective courses are available in a 4 weeks period, unless otherwise specified.

In order to take electives outside the UCC, at any School of Medicine's affiliated institutions, either in Puerto Rico or in the United States, the student must be in good academic standing, and have the approval of the UCC Department's Chairperson. A catalogue with a full description of the elective courses offered is available at the UCC Library.

UCC 629A Neurology
3 Credits

The Neurology Course completes the cycle of teaching in the Neurological Sciences. We initiated this trajectory in the First Year of Medicine, with the Neurosciences course. There, we laid the anatomical and physiological foundations of Neurology, along with its corresponding clinical correlations. We then advanced further up these echelons with the Neurophysiopathology course in the Second Year, detailing the mechanisms underlying the most common neurological diseases in clinical practice. The Neurology Liaison in the Third Year was the forum for the evaluation of in-patients with diverse neurological conditions. This Fourth Year course integrates those experiences learned during these past three medical years. It exposes students to a broader gamut of neurological disorders, especially those apt to be seen in the out-patient setting. The students evaluate neurological patients, under the supervision of neurologists in clinical practice. This represents an enriching and invaluable experience for the students, regardless of the medical specialty they eventually pursue.

Learning Neurology does not have to be cumbersome. It can be real fun – provided the proper techniques are applied. This course comprises several educational workshops, such as: The Clinical Conferences, the Ambulatory Neurology rotations, and three competencies: The Neurological Exam Competence, the Neurological History and Examination Competence, and the Lumbar Puncture Competence.

UCC 607 Selected Topics
3 credits

This course was designed for fourth year medical students with the purpose of presenting those topics necessary to fulfill his/her professional training in accordance with the new tendencies or modalities in medicine. This required three-week experience aims to expose medical students to the most prevalent forms of medical care. This is a student centered course focusing on preparing the student for successful postgraduate training. Topics to be discussed will be presented by a guest speaker and the students will then participate in an active educational experience.

GRADUATE PROGRAM
IN
BIOMEDICAL SCIENCES

GRADUATE PROGRAM IN BIOMEDICAL SCIENCES

Mission

The mission of the Graduate Program in Biomedical Sciences is to provide a rigorous and stimulating research and training environment for UCC students. Our students provide the intellectual resources needed to advance the research and educational goals of the institution and to provide a new generation of scientists. The faculty is committed to excellence in interdisciplinary research training for qualified candidates who will continue to advance the fundamental knowledge needed to conquer disease and promote health and improved quality of life for all people. The knowledge and skills acquired will enable the graduate to be successful in biomedical research conducted at universities, government and private industry laboratories, as well as in education.

Research Activities

Research Centers

Cellular and Molecular Biology Center (CMBC)

The CMBC is an interdisciplinary group of researchers from all of the basic sciences departments at our Institution with common and interrelated research interests in cell and molecular biology. The CMBC coordinates seminars, workshops, and an annual research day for UCC researchers, where conceptual and technical advances in cell and molecular biology are presented and demonstrated by distinguished visiting scientists and commercial instrumentation representatives. Center researchers mainly work in the areas of signal transduction and functional genomics

Center for Addiction Studies (CAS)

The CAS was established with the purpose of expanding scientific knowledge on substance abuse, HIV/AIDS, and related topics. The objectives of the center are: a) to estimate the prevalence of drug use, abuse, and dependence in the Puerto Rican population; b) describe the patterns of drug use and associated factors; and c) examine the relationship between substance abuse and other physical and mental health conditions. The CAS aims to provide empirical knowledge as the basis for the preparation of health professionals that provide substance abuse and drug treatment services. The center also maintains scientific databases that serve as reference for public policy making.

Center for Translational Neuroscience Research (CTNR)

The purpose of the CTNR is to facilitate research on translational neuroscience at UCC. The goal of the Center is to develop novel therapeutic agents and markers for the treatment and diagnostic of neurodegenerative diseases in collaboration with the Caribbean Primate Research Center and the Morehouse School of Medicine in Atlanta, Georgia.

The Center pursues this goal through basic neuroscience research and preclinical studies of candidate drugs for neuroprotection. Currently, the Center focuses on the role of neuronal nicotinic acetylcholine receptors (AChRs) and AChRs linked neuroprotective pathways to develop new approaches to the treatment of neurological disorders.

Neuroscience Research Center (NRC)

The NRC was established in 1990 for the purpose of promoting neuroscience research in Puerto Rico. Organized as an inter-institutional association of neuroscientists with headquarters at the UCC, it has enjoyed RCMI support since 1991. At present, NRC is composed of scientists from four Puerto Rican universities, as well as associate and student members. Research projects address issues ranging from the basic mechanism of cocaine addiction, excitotoxicity and neuroprotection, to ion channel function and signal transduction pathways. Numerous collaborations with colleagues from many universities are in place. This center also organizes the Puerto Rico Neurosciences Conference, held annually since 1992.

Retrovirus Research Center (RRC)
The RRC is a multidisciplinary research center for the study of HIV/AIDS and other retroviruses. Its general goal is to promote and facilitate HIV/AIDS and other retrovirus research in Puerto Rico. The RRC promotes the study of HIV infection as a multidisciplinary research arena in which the clinical features, immunological, and virological elements and the psychological and behavioral parameters need to be integrated into a coherent research strategy. The center brings together a coalition of multidisciplinary researchers whose interest is to describe and understand key elements that play a role in the progression and/or expression of HIV infection according to an ecological view of the problem.

The Retrovirus Research Center laboratory provides clinical laboratory service, under RCMI support and a fee-for-service system, as part of an institutionalizing plan. The laboratory provides the research community with: a) standardized methodology for the rapid detection, identification, and quantification of HIV infection; b) standardized methodology for the characterization of sexually transmitted diseases, viral hepatitis, and mycobacterium; c) immunological services and expertise in the analysis and delineation of lymphocyte populations; d) facility for the determination of cytokines, chemokines, and proliferative response; e) facility to continue a repository of lymphocyte, plasma, and serum from HIV-infected individuals registered in the Data Core Facility; f) anti-retroviral drug susceptibility genotyping pattern in the HIV-infected population; and g) organized clinical laboratory support to the Data Core Facility and individual pilot projects.

University Center for Integrative and Complementary Medicine (CUMIC)
The CUMIC was founded in 2001 with the purpose of providing treatment and education about complementary and alternative medicine and fomenting research. The CUMIC coordinates seminars to stimulate the participation in alternative medicine research with special interest in the use of natural compounds for the treatment of disease. The center is currently active in cancer research.

Research Facilities

UCC has research laboratories and specialized research facilities with the necessary equipment to perform the research according to the interest of the researcher. The average size of the laboratories is 180 square feet. The individual research laboratories are complemented with common instrumentation areas, a cell culture laboratory, a retrovirology laboratory, an electron microscope, and a radioisotope laboratory.

The specialized research facilities are:

Animal Resources Center (ARC)
The Animal Resources Center is staffed with personnel specialized in animal care and handling to support research and education activities. The ARC houses small and large animals in its 7,700 square feet facility and provides information concerning purchasing, basic husbandry, quarantine, and veterinary medical care of laboratory animals.

The ARC also provides technical assistance and advice dealing with animal species used for investigation and supports the research programs by making animals, materials, and animal husbandry supplies readily available.

The ARC is equipped with specialized areas to provide the following services: necropsy, stock and treatment, quarantine, bedding, cage washing, and storage. The facilities also include an experimental surgery area with surgical, scrub, sterilizing, and recovery rooms.

Behavioral Testing Facility (BTF)
The Behavioral Testing Facility was created to facilitate the development of neuroscience research at the Universidad Central del Caribe, recognizing the importance of behavioral testing. The BTF has two (2) major components: the equipment infrastructure and the technical support division. The facility offers equipment for remote behavior visualization (RBV).

Biomedical Proteomic Facility (BPF)
The mission of the BPF is to accelerate discovery by giving UCC investigators access to cutting edge technologies in proteomics and in mass spectrometry. The facility stimulates the use of 2D gels and protein

analysis, via a proteomic imaging software, by the faculty. The aim is to provide separation and mass spectrometry techniques for the quantitative analysis of the proteome. One major objective is to identify disease and other relevant biological markers.

Common Instrumentation and Technical Support Unit
This core area houses major equipment such as ultracentrifuges, freezers, spectrophotometers, gamma counters, etc, as well as the centralized cell culture facility. It fosters equipment sharing, centralizes maintenance of equipment, and provides repair for the equipment of all the projects.

Data Management and Statistical Research Support Unit (DMSRSU)
The DMSRSU provides study design, data management, quality assurance, and statistical analysis support for UCC researchers. The DMSRSU has a strong infrastructure which includes the following subunits: Data Abstraction and Management; Data Entry; Quality Control; Data Analysis and Consultant; and Administrative and Computer Systems. Each of these subunits consists of experienced professionals readily available to assist researchers and to provide data management and statistical research support to investigators. In addition, the DMSRSU counts on a highly experienced and reliable consulting team.

HIV and Substance of Abuse Laboratory
The laboratory supports research in the areas of HIV/AIDS and substances of abuse. Specialized facilities are made available to researchers for scientific studies in fields of immunology, drugs of abuse, HIV/AIDS, and related infectious diseases. This core laboratory provides researchers with assays for nucleic acids detection, virus genotyping, flow cytometric phenotyping, lymphocyte proliferation, cytotoxic and non-cytotoxic activity, cytokine and chemokine determinations, and drugs of abuse quantification.

Immunocytochemistry Laboratory
The Immunocytochemistry Laboratory specializes in the qualitative identification and localization of cells bearing selective markers by employing specific antibodies to these molecules.

Neuronal Glia Culture Facility
The goal of the facility is to assist UCC investigators in the use of cultured neurons, glias, and organotypic cultures. The cultures are used for patch clamping after in vitro treatments with drugs of addiction or inhibitors and for in vitro models of neurodegenerative diseases. The core facility consists of a coordinator and a technician. Neuronal cultures are prepared from fetal cortex, hippocampus, or astrocytes from cerebral cortex.

Optical Imaging Facility
The facility offers microscope-based systems that allow the assessment of cellular responses, such as calcium signaling with fast temporal resolution. The facility offers: a) confocal imaging services; b) brightfield, darkfield, phase contrast, Nomarski, and epi-fluorescence imaging; c) high spatial and temporal resolution imaging; d) collection of serial sections (deconvolution capabilities); and e) morphometric analysis.

Protein and Nucleic Acid Core Facility (PNACF)
The PNACF aids in the transition from classical to molecular analysis of the problems being addressed by faculty members. The PNACF focuses on faculty training, seminars, training on specialized molecular biology techniques, protein expression, and protein purification and characterization.

Transmission Electron Microscopy Laboratory
The TEM laboratory provides access to ultrastructural analysis of biological specimens via a Jeol 100 CX transmission electron microscope. The TEM is equipped with AMT 4 MP digital camera to facilitate image acquisition and 3D reconstruction from serial sections. In addition, to conventional EM procedures of in situ and cell culture specimens the laboratory also offers immunogold labeling and the visualization of fluorescent dyes after photoconversion.

Research Support Programs

Biomedical Research Administration Development (BRAD)
BRAD promotes the establishment of biomedical research and research-related training programs by providing support for strengthening institutional research administration infrastructures. This program provides training in NIH policies and procedures. The goal of the BRAD program is to facilitate the administrative management of extramural grant awards, and foster and facilitate research activities.

Minority Biomedical Research Support (MBRS)
The purpose of the MBRS programs is to increase the numbers of underrepresented minority faculty, investigators, and students engaged in biomedical or behavioral research and to broaden the opportunities for participation in biomedical or behavioral research of underrepresented minority faculty and students.

Research Centers in Minority Institutions (RCMI)
RCMI provides funding to recruit established and promising researchers, acquire advanced instrumentation, modify laboratories for competitive research, fund core research facilities, and other research support. Because many investigators at RCMI institutions study diseases that disproportionately affect minorities, RCMI support serves the dual purpose of bringing more minority scientists into mainstream research and enhancing studies of minority health.

Specialized Neuroscience Research Programs (SNRP)
The SNRP strives to help minority institutions develop state-of-the-art neuroscience research programs; to increase ongoing research, stimulating academic and intellectual milieu that will inspire and prepare students and fellows to pursue research careers in neuroscience; and to provide support for the pilot research needed to show the skills and abilities of investigators by obtaining the preliminary data and publications that can help ensure successful competition for traditional research project grants during the performance period of the award.

Research Support Offices

Office of the Associate Dean for Research and Graduate Studies (OADRGS)
The main goal of the OADRGS is to actively facilitate and promote interdisciplinary research enterprises and curriculum development within UCC's academic community. The OADRGS is devoted to establishing and implementing pre-and-post award procedures, assist researchers in the preparation of proposals and publications, establishing a strong profile for generation of external revenue and research grant funding, and fostering research collaborations.

Research Development Office (RDO)
The RDO provides technical assistance to faculty in the development and preparation of proposals, contracts, cooperative agreements, etc by performing program guideline review and analysis, preparation of complex budgets, processing of proposals, and electronic proposal submission.

The RDO manages the Sponsored Programs Information Network (SPIN) and Federal Grants and Contracts Weekly databases for identifying potential grant opportunities and makes available pilot project funding, to obtain preliminary data for grant applications.

Sponsored Programs Office (SPO)
The SPO facilitates the successful competition for external funding, assist in the management of and compliance in sponsored projects. The Office negotiates contracts and grants with a wide variety of sponsors, assist in the management of external funds.

Scientific Resources Development Unit (SRDU)
The SRDU is responsible for the professional development and continued education of junior and senior research faculty. The unit provides training programs that address the competencies that junior research faculty require to successfully develop into senior research faculty, including the development and management of research projects, the acquisition and management of grants and the communication of the results obtained.

Graduate Student Association
The Graduate Student Association (GSA) comprises degree seeking graduate students at the Universidad Central del Caribe. The GSA mission is to enrich the graduate student experience and to represent, support, and promote graduate student interests. The GSA provides programs and services aiding in recruitment and retention of graduate students, represents graduate student interests to the University administration, and builds a sense of community among graduate students.

The President of the Graduate Student Association will represent the association in the Student Council. The directors of the Graduate Student Association (President and Secretary) will be elected during the Student Council election.

Study Programs

Description

The Graduate Program in Biomedical Sciences offers six different study programs:

1. Doctor of Philosophy in Cellular and Molecular Biology

2. Doctor of Philosophy in Neurosciences

3. Master of Science (MS) in Biomedical Sciences (thesis and non thesis options)
    - Anatomy and Cell Biology
    - Biochemistry
    - Microbiology and Immunology
    - Pharmacology
    - Physiology

4. Master of Science in Neuroscience (thesis and non thesis options)

5. Master of Arts (MA) in Biomedical Sciences

6. Master of Arts (MA) in Biomedical Sciences in
    - Anatomy and Cell Biology
    - Physiology
    - Microbiology and Immunology

Requirements for the Master of Science (MS), Master of Arts (MA) and Doctor of Philosophy Degrees:

Residency
A minimum of 36 credits must be completed at UCC.

Research Mentor
Students must select a mentor by the end of the first year. The mentor will be the chair of the Thesis / Dissertation Committee and will be selected by the student. The mentor must have a Doctoral degree and must be actively engaged in research in the case of PhD and MS students. The mentor will be responsible for direct supervision of the student's research and will coordinate the comprehensive / candidacy exam. The mentor must hold or request an academic appointment at UCC.

MA Mentor
Students must select a mentor by the end of the first year. The mentor will be in charge of organizing evaluation committees for the student’s biographical reports according to the reports discipline. The mentor will be selected by the student with the advice of the chairperson of the department. The mentor will be responsible for direct supervision of the student's academic work and will coordinate the comprehensive exam. The mentor must hold or request an academic appointment at UCC.

Dissertation/Thesis Committee

After selecting the research advisor, the student, in consultation with the advisor, will select a committee no later than the first semester of the second academic year. The committee will be composed of three (3) or five (5) members, including the research advisor who will chair the committee. The members of the committee will be UCC faculty members or faculty from other institutions with similar programs, but the majority of the committee must be UCC full-time faculty members. One (1) member of the committee must be a graduate faculty member from outside the advisor's department. The advisor will keep written records of the meetings. The committee and the program of study must be approved by the Graduate Program in Biomedical Sciences Office and should be on file at that Office by the end of the first semester of the second year.

An intensive period of full-time research is the central element of the PhD / MS degree. It is the dissertation committee's responsibility to provide an objective evaluation of the project as well as contribute to the selection of specific research directions. While the dissertation committee often has useful suggestions on specific approaches to a particular protocol, a more vital function is to help focus and limit the scope of the research so that the student has, as early as possible, a clear concept of the overall design of the dissertation proposal. Although this concept will change in response to specific experimental findings, it is critical for the student to be guided to define, both in scope and quality, an appropriate research project.

The committee must meet at least once per academic year.

Biographical Reports Committee

For those students enrolled in the MA Program in the Biomedical Sciences, the Associate Dean for Research and Graduate Studies together with the student will select the Biographical Reports and his/her mentor.

Seminars

The seminars provide coverage of subjects not included in other graduate courses and serves as a forum for presentation of research proposals, work in progress and completed work by the staff and graduate students. Visiting scientists also participate in the seminars.

Each seminar will be worth 1 credit hour. All faculty members present during the seminar may evaluate the student's seminar presentation. Students will present a maximum of one seminar per day. A minimum of three faculty members must be present in order for a grade to be awarded for the seminar presentation. The seminar will be announced and open to the academic community. GPBSF 14 Seminar Presentation Evaluation Form will be used to evaluate students' presentations.

Dissertation / Thesis

Under the supervision of his/her mentor and of the Dissertation / Thesis Committee, the candidate shall prepare a thesis embodying the results of his/her investigative efforts in his/her selected major field or area of expertise. The candidate will submit a draft to the mentor and the members of the Committee at least six (6) weeks prior to the commencement date. The members of the committee will be allowed two (2) weeks after the receipt of the draft to propose in writing any changes, deletions, corrections and criticism to the draft. The Committee and the student will meet to discuss the recommendations. The candidate will then have ten (10) days to prepare the final draft of the thesis based on the changes, corrections, etc. submitted by each member of the Committee. The Committee will have two (2) weeks to reexamine the thesis and determine the acceptability of the thesis and the date of the thesis defense. Following your public defense, you have 10 days in which to make changes required by your committee. Your committee will have 2 weeks to reexamine the thesis and either approved it or disapproved.

The student must deliver the approved thesis in a CD-ROM or flash drive, according to the Thesis / Dissertation Manual, to complete the graduation requirements and receive his/hers diploma. The Graduate Programs in Biomedical Sciences Office will print and bind three (3) copies of the thesis (one for the student, one for the department and one for the library). Make sure that the Graduate School has your current contact information so you can be notified when the bound copies arrive at the Graduate School.

Dissertation / Thesis Defense

In order to be eligible to perform the Dissertation/Thesis defense, the candidate must have approved/completed all graduation requirements (including authorship requirements for PhD students) excluding the Dissertation/Thesis and must have been notified by the Dissertation/Thesis Committee that his/her Dissertation/Thesis is defensible.

The defense will consist of a public presentation of the results and conclusions of the dissertation/ thesis research. The defense will take place at UCC. The defense is an oral defense and the candidate will be examined on the content of the thesis by the Dissertation/Thesis Committee. Other members of the academic community may attend the final examination and participate in the questioning. Once the public portion of the defense is completed, the Dissertation / Thesis Committee will meet privately with the candidate for further evaluation of the student's knowledge of the contents of the dissertation / thesis. A representative of the Graduate Program in Biomedical Sciences will be appointed by the Director and will act as an evaluator of the process. This representative will be from outside the student's department. The result of the defense will be notified orally and in writing to the candidate. In case of failure, the panel may recommend that the candidate be dismissed from the program or that a second opportunity to defend the thesis be allowed no later than six (6) months from the date of the first defense. A student may defend only twice.

The Graduate Program in Biomedical Sciences Office will make the official announcement for the defense after prior notification; the notification must receive no later than fourteen (14) days prior to the intended thesis defense date.

Dissertation / Thesis Defense Approval Form

The Request for Permission for Dissertation / Thesis Defense form must be completed and submitted to the Graduate Programs in Biomedical Sciences at least two weeks prior to the final defense. A ballot for the final examination will be sent to the research advisor. After the defense, the original signed ballot must be returned to the Graduate Programs in Biomedical Sciences.

Specific Requirements for the PhD Degree

Candidacy Examination

All PhD students must pass the candidacy examinations by the end of their third year. Successful completion of this requirement is a necessary condition for advancement to doctoral candidacy and must be accomplished at least six (6) months prior to the dissertation defense. The dissertation committee is responsible for recommending advancement to candidacy to the Graduate Program in Biomedical Sciences Office. A graduate program representative will represent the Program at the dissertation defense and assure all regulations are followed.

The goal of the candidacy examination is for the faculty to assess the adequacy of the students' background knowledge in their chosen field and their ability for problem solving and for interpretation of important concepts before formally permitting them to begin their doctoral research. The dissertation committee will prepare the candidacy exam. A student who is in good academic standing but who fails the examination is allowed one (1) opportunity to retake the exam. In case of failure, the student will be reexamined no later than six (6) months from the date of the first examination. In case of a second failure, the student will be allowed to transfer to a MS/MA program. The student will not be allowed to reenter the PhD Program.

Students in the PhD program can be awarded the MA or MS degree once they have completed all of the MA or MS graduation requirements. The candidacy examination will serve as the comprehensive exam.

Within six (6) months of passing the candidacy examination, the student is expected to present a research proposal to the dissertation committee. The dissertation committee will monitor his/her research progress on a regular basis, meeting at least once a year. A week prior to each meeting, the student will present a written summary of research progress to the committee for review. The research proposal defense can be part of the candidacy exam and can take place the same day.

Requirements for the Master's Degree

Comprehensive Examinations

All students enrolled in the MS and MA Programs must pass a written examination covering the student specialization subjects described in their program of study. In case of failure, the student will be reexamined no later than six months from the date of the first examination. In the event of a second failure, the department's faculty may recommend that the candidate be dismissed from the program or re-examined for a third and final time. The comprehensive examination is normally given near the end of the student's second year of graduate studies, or after the satisfactory completion of the scheduled courses. The student mentor is responsible for the coordination and administration of the comprehensive examination.

Specific Requirements for the Master of Science (MS) Degree with Departmental Specialization

Course Requirements

All candidates for the MS degree must approve their program of study with a minimum grade point average of 3.0 (scale of 4.0). Specific course requirements, minimum passing grades and programs of study will be determined by each department.

Research Proposal

A written and oral presentation of a research proposal will be required from all MS candidates. In preparing the written proposal the student should follow the F31 guidelines set forth by the National Institutes of Health. The Thesis Committee must approve the proposal.

The candidate will submit a draft to the mentor and the members of the Committee at least two (2) weeks prior to the defense date.

Specific Requirements for the Master of Arts (MA) Degree with Departmental Specialization

Course Requirements

All candidates for the MA degree with departmental specialization must approve their program of study with a minimum grade point average of 3.0 (scale of 4.0). Written bibliographic reports included in their program of study will be assigned, supervised, and evaluated by a faculty member appointed by the mentor. Each bibliographic report will not carry a value of more than one (1) credit hour. Bibliographic Reports will be evaluated with GPBSF 19. Specific course requirements, minimum passing grades and programs of study will be determined by each department.

Specific Requirements for the Master of Arts in Biomedical Sciences

The Universidad Central del Caribe offers the Master of Arts in Biomedical Sciences to those students who wish to obtain a general knowledge but who do not want to specialize in any particular area of the Biomedical Sciences.

Course Requirements

All candidates for the Master of Arts in Biomedical Sciences must complete the program with a minimum grade point average of 3.0 (scale of 4.0). Written bibliographic reports included in their program of study will be assigned, supervised, and evaluated by a faculty member appointed by the mentor. Each bibliographic report will carry a value of no more than one (1) credit hour. Bibliographic Reports will be evaluated with GPBSF 19.

Evaluation and Promotion

Grading Policy

Grades at the end of each term are assigned according to the following letter system:

Grade	Points	Description
A	4	Excellent
B	3	Good
C	2	Satisfactory
F	0	Failure
I	--	Incomplete coursework
N	--	Non reported
W	--	Authorized withdrawal
U	--	Unauthorized withdrawal
WP	--	Withdrawal passing
WF	--	Withdrawal failing
P	--	Passed without credit*
H	--	Passed with honors
NC	--	Noncredit course
IP	--	In Progress

*Each department may propose through the Graduate Program in Biomedical Sciences Committee graduate courses for pass/fail (P/F) designation.

A grade of “I” indicates assigned work yet to be completed in the term. The grade of “I” becomes an “F” if not removed by the end of the following term according to the following schedule: “I” grades from the first semester become “F” if not removed by the end of the second semester; “I” grades from the second semester and for the summer session become “F” if not removed by the end of the first semester of the incoming academic year. An “I” grade cannot be changed to a W under any circumstances. The grade of “I” on the thesis does not become an “F” at the beginning of the next term or session and will remain as such until the evaluation of the thesis is submitted.

Student Status in the Program

The Graduate Program in Biomedical Sciences Committee will review students’ records in May, for those students admitted in August of the previous year, and in December for students admitted in January (completion of two semesters in the program).

The resulting action depends upon the grade point average (GPA) on a four-point scale, as follows:

1. To be in good academic standing, the student must have a GPA of 3.0 or higher.
2. Students attaining a GPA below 2.5 will be dismissed from the Program.
3. If the grade index is below 3.0 but above 2.5, the student will be placed on probation for the following academic year, at the end of which he/she will be dismissed if his/her grade index has not improved to 3.0. Students on probation are not eligible for financial aid.
4. Students obtaining a failing grade (F) on a course will be dismissed from the program.
5. A student may repeat a course once, after withdrawing. The student must retake the course the next time that is offered. If the student does not approve the course during his/her second attempt the student will be dismissed from the program

A student that has been dismissed from the Program may appeal their cases to the Graduate Program in Biomedical Sciences Committee. The Committee will review the student's record and will make the pertinent decision on whether to readmit the student. Once dismissed from the program a student will not enroll in graduate courses under any student classification, for example, non-degree student.

All grades and repeats will be included in the calculation of the grade point average (GPA). All grades on courses not offered at the institution but approved by the Thesis Committee as part of the program of study will also be included in the GPA calculation. Withdrawals, pass/fail credit and transfer courses are not included in the calculation of the GPA. Transferred courses are defined as those completed while not enrolled at UCC.

Grade reports are sent to students at the end of each semester.

A certified letter is mailed to each student placed on probation or dismissed.

Withdrawal Procedures

1. The deadline for withdrawal from a course with a grade of “W” may be any date prior to 50% to completion of the course, afterwards the student will be assigned a grade of WF or WP (if evaluated).

2. The deadline for withdrawal without “W” will be before 10% after the beginning of the course.

3. The procedure for withdrawal is as follows: the student must provide written notification to the graduate program coordinator of the program he/she is enrolled advising what course(s) he/she intends to withdraw. The student should file the withdrawal application at the Registrar's Office.

4. Authorized withdrawals will be allowed before the course final exam.

5. Unauthorized withdrawals constitute grounds for dismissal from the Program.

Language Requirements

Knowledge of English and Spanish is a basic requirement for study in the Program. The student is expected to possess verbal and written proficiency in both languages.

Student’s language abilities will be assessed during the interview. If a student is not able to participate in the interview in person, he/she must include an official report of their Test of English as a Foreign Language (TOEFL) scores with their application

Graduation

Students must apply and pay the corresponding graduation fee no later than the date set in the Academic Calendar. Application forms for this purpose are obtained from the Registrar's Office, and must be mailed or delivered together with a copy of the receipt of payment of the $200.00 non-refundable graduation fee to the Bursar's Office. Noncompliance with these requirements may postpone the conferring of the degree.

Time Limitations

PhD Degree

Students will be allowed a maximum of seven years to complete the degree requirements.

MS/MA Degree

Students will be allowed a maximum of four years to complete the degree requirements.

The student must complete all requirements by June 30 of his fourth year, the last day of the academic year. Under exceptional circumstances, the Graduate Program in Biomedical Sciences Committee may extend these periods for one (1) year.

Extension Request Procedure

The student will write a letter explaining the need for the extended period and the reasons why he/she could not complete the degree in the allowed time. The mentor will write a letter agreeing to continue being the mentor of the student and detailing a plan for the student to complete the graduation requirements in a year period. The Graduate Program in Biomedical Sciences Committee will examine the documents presented and render a decision.

Course Load

PhD Degree

A full-time load consists of no less than eighteen (18) credits per academic year. Students must register every term; failure to do so will automatically result in the student being dropped from the Program. Student must remain enrolled until completing all graduation requirements and delivering the final version of their Dissertation. If the student is dropped and wants to reenter in the Program, the student must reapply and go through the admissions process. Courses of the doctoral program are valid for seven years

MS/MA Degree

A full time load consists of not less than nine (9) credits per academic year and two courses per semester. A student enrolled in Thesis work is considered a full-time student. Students must register every term; failure to do so will automatically withdraw the student from the Program. Student must remain registered until completing all graduation requirements and delivering the final version of their Thesis. In the event of withdrawal, a new application must be submitted if the student desires to continue in the Program

Curricular programs for the PhD, MS and MA degrees

Individual programs of study will be prepared for each student. These programs of study are designed to meet the specific requirements of each student. Once the designated program of study is approved, a student must comply with the course requirements established in his/her program of study in order to graduate.

Courses of Study

Doctor of Philosophy in Cellular and Molecular Biology

First Year

Code	Course Title	Credits
BMS 500A	Responsible Conduct of Research	2
BMS 501	Introduction to Experimental Design	1
BMS 505	Introduction to Education and Teaching	1
BMS 510G	Biochemistry and Cell Biology	6
BMS 512A	Critical Thinking	2
BMS 860	Scientific Methodology	2
BMS 861A	Biostatistics	3
BMS 862A	Research Laboratory Rotations	1

Second Year

Code	Course Title	Credits
BMS 523B	Molecular Biology	6
BMS 899	Graduate Research	5
BMS 879A	Seminar in Cellular and Molecular Biology	1
BMS	Electives	6

Third Year

Code	Course Title	Credits
BMS 899	Graduate Research	10
BMS 909	Research Seminar	1
BMS	Electives	7

Fourth Year

Code	Course Title	Credits
BMS 899	Graduate Research	17
BMS 909	Research Seminar	1

Total credits: 72

Note: Students in the PhD in Cellular and Molecular Biology, may select and organize elective courses, according to their research interests, and in coordination with his/her academic advisor or mentor.

Doctor of Philosophy in Neurosciences

First Year

Code	Course Title	Credits
BMS 500A	Responsible Conduct of Research	2
BMS 501	Introduction to Experimental Design	1
BMS 505	Introduction to Education and Teaching	1
BMS 510G	Biochemistry and Cell Biology	6
BMS 512A	Critical Thinking	2
BMS 860	Scientific Methodology	2
BMS 861A	Biostatistics	3
BMS 862A	Research Laboratory Rotations	1

Second Year

Code	Course Title	Credits
BMS 580A	Neuroscience	6
BMS 889	Seminar in Neuroscience	1
BMS 899	Graduate Research	5
BMS	Electives	6

Third Year

Code	Course Title	Credits
BMS 580B	Advance Neuroscience	3
BMS 899	Graduate Research	10
BMS 909	Research Seminar	1
BMS	Electives	4

Fourth Year

Code	Course Title	Credits
BMS 899	Graduate Research	17
BMS 909	Research Seminar	1

Total credits: 72

Master of Arts in Biomedical Sciences

First Year

Code	Course Title	Credits
BMS 500A	Responsible Conduct of Research	2
BMS 501	Introduction to Experimental Design	1
BMS 510G	Biochemistry and Cell Biology	6
BMS 860	Scientific Methodology	2
BMS 861A	Biostatistics	3

Second Year

Code	Course Title	Credits
BMS	Electives	10
BMS869	Seminar in Biomedical Science	2

Third Year

Code	Course Title	Credits
BMS	Electives	10

Total credits: 36

Master of Arts in Biomedical Sciences in Anatomy and Cellular Biology

First Year

Code	Course Title	Credits
BMS 500A	Responsible Conduct of Research	2
BMS 501	Introduction to Experimental Design	1
BMS 860	Scientific Methodology	2
BMS 861A	Biostatistics	3
BMS	Electives	8

Second Year

Code	Course Title	Credits
BMS	Electives	16

Third Year

Code	Course Title	Credits
BMS 809	Seminar in Anatomy and Cell Biology	2
BMS 868	Bibliographic Report	2

Total credits: 36

Master of Arts in Biomedical Sciences in Physiology

First Year

Code	Course Title	Credits
BMS 500A	Responsible Conduct of Research	2
BMS 501	Introduction to Experimental Design	1
BMS 510G	Biochemistry and Cell Biology	6
BMS 860	Scientific Methodology	2
BMS 861A	Biostatistics	3
BMS 862B	Research Laboratory Rotations B	2

Second Year

Code	Course Title	Credits
BMS 530B	Physiology	6
BMS 830	Neurophysiology	5
BMS 839	Seminar in Physiology	1
BMS 868	Bibliographic Report	1

Third Year

Code	Course Title	Credits
BMS 839	Seminar in Physiology	1
BMS 868	Bibliographic Report	1
BMS	Electives	5

Total credits: 36

Master of Arts in Biomedical Sciences in Microbiology and Immunology

First Year

Code	Course Title	Credits
BMS 500A	Responsible Conduct of Research	2
BMS 501	Introduction to Experimental Design	1
BMS 510G	Biochemistry and Cell Biology	6
BMS 821	Immunology	3
BMS 860	Scientific Methodology	2
BMS 861A	Biostatistics	3
BMS 862A	Research Laboratory Rotations	1

Second Year

Code	Course Title	Credits
BMS 820C	Medical Bacteriology	2
BMS 822A	Parasitology	2
BMS 825A	Mycology	2
BMS 826A	Virology	2
BMS 829A	Diagnostic Bacteriology	2
BMS 868	Bibliographic Report	1
BMS	Electives	4

Third Year

Code	Course Title	Credits
BMS 859	Seminar in Microbiology and Immunology	2
BMS 868	Bibliographic Report	1

Total credits: 36

Master of Science in Biomedical Sciences in Anatomy and Cellular Biology

First Year

Code	Course Title	Credits
BMS 500A	Responsible Conduct of Research	2
BMS 501	Introduction to Experimental Design	1
BMS 860	Scientific Methodology	2
BMS 861A	Biostatistics	3
BMS	Electives	6

Second Year

Code	Course Title	Credits
BMS	Electives	14
BMS 899	Graduate Research	2

Third Year

Code	Course Title	Credits
BMS 809	Seminar in Anatomy and Cell Biology	2
BMS 899	Graduate Research	4

Total credits: 36

Master of Science in Biomedical Sciences in Biochemestry

First Year

Code	Course Title	Credits
BMS 500A	Responsible Conduct of Research	2
BMS 501	Introduction to Experimental Design	1
BMS 510G	Biochemistry and Cell Biology	6
BMS 860	Scientific Methodology	2
BMS 861A	Biostatistics	3
BMS 862B	Research Laboratory Rotation B	2

Second Year

Code	Course Title	Credits
BMS 523B	Molecular Biology	6
BMS 819	Seminar in Biochemistry	1
BMS	Electives	4
BMS 899	Graduate Research	4

Third Year

Code	Course Title	Credits
BMS 819	Seminar in Biochemistry	1
BMS 899	Graduate Research	4

Total credits: 36

Master of Science in Biomedical Sciences in Pharmacology

First Year

Code	Course Title	Credits
BMS 500A	Responsible Conduct of Research	2
BMS 501	Introduction to Experimental Design	1
BMS 510G	Biochemistry and Cell Biology	6
BMS 860	Scientific Methodology	2
BMS 861A	Biostatistics	3
BMS 862B	Research Laboratory Rotations B	2

Second Year

Code	Course Title	Credits
BMS 540	Medical Pharmacology	6
BMS 849	Seminar in Pharmacology	1
BMS	Electives	3
BMS 899	Graduate Research	2

Third Year

Code	Course Title	Credits
BMS 849	Seminar in Pharmacology	1
BMS	Electives	3
BMS 899	Graduate Research	4

Total credits: 36

Master of Science in Biomedical Sciences in Physiology

First Year

Code	Course Title	Credits
BMS 500A	Responsible Conduct of Research	2
BMS 501	Introduction to Experimental Design	1
BMS 510G	Biochemistry and Cell Biology	6
BMS 860	Scientific Methodology	2
BMS 861A	Biostatistics	3
BMS 862A	Research Laboratory Rotations	1

Second Year

Code	Course Title	Credits
BMS 530B	Physiology	6
BMS 830	Neurophysiology	5
BMS 839	Seminar in Physiology	1
BMS 899	Graduate Research	2

Third Year

Code	Course Title	Credits
BMS 839	Seminar in Physiology	1
BMS	Electives	2
BMS 899	Graduate Research	4

Total credits: 36

Master of Science in Biomedical Sciences in Microbiology and Immunology

First Year

Code	Course Title	Credits
BMS 500A	Responsible Conduct of Research	2
BMS 501	Introduction to Experimental Design	1
BMS 510G	Biochemistry and Cell Biology	6
BMS 821B	Immunology	3
BMS 860	Scientific Methodology	2
BMS 861A	Biostatistics	3
BMS 862A	Research Laboratory Rotations	1

Second Year

Code	Course Title	Credits
BMS 820C	Medical Bacteriology	2
BMS 822A	Parasitology	2
BMS 825A	Mycology	2
BMS 826A	Virology	2
BMS 829A	Diagnostic Bacteriology	2
BMS 899	Graduate Research	2

Third Year

Code	Description	Credits
BMS 859	Seminar in Microbiology and Immunology	2
BMS 899	Graduate Research	4

Total credits: 36

Master of Science in Neuroscience

First Year

Code	Course Title	Credits
BMS 500A	Responsible Conduct of Research	2
BMS 501	Introduction to Experimental Design	1
BMS 510G	Biochemistry and Cell Biology	6
BMS 860	Scientific Methodology	2
BMS 861A	Biostatistics	3
BMS 862A	Research Laboratory Rotations	1

Second Year

Code	Course Title	Credits
BMS 580A	Neuroscience	6
BMS 580B	Advanced Neurosciences	3
BMS 889	Seminar in Neurosciences	1
BMS	Electives	4
BMS 899	Graduate Research	2

Third Year

Code	Course Title	Credits
BMS 889	Seminar in Neurosciences	1
BMS 899	Graduate Research	4

Total credits: 36

Elective Courses

Course Code	Course Title	Credits
BMS 502	Human Gross and Developmental Anatomy	8
BMS 530B	Physiology	6
BMS 580A	Neurosciences	6
BMS 580B	Advance Neurosciences	3
BMS 580C	Medical Neurosciences	6
BMS 801	Teaching in Anatomy	2
BMS 806	Developmental Anatomy	2
BMS 807	Microanatomy	5
BMS 802	Neuroanatomy	4
BMS 810	Comparative Anatomy	4
BMS 811	RNA	2
BMS 812	Epigenetics	2
BMS 813	Enzymology and Kinetics	2
BMS 814	Metabolism	2
BMS 815	Protein Structure and Function	2
BMS 816	Gene Expression and Protein Synthesis	2
BMS 817	Signal Transduction	2
BMS 819	Seminar in Biochemistry	1
BMS 820C	Medical Bacteriology	2
BMS 821B	Immunology	3
BMS 822	Parasitology	2
BMS 823	Cell Culture	2
BMS 824B	Cellular and Molecular Microbiology	3
BMS 825	Mycology	2
BMS 826A	Virology	3
BMS 829A	Diagnostic Bacteriology	3
BMS 830	Neurophysiology	5
BMS 831	Membrane Transport	2
BMS 832	Cardiovascular Physiology	2
BMS 833	Renal Physiology	2
BMS 834	Advanced Neurophysiology	2
BMS 839	Seminar in Physiology	1
BMS 841	Biochemical Pharmacology	3
BMS 843	Principles of Chemotherapy	2
BMS 859	Seminar in Microbiology and Immunology	1
BMS 863B	Cancer Biology	4
BMS 864A	Cancer Molecular Biology	2
BMS 865	Scientific Communication	2
BMS 866	Grant Writing	3
BMS 867A	Glial-Neuronal Cell Interactions in Biology and Disease	2
BMS 870-874	Topics in (Specify)	1 each
BMS 875A	Cell Growth and Death	2
BMS 876A	Immunopathology	2
BMS 877A	Molecular Immunology	2
BMS 878A	Cytoskeleton and Cell Motility	2
BMS 879	Seminar in Cellular and Molecular Biology	1

Course Code	Course Title	Credits
BMS 880	Adult Learning Evaluation Techniques	1
BMS 881	Effective Teaching Techniques	1
BMS 882	Supervised Teaching	1
BMS 883A	Cell Membranes	2
BMS 884	The Endoplasmic Reticulum	2
BMS 885	The Extracellular Matrix	2
BMS 886	The Golgi	2
BMS 887	The Mitochondria	2
BMS 888	The Nucleus	2
BMS 889	Seminar in Neurosciences	1
BMS 890	Neuronal and Glial Cell Culture	2
BMS 891	Lipids	2
BMS 892	Fluorescence Microscopy	2
BMS 893	Microelectrode Techniques in Neurophysiology	3

Description of Courses

BMS 500A Responsible Conduct of Research
2 Credits

On December 1, 2000, the US Public Health Service announced final PHS Policy for Instruction in the Responsible Conduct of Research (RCR) for extramural institutions receiving PHS funds for research. This policy required covered institutions to have in place, a program of instruction that complied with the policy. This course will cover the nine core instructional areas mandated by the PHS policy: Data acquisition, management, sharing, and ownership; Mentor/trainee responsibilities; Publication practices and responsible authorship; Peer review; Collaborative science; Human subjects; Research involving animals; Research misconduct; and Conflict of interest and commitment. The teaching strategies used are lectures, individualized learning and small group discussion. Student performance will be measured through exams and attendance.

BMS 501 Introduction to Experimental Design
1 Credit

This course introduces students to basic concepts and understanding of the process for conducting appropriate research and experiments in biomedical sciences. Rather than focusing on statistics, the emphasis is on the methodological aspects and the logical steps needed for implementing experimental designs and ensure reproducibility. Course objectives will be achieved through lectures, group discussions and individualize learning. Evaluation strategies include class participation, oral presentations and written reports. Students will incorporate gained knowledge to develop methodological steps for one area of a particular research interest. Attendance is required.

BMS 505 Introduction to Education and Teaching
1 Credit

The course provides an introduction to the basics of classroom management, preparation of syllabus, teaching technology, learning theory, adult learners, evaluation of performance, types of exams. Teaching strategies include lecture, individualize learning, discussion, and practical exercises. Student performance will be assessed through exams and evaluation of exercises.

BMS 512A Critical Thinking
2 Credits

The purpose of this course is to train students in the art of reasoning and critical thinking in the pursuit of answers to biological questions. The course encourages the active practice of critical reasoning, evaluation, and discussion. Students learn how to construct, defend, and criticize arguments; identify and assess tacit assumptions; and gather and evaluate evidence. The teaching strategies used are individualized learning and small group discussion. Student performance will be assessed through oral presentations and exams.

BMS 523B Molecular Biology I
6 Credits

Molecular biology is a course that is designed to present and discuss the applications of molecular biology techniques. Throughout the course, the students will discuss experiments that define this field and examine the experimental designs used to prove the discoveries discussed, interpret the results and draw conclusions. Current topics will be based on the literature of recent advancements in the field and will also highlight experiments used. The teaching strategies used include lectures and small group discussions. Student performance will be assessed through examinations, participation in class discussions and preparation of a specific aims page.

BMS 580A Neurosciences
Prerequisite: BMS 510G
6 Credits

An introduction to fundamental aspects of nervous system function. Topics will include neurosignaling, neuroplasticity, neuroanatomy and brain function. Introduction to fundamental aspects of nervous system development, including neural determination, axon guidance, and neuron-target interactions, and overview of basics of integrative neural function, including sensory, motor and limbic systems, and computational neuroscience. The teaching strategies used in the course are lectures, individualized learning and oral presentations. Student performance will be evaluated by exams and oral presentations.

BMS 580B Advanced Neurosciences
3 Credits
Prerequisite: BMS 580A

The objective of Advanced Neurosciences is to deepen knowledge in neurosciences and to learn how to identify current frontiers in a field. To become a successful scientist in a research field one needs to know where the 'field is going'. For the development of a vision of the current direction in a research field several skills are required: 1) knowledge of the literature, 2) critical thinking, and 3) communication skills. Introductory lectures will be given by faculty members for each topic. The topics will be further deepened during interactive group discussion. During group discussions original research papers and review articles are presented by students and discussed by the group. Student performance will be assessed through an exam and oral presentations.

BMS 580C Medical Neurosciences
6 Credits

The course covers topics ranging from neuronal structure and function, communication at the synapse, membrane receptors and intra- and intercellular signaling systems, to the gross organization of the brain and spinal cord, the processing of sensory information, the programming of motor responses, and higher functions such as learning, memory, cognition, and speech. During the course, the student will become acquainted with the use of monoclonal antibodies, gene cloning, cell labeling and tracing, patch clamping and radioligand binding methods which have shed light into the structure and function of the basic unit of brain tissue, the neuron. The student will also be introduced to noninvasive approaches and instruments for the in-vivo study and analysis of brain tissue, NMR, CAT and PET scans. Finally, this knowledge shall lead the student to a better understanding of the principles underlying the rational pharmacological therapy of diseases related to the nervous tissue, and the new perspectives in therapy of these pathological conditions. The course includes a practical laboratory component. The course goals are reached through diverse educational strategies such as: lectures, laboratories, small and large group discussions. Evaluation is based on written exams and practical computer-based examination using the LXR testing program. In addition, written exams and quizzes using the Personal Response System (PRS) are incorporated both as formative as well as summative strategies.

BMS 811 RNA
2 Credits

This course focuses on RNA. The course consists of lectures given by the participating faculty and presentations and discussions of current research and review papers by students. Active student participation is expected at all times. Student performance will be evaluated by exams and participation in class discussions.

BMS 812 Epigenetics
2 Credits

This course focuses on epigenetics. The course consists of lectures given by the participating faculty and presentations and discussions of current research and review papers by students. Active student participation is expected at all times. Student performance will be evaluated by exams and participation in class discussions.

BMS 823 Cell Culture
2 Credits

The requirements for a cell culture laboratory, from the standpoint of cell protection and control of biohazards for personnel are discussed, including special laboratory practices and equipment. Aseptic techniques specific to the tissue culture laboratory will be presented. The specific nutritional requisites for different types of cells are considered and how these specific nutrient requirements vary according to the type of cell, use, applications, purpose of the culture and its functions. Within culture conditions the physical requisites for gas exchanges, buffering systems and characteristics and uses are also considered, including adherent and non-adherent cultures; primary, long-term and transformed cell cultures. Sources of cells, initiation of cultures and storage techniques are considered. Principles of good cell keeping are stressed, including routine record keeping, routine inspection of laboratory equipment. The most frequent applications of cell cultures, as well as procedures for cell phenotyping are studied. The teaching strategies used are lectures and laboratory exercises. Student performance will be assessed through exams and laboratories

BMS 831 Membrane Transport
2 Credits

This course discusses fundamental concepts involving the transport of molecules and ions across biological membrane, including discussion of passive and active transport, as well as other transport processes. Examples from selected papers will be presented to illustrate the above concepts. Clinical correlations will also be presented in order to illustrate the importance of the basic concepts on clinical situations. The teaching strategy used in this course is small group discussion. Student performance will be evaluated through class participation and an oral presentation.

BMS 860 Scientific Methodology
2 Credits

This course will introduce basic concepts of scientific methods commonly used in biomedical research. All students will be required to actively participate in theoretical and practical discussions of scientific research and procedures. They will be given assignments of different topics to help them deepen their understanding of the material. The teaching strategy used in this course is lectures. Student performance will be evaluated through class participation and exams.

BMS 861A Biostatistics
3 Credits

This is essentially a two-part introductory course. Initially, there will be lectures to familiarize the students with the basic concepts of statistics, statistical analysis, and data manipulation. Depending on student background, the lectures will begin with fundamental explanations of means, modes, normal distribution, variance standard deviation, continuing with hypothesis testing, confidence levels, standard error, regression line, correlation, multiple regression, students T-test chi-square, and ANOVAs. Following the didactic portion of the course, students will be exposed to demonstrations on the use of the computer for accessing statistical and database programs. Small projects will be assigned or devised by the students to demonstrate proficiency in experimental design and data interpretation. The teaching strategies used in this course are lectures and laboratories. Student performance will be evaluated through class participation and exams.

BMS 862A/B Research Laboratories Rotations
1-2 Credits

Research laboratory rotations are intended to introduce students to the laboratory opportunities available through the Graduate Program in Biomedical Sciences. Students will rotate through not less than three different active research laboratories in such a way that the experience they acquire during these rotations will help them decide their area of interest and the mentor under whose supervision he/she will train. Eight weeks of rotation will be equivalent to 1 credit hour. Students are expected to work six hours a week in the laboratory.

The teaching strategy used in this course is laboratory work. Student performance will be evaluated through their performance in the research laboratory.

BMS 863B Cancer Biology
Prerequisite: BMS 510G
4 Credits

This course presents the principles of cancer biology. The topics that will be covered in the course include growth factors, control of the cell cycle, multistep tumorigenesis, invasion and metastasis, among others. The course consists of lectures given by the participating faculty and presentations and discussions of current research and review papers by students. Active student participation is expected at all times. Student performance will be evaluated by exams and participation in class discussions

BMS 864A Cancer Molecular Biology
Prerequisite: BMS 863B
4 Credits

This course is designed to provide students with a thorough and in-depth understanding of fundamental concepts in cancer biology at the cellular and molecular levels. The topics that will be covered in the course include oncogenes and tumor suppressor genes, cell cycle regulation, signal transduction pathways, apoptosis, DNA repair mechanisms, tumor immunology, animal models for human cancers, cancer therapy and cancer epigenetics, among others. The course consists of lectures given by the participating faculty and presentations and discussions of current research and review papers by students. Active student participation is expected at all times. Student performance will be evaluated by exams and participation in class discussions.

BMS 865A Scientific Communication
2 Credits

This course provides instruction and examples on the different aspects of use of the written and oral language, and graphic representations. The course aims to build a foundation for students to engage in effective scientific communication. The teaching strategies to be used include: lectures, individualized learning, small group discussions and critiques of written and oral examples. Students' performance will be measured through evaluations of written and oral presentations, written assignments, class discussion and evaluation by peers. Full attendance is required.

BMS 866 Grant Writing
3 Credits

The course goes through the process of writing the F31 grant for PhD students turning a gap in knowledge into a proposal. Students will enter the course with a hypothesis and preliminary data and will be expected to submit a F31 grant either during or just after the course. The course will cover the NIH proposal, review process, and revisions. Evaluation will be by assignments, presentations, participation in the review process and tests.

BMS 867 Glial-Neuronal Cell Interactions in Biology and Disease
2 Credits

This course is designed to provide students with a thorough and in-depth understanding of glial-neuronal cell interactions. The topics that will be covered in the course include morphology of glial cells, glial development, and physiology of glial cells, among others. The course consists of lectures given by the participating faculty and presentations and discussions of current research and review papers by students. Active student participation is expected at all times. Student performance will be evaluated by exams and participation in class discussions.

BMS 868A/B/C Bibliographic Report
1 Credit

A library review of a topic assigned by the student's mentor or the Committee. Required of all students registered for the MA degree. See the Bibliographic Report Formatting section for details on how to prepare the document. Bibliographic Reports will be evaluated with GPBSF 19.

BMS 869A/B Seminar in the Biomedical Sciences
1 Credit

This course consists of an oral presentation in a seminar format of a relevant topic within the area of specialization. The student, upon consultation with the mentor or other academic advisor, will select the topic. The topic may be from directed readings or from the student's research. The faculty will provide assistance to the student in preparing for the seminar presentation. The student's course grade will be based on faculty evaluation of the seminar. The course consists of a one-hour seminar and a minimum of 23 hours of preparation including readings to prepare for the seminar, therefore the course is worth one credit hour.

MS/MA students are required to present two seminars. BMS 869A will be used for the first seminar offered and BMS 869B for the second.

BMS 870-874 Topics (Specify)
1 Credit
Graded or Pass/Fail (Certificate of Participation)

The topics course has been designed to provide the graduate student with the theoretical background and practical experience required for the in-depth understanding of specialized topics of interest to the student. The teaching strategy used in the course is small group discussion. Student performance will be assessed by either presentations, exams, written reports and/or class participation. The student and faculty member will determine their meeting schedule.

BMS 875A Cell Growth and Death
2 Credits

This course cover in-depth mechanisms related to cell growth and death. The topics that will be covered in the course include apoptosis, autophagy, necrosis, intrinsic and extrinsic apoptotic signal cascades, caspase-independent cell death, mitochondrial death effectors, anti-apoptotic proteins, and intracellular proteases. The course consists of lectures given by the participating faculty and presentations and discussions of current research and review papers by students. Active student participation is expected at all times. Student performance will be evaluated by exams and participation in class discussions.

BMS 876A Immunopathology
Prerequisite: BMS 821B
2 Credits

This course covers in-depth immune mechanisms of disease including immunodeficiencies, hypersensitivity disorders and autoimmunity. The course consists of lectures given by the participating faculty and presentations and discussions of current research and review papers by students. Active student participation is expected at all times. Student performance will be evaluated by exams and participation in class discussions.

BMS 877A Molecular Immunology
Prerequisite: BMS 821B
2 Credits

This course covers in-depth the molecular mechanisms involve in mounting an immune response. Topics include generation of antibodies, antigen processing and presentation, lymphocyte activation and immune regulation. The course consists of lectures given by the participating faculty and presentations and discussions of current research and review papers by students. Active student participation is expected at all times. Student performance will be evaluated by exams and participation in class discussions.

BMS 878A Cytoskeleton and Cell Motility
2 Credits

This course focuses on the components of the cytoskeleton and actin-based cell motility. The course consists of lectures given by the participating faculty and presentations and discussions of current research and review papers by students. Active student participation is expected at all times. Student performance will be evaluated by exams and participation in class discussions.

BMS 879A/B Seminar in Cell and Molecular Biology
1 Credit

This course consists of an oral presentation in a seminar format of a relevant topic within the area of specialization. The student upon consultation with the mentor or other academic advisor will select the topic. The topic may be from directed readings or from the student's research. The faculty will provide assistance to the student in preparing for the seminar presentation. The seminar is not the presentation of a research publication (single paper). It is intended to develop in the students the capacity to prepare a class on a specified topic. The student's course grade will be based on faculty evaluation of the seminar. The course consists of a one-hour seminar and a minimum of 23 hours of preparation including readings to prepare for the seminar, therefore the course is worth one credit hour. The seminar will be announced and open to the academic community. GPBSF 14 Seminar Presentation Evaluation Form will be used to evaluate students' presentations. MS students are required to present two seminars. BMS 819A will be used for the first seminar offered by the student and BMS 819B for the second.

BMS 880 Adult Learning and Evaluation Techniques
1 Credit

In this course students will learn in more detail about learning theory, characteristics of adult learners, what motivates adults to learn, evaluation of performance, effective methods of giving feedback, grading practices, types of exams, construction of effective exams and alternative testing methods. Teaching strategies include lecture, individualize learning, discussion, and practical exercises. Student performance will be assessed through exams and evaluation of exercises.

BMS 881 Effective Teaching Techniques
1 Credit

In this course students will learn in more detail about methodology of effective teaching techniques. Topics will include strengths and limitations of teaching methods, advantages and disadvantages of different types of visual aids, selection of delivery strategy, how to improve retention of information, positive and negative transference, positive reinforcement vs. negative reinforcement. The teaching strategies include lecture and practical exercises. Student performance will be assessed through exams and evaluation of exercise

BMS 882 Supervised Teaching
1 Credit

This elective is designed to provide students with experience in teaching and to improve the students' teaching skills. Students will serve as instructors to new graduate students providing a laboratory safety lecture and introducing new graduate students to the use of laboratory equipment, including a laboratory exercise. Following the teaching format of an undergraduate laboratory course, the students will prepare an introductory lecture to a laboratory exercise that will be followed with a laboratory session. The student's course grade will be based on the evaluation of the two lectures and the laboratory exercise. Prerequisite: Adult Learning and Evaluation Techniques, Effective Teaching Techniques

BMS 883A Cell Membranes
2 Credits

This course focuses on the organization of cellular membranes. Topics include membrane lipids, membrane proteins, and membrane related structures. The course consists of lectures given by the participating faculty and presentations and discussions of current research and review papers by students. Active student participation is expected at all times. Student performance will be evaluated by exams and participation in class discussions.

BMS 884 The Endoplasmic Reticulum
2 Credits

This course focuses on the endoplasmic reticulum. The course consists of lectures given by the participating faculty and presentations and discussions of current research and review papers by students. Active student participation is expected at all times. Student performance will be evaluated by exams and participation in class discussions.

BMS 885 The Extracellular Matrix
2 Credits

This course focuses on the extracellular matrix. The course consists of lectures given by the participating faculty and presentations and discussions of current research and review papers by students. Active student participation is expected at all times. Student performance will be evaluated by exams and participation in class discussions.

BMS 886 The Golgi
2 Credits

This course focuses on the golgi. The course consists of lectures given by the participating faculty and presentations and discussions of current research and review papers by students. Active student participation is expected at all times. Student performance will be evaluated by exams and participation in class discussions.

BMS 887 The Mitochondria
2 Credits

This course focuses on the mitochondria. The course consists of lectures given by the participating faculty and presentations and discussions of current research and review papers by students. Active student participation is expected at all times. Student performance will be evaluated by exams and participation in class discussions.

BMS 888 The Nucleus
2 Credits

This course focuses on the nucleus. The course consists of lectures given by the participating faculty and presentations and discussions of current research and review papers by students. Active student participation is expected at all times. Student performance will be evaluated by exams and participation in class discussions.

BMS 891 Lipids
2 Credits

This course focuses on lipids. The course consists of lectures given by the participating faculty and presentations and discussions of current research and review papers by students. Active student participation is expected at all times. Student performance will be evaluated by exams and participation in class discussions.

BMS 892 Fluorescence Microscopy
2 Credits

Provides students with practical knowledge of fluorescence microscopy methods and possible applications to their research. The course will cover the different aspects of modern microscopy, such as: hardware, optics, lightning, fluorescent labels, sample preparation, decoding cell components, probing cell structure-function, confocal microscopy, image acquisition and quantitative image analysis. Discussion of research articles will demonstrate and extend what is learned in lectures. The teaching strategies used are lectures, individualized learning and small group discussion. Student performance will be measured through exams, oral presentations and attendance.

BMS 893 Microelectrode Techniques in Neurophysiology
3 Credit

The purpose of this course is to expose the students to the basic terms, concepts and methods of electrical activity measurement in the biological systems, with a special emphasis on microelectrode techniques used in the field of neurophysiology. The course will include theoretical classes, calculations and problem solving exercises and demonstration of the selected electrophysiological techniques in the rodent brain slices. Student performance will be measured through exams and attendance.

BMS 899 Graduate Research
Variable
Grading is Pass or Fail

The student will perform faculty-supervised research in the laboratory with a faculty member who will serve as the student's research advisor. This research will be the basis for the written dissertation or thesis, which is required for the PhD or MS degree, respectively. The main objective is to develop a specific research project and produce meaningful data, which can contribute further knowledge in the area. The data should be publishable in a peer-reviewed journal and acceptable for presentation as a written dissertation or thesis as partial fulfillment of the requirement for the PhD or MS degree. Upon completion, the student will present his/her research in seminar form to the academic community as a final defense of the dissertation or thesis. The teaching strategies used in this course are individualized learning and laboratory work. Student performance will be assessed through their performance in the research laboratory and dissertation or thesis defense.

BMS 909 RESEARCH SEMINAR
1 Credit
Grading is Pass or Fail

Beginning on the first semester of their third year, students will enroll in one (1) credit of Research Seminars every semester that they remain active in the program. The course will consist of weekly meetings in which the students will present their research projects and current results. The course will provide students with the experience of presenting their research to a multidisciplinary audience and practice their presentation skills. On average students will present once per year. For students with no other coursework, a full-time load will be 8 credits of BMS 899 Graduate Research and 1 credit of BMS 909. Grading will be based on student attendance. Seven (7) or more absences per semester will result in a failing grade. Students attending a scientific meeting will be excused from that week's seminar. Students performing research and/or visiting the laboratories outside of UCC will participate in seminars at the visiting institution to meet attendance requirements. The PI of the host laboratory will certify attendance.

Department of Anatomy and Cell Biology

BMS 502 Human Gross and Developmental Anatomy
8 Credits

This course surveys the regional, functional and developmental anatomy of the human body with emphasis on the anatomical correlates of clinical medicine. The study and visualization of the different components of the human body is accomplished through a complete dissection and prosection of the human body in the following sequence: Back, Upper and Lower Limbs, Thorax; Head and Neck; Abdomen, Pelvis and Perineum.

BMS 801 Teaching in Anatomy
2 Credits

This course will provide students with an overview of basic principles and methodology in education as well as the opportunity to utilize these concepts while serving as teacher aids in the morphology courses taught throughout the academic year by the Department of Anatomy. All the first year Biomedical Sciences Morphology Courses are pre-requisites.

BMS 802 Neuroanatomy
4 Credits

This course deals with the general organization and meaning of the nervous system, its embryology and histological structure. The organization and segmental distribution of the peripheral nerve elements and the architectonics of the Central Nervous System are studied by levels. The main sensory (ascending) and motor (descending) pathways are discussed in relationship to cortical organization. Topics in neurophysiology are included to integrate structural and functional features of the CNS. Currently, this course is based on the medical sciences course on Neurosciences which is offered during the second semester; however, the student will benefit from attending other sections of this course besides the Neuroanatomy component to get an insight into the physiology, biochemistry and pharmacology pertinent to this area. The course also includes a practical laboratory component.

BMS 806 Developmental Anatomy
2 Credits

This course provides a current account of the human embryonic development taking into account (1) normal morphology and function, (2) the new technology that allows the manipulation and study of the human embryo and fetal development, (3) the developmental basis for the more important congenital abnormalities, and (4) clinical correlations to further emphasize the practical implications of such malformations. Part one of the course covers in detail the early development, the function of the structures and tissues, and the relationship between the mother and fetus. An overview of the main changes from the third month to birth introduces the student to the next section of the course, bringing together the entire process of embryonic development to result in the birth of the fetus. Part two discusses in detail the development of the body systems, both normally and in the development of anomalies, emphasizing the immediate and normal adaptations in each system necessary for life outside the womb. New tools and techniques such as ultrasound and other imaging modalities have provided new ways of visualizing living embryos; however, these techniques are presented in the discussion of specific systems due to the time constraints of the course.

BMS 807 Microanatomy
5 Credits

The first part of the course, cell and basic tissues, will prepare those who have no experience in histology with the background necessary to understand the normal morphological adaptations and modifications of tissues in the formation of organs, and enable the student to understand why these adaptations and modifications provide the body with the basic and fundamental functions to have and maintain a general well-being. Outlining the principal methods employed in the microscopic study of cells, tissues, and organs will set the stage for the subsequent detailed study of the cells and tissues of the body in other basic sciences courses. The course requires a general knowledge of cellular and molecular biology as well as familiarity in the usage of the bright field binocular microscope.

BMS 809A/B Seminar in Anatomy and Cell Biology
1 Credit

This course consists of an oral presentation in a seminar format of a relevant topic within the area of specialization. The student upon consultation with the mentor or other academic advisor will select the topic. The topic may be from directed readings or from the student's research. The faculty will provide assistance to the student in preparing for the seminar presentation. The seminar is not the presentation of a research publication (single paper). It is intended to develop in the students the capacity to prepare a class on a specified topic. The student's course grade will be based on faculty evaluation of the seminar. The course consists of a one-hour seminar and a minimum of 23 hours of preparation including readings to prepare for the seminar, therefore the course is worth one credit hour. The seminar will be announced and open to the academic community. GPBSF 14 Seminar Presentation Evaluation Form will be used to evaluate students' presentations. MS/MA students are required to present two seminars. BMS 809A will be used for the first seminar offered and BMS 809B for the second.

BMS 810 Comparative Anatomy
4 Credits

This course is a study of the structural and functional evolution of selected organ systems in representative vertebrates. It examines how organ systems work and how they evolve within a phylogenetic context. The purpose is to better understand the vertebrate design. For this purpose, the vertebrate groups are organized phylogenetically and their systems are interpreted in terms of their embryological development, phylogeny and functional adaptations. The main emphasis is given to the morphology and structural organization of organ systems and how they undergo adaptive changes on the basic vertebrate body plan.

Short writing assignments will be given to be discussed in every discussion session. Satisfactory completion of all assignments will be required to pass the course, but the assignments may not receive a letter grade.

Department of Biochemistry

BMS 510G Biochemistry and Cell Biology
6 Credits

Biochemistry and Cell Biology is a foundation course that is designed to introduce graduate students to the most important concepts of biochemistry and cell biology. The Biochemistry and Cell Biology for Graduate Students course integrates the disciplines of biochemistry and cell biology and presents the most important concepts in each. The course is conducted in the Spring semester. The Biochemistry and Cell Biology course features conferences that are taught by a team of professors with expertise in their respective fields. In these classes, the course faculty present and discuss with the students the most important course concepts. Student interaction with the presenting faculty during these classes is encouraged. Student knowledge in the Biochemistry and Cell Biology course is evaluated with course examinations.

BMS 813 Enzymology and Kinetics
Prerequisite: BMS 510G
2 Credits

The course emphasizes concepts and current methods of enzyme structure and kinetics. These concepts are applicable to the general field of receptor-ligand interactions. The use of mathematical models to help understand the kinetic behavior of a particular compound will also be discussed.

BMS 814 Metabolism
Prerequisite: BMS 510G
2 Credits

Topics in this course will cover metabolism of carbohydrates, lipids, amino acids and other important metabolites. The topics will be covered in depth and the relationships among them will be pointed out. Specific topics presented and discussed in this course will depend on the participating faculty and the interests of the enrolled students. Abnormalities in the pathways of each will be emphasized. Along with the lectures there will be reading assignments of journal articles related to the specific topic. Student performance will be assessed by either presentations, exams, written reports and/or class participation. The student and faculty member will determine their meeting schedule.

BMS 815 Protein Structure and Function
Prerequisite: BMS 510G
2 Credits

Topics in this course emphasize the physical and chemical bases for protein structure and function. The relationships between amino acid sequence, secondary structure, tertiary structure and activity will be discussed. Topics will include the use of site-directed mutagenesis to deduce protein function and principles of protein-protein interactions. The teaching strategies used are lectures and laboratories. Student performance will be evaluated through exams and class participation.

BMS 816 Gene Expression and Protein Synthesis
Prerequisite: BMS 510G
2 Credits

This course is an advanced study of important recent literature dealing with the structure and function of nucleic acids, biosynthesis of proteins, and the control of gene expression. The teaching strategies used are journal article discussions, oral presentations and individualized learning. Student performance will be assessed through class participation and oral presentations.

BMS 817 Signal Transduction
Prerequisite: BMS 510G, BMS 523B
2 Credits

A variety of topics in signal transduction will be covered, including the general principles of cellular communications, surface and intracellular receptors, secondary messengers and effectors, and integration of signaling pathways for physiological processes. The first half of the course will examine the mechanism of action for enzyme-linked receptors, G-Protein Coupled or Heptahelical receptors and associated proteins, and intracellular/lipid signaling. The second half of the course will integrate specific signaling pathways with important biological processes such as stem cell differentiation, abnormal cell growth, neuroprotection, and

other neuronal processes. Classes will meet for 2 hours on a weekly basis for 12 sessions. Weekly reading assignments will consist of current research article(s). Students will be evaluated on the basis of a mid-term exam, class participation in the discussion of the paper, and an oral presentation on a topic of their choice.

BMS 819A/B Seminar in Biochemistry
1 Credit

This course consists of an oral presentation in a seminar format of a relevant topic within the area of specialization. The student upon consultation with the mentor or other academic advisor will select the topic. The topic may be from directed readings or from the student's research. The faculty will provide assistance to the student in preparing for the seminar presentation. The seminar is not the presentation of a research publication (single paper). It is intended to develop in the students the capacity to prepare a class on a specified topic. The student's course grade will be based on faculty evaluation of the seminar. The course consists of a one-hour seminar and a minimum of 23 hours of preparation including readings to prepare for the seminar, therefore the course is worth one credit hour. The seminar will be announced and open to the academic community. GPBSF 14 Seminar Presentation Evaluation Form will be used to evaluate students' presentations.MS students are required to present two seminars. BMS 819A will be used for the first seminar offered by the student and BMS 819B for the second.

BMS 890 Neuronal and Glial Cell Culture
2 Credits

This course is designed to provide students with a thorough and in-depth understanding of the isolation and establishment of mixed neuronal and glial culture from postnatal rats and the maintenance of those cultures. Participants will perform preparations, learn to maintain the cell cultures, describe the cultures by direct observation and typified using immunocytochemical methods. Student performance will be evaluated through their performance in the laboratory.

Department of Microbiology & Immunology

BMS 820C Medical Bacteriology
2 Credits

This course will introduce students to the relationship between microorganisms and human health. Principles and processes by which these microorganisms cause disease, their virulence factors, transmission, consequences and the signs and symptoms of the diseases they produce will be discussed. In addition, the methods used for the identification of pathogenic organisms as well as for their prevention and treatment will be introduced. Specific laboratory exercises and review of recently published scientific manuscripts will be included. The teaching strategies used in the course include lectures laboratories and small group discussions. Student performance will be evaluated through exams, laboratory exercises and small group discussion. This is a year-long course.

BMS 821B Immunology
3 Credits

This course provides graduate students with a working knowledge of the immune system and the specialized vocabulary that describes it. Topics to be covered include: (1) the structure, function, and genetics of immunoglobulins, (2) T-lymphocyte antigen receptors, and major histocompatibility complex-encoded proteins, (3) the development and differentiation of lymphocytes, (4) cell-to-cell interactions in the immune system, and (5) the regulation of immune responses. It also will include laboratory exercises and discussion of scientific papers that are used to illustrate experimental approaches to current questions. The teaching strategies used in the course include lectures, laboratories, small group discussion and individualized learning. The students will be evaluated by exams and small group discussion.

BMS 822A Parasitology
Prerequisite: BMS 821B
2 Credits

This course encompasses the presentation and discussion of parasitic organisms of medical and veterinary importance, with emphasis on life cycles, host-parasite relationships, epidemiology, diagnostic procedures, pathogenesis, treatment, and control methods. Practical laboratory experience is included. The teaching

methods utilized in the course are lectures, laboratories, small group discussions and individualized learning. Student performance will be assessed by exams, laboratories, oral and written presentations, and quizzes.

BMS 824B Cellular and Molecular Microbiology
3 Credits

An advanced course designed for graduate students in biomedical sciences. The course emphasizes the function of microbial structures and the metabolism and control of microorganisms. The course includes the study of gene structure, genetic variations, metabolic regulation and regulation of gene expression, and recombinant DNA techniques. The basic mechanisms of action of antimicrobial agents are also considered. The laboratory exercises include techniques used, DNA extraction, protein extraction and separation, 2-D gel analysis, protein identification, genomics and proteomics. The teaching strategies used in the course include lectures, problem solving, individualized learning and oral presentations. Student performance will be measured by exams and presentations.

BMS 825A Mycology
Prerequisite: BMS 821B
2 Credits

This course deals with fungi of industrial and medical importance. The course will give emphasis on: morphology, structures, physiology, genetics, growth and nutrition, classification, life cycles, host-parasite, identification, pathogenesis, contaminants and diagnostic of different mycoses, ecology, and economic importance of fungi. In laboratories, the fundamentals of general mycology and the procedures used for isolation and identification of fungi will be included. The course consists of lectures, laboratory, and critical readings of the primary literature and student presentations. Heavy emphasis will be placed on student participation. The students will be evaluated through exams, laboratories, class presentations and term papers.

BMS 826A Virology
Prerequisite: BMS 821B
2 Credits

This course consists of the study of viruses and their interaction with humans and animals. The course consists of five main units: 1) Fundamental principles of virology, detection methods and genetics; 2) Genome structure and replication; 3) Host response to viral infection; 4) Pathogenesis, prevention and control of specific virus, and emerging viruses, 5) Discussion of recent scientific articles. The teaching strategies include lectures, laboratories, small group discussion and individualized learning, and small group discussion. The students will be evaluated by exams, laboratories, oral and written presentations.

BMS 829A Diagnostic Bacteriology
Prerequisite:BMS 821B, BMS 820C
2 Credits

The course acquaints the student with microorganisms with emphasis on the bacteria in diseases of man. Theory and principles of isolation, identification, biochemical reaction, growth requirement and susceptibility testing will be considered. Theory and practical application will include lecture, demonstration, laboratory practice, audiovisual presentations, written reports/journals, and small group activities. The teaching strategies are lectures and laboratories. Student performance will be assessed by exams, laboratory reports and student presentations.

BMS 859A/B Seminar in Microbiology and Immunology
1 Credit

This course consists of an oral presentation in a seminar format of a relevant topic within the area of specialization. The student upon consultation with the mentor or other academic advisor will select the topic. The topic may be from directed readings or from the student's research. The faculty will provide assistance to the student in preparing for the seminar presentation. The seminar is not the presentation of a research publication (single paper). It is intended to develop in the students the capacity to prepare a class on a specified topic. The student's course grade will be based on faculty evaluation of the seminar. The course consists of a one-hour seminar and a minimum of 23 hours of preparation including readings to prepare for the seminar, therefore the course is worth one credit hour. The seminar will be announced and open to the academic community. GPBSF 14 Seminar Presentation Evaluation Form will be used to evaluate students'

presentations. MS/MA students are required to present two seminars. BMS 859A will be used for the first seminar offered by the student and BMS 859B for the second.

Department of Pharmacology

BMS 540 Medical Pharmacology
6 Credits

The course aims to present the basic knowledge of the way drugs act upon the body; provide the essential knowledge for the understanding of drug therapy; and provide for the rational use of different drugs in clinical situations. It includes the chemistry of drugs, structure-activity relationship of different kinds of drugs, pharmacokinetics, absorption, distribution, excretion, metabolism, pharmacological actions, mechanism of action, clinical uses, side effects toxicity, adverse reactions, and interactions of substances used in the diagnosis, prevention and treatment of disease. It also emphasizes the effect of endogenous and exogenous substances at the cellular level. The course involves lectures and conferences on blocks of material such as general pharmacological principles, autonomic pharmacology, cardiovascular drugs, CNS pharmacology, pharmacology of chemotherapeutic agents, endocrine pharmacology, gastrointestinal pharmacology, autacoids and anti-histamines, prostaglandins, drug interactions and clinical toxicology.

BMS 841 Biochemical Pharmacology
Prerequisite: BMS 540 (or concurrently enrolled)
3 Credits

In this course the fundamental and basic pharmacological concepts are integrated with Biochemistry. The following topics are presented in detail: pharmacokinetics, pharmacodynamics, mechanisms of drug metabolism (cytochrome P-45- systems, transferases, etc.), ions and amino acids transport, metabolism of biogenic amines, neuronal receptors, etc.

BMS 843 Principles of Chemotherapy
2 Credits

This course encompasses such topics as general pharmacological and pharmacokinetic principles, discussion and presentation of the agents used in the treatment of infectious disease, such as antibiotics, antifungal, antiviral, antihelminthic drugs and antimalarials, cancer chemotherapy, immunotherapy and principles of drug interactions. This course is specifically designed for those students not majoring in the area of Pharmacology and whose interests are met by studying specific topics in Pharmacology.

BMS 849A/B Seminar in Pharmacology
1 Credit

This course consists of an oral presentation in a seminar format of a relevant topic within the area of specialization. The student upon consultation with the mentor or other academic advisor will select the topic. The topic may be from directed readings or from the student's research. The faculty will provide assistance to the student in preparing for the seminar presentation. The seminar is not the presentation of a research publication (single paper). It is intended to develop in the students the capacity to prepare a class on a specified topic. The student's course grade will be based on faculty evaluation of the seminar. The course consists of a one-hour seminar and a minimum of 23 hours of preparation including readings to prepare for the seminar, therefore the course is worth one credit hour. The seminar will be announced and open to the academic community. GPBSF 14 Seminar Presentation Evaluation Form will be used to evaluate students' presentations. MS students are required to present two seminars. BMS 849A will be used for the first seminar offered by the student and BMS 849B for the second.

Department of Physiology

Graduate courses

BMS 530B Physiology
6 Credits

This course offers a detailed presentation of the currently accepted concepts dealing with the manner in which the individual cells and organs are integrated into the complex functions by the living organisms as well as the processes which compose the activities of living cells and organ systems. Clinical correlations are held for the

presentation and discussion of cases pertaining to each of the systems studied. Group discussions are held in which students prepare and present a case study for each system. The topics covered include the physiology of the major organ systems (neuromuscular, reticuloendothelial, cardiopulmonary, renal, gastrointestinal, endocrine and reproductive). The teaching strategies used in the course include lectures and individualized learning. Student performance will be assessed through exams and student presentations.

BMS 830 Neurophysiology
5 Credits

The course introduces students to the basic principles of neuroscience that all physiology graduate students are expected to know before embarking on their specialized research programs. Several topics will be discussed, ranging from cellular aspects of neuronal signaling to cortical mechanisms of perception and motor control. A discussion-based format with a focus on original papers, exercises and demonstrations will allow students to familiarize themselves in the fundamental issues at the heart of contemporary neuroscience. Emphasis will be given to the critical evaluation of neuronal theories of brain function. The teaching strategies used in the course are lectures, individualized learning and oral presentations. Student performance will be evaluated by exams and oral presentations.

BMS 832 Cardiovascular Physiology
Prerequisite: BMS 530
2 Credits

This course provides detailed discussion of specific topics on the physiology of the cardiovascular system, such as electrophysiology of the myocardium, cardiac work, control of cardiac function, peripheral circulation, cardiac output, pathogenesis of atherosclerosis, atrial natriuretic peptide, and inter-cellular communication in the myocardium. The teaching strategies used in the course are lectures and individualized learning. Student performance will be assessed by exams and oral presentations.

BMS 833 Renal Physiology
Prerequisite: BMS 530
2 Credits

This is a combined lecture-seminar course emphasizing special topics in renal physiology and the physiology of body fluids. Topics in renal physiology will include initially an overview of the renal physiology to then review specific mechanism of the normal function or during pathological situation to be discussed using specialized publications in the area. Students are expected to present two seminars during the course. The teaching strategies used in this course are lectures and individualized learning. Student performance will be assessed through student presentations and exams.

BMS 834B Advanced Neurophysiology
Prerequisite: BMS 530, BMS 830
2 Credits

Combined lecture-seminar course emphasizing special topics in Neurophysiology. Students, the instructor in charge of the course and invited scientists are expected to participate in seminar presentations during the course.

BMS 839A/B Seminar in Physiology
1 Credit

This course consists of an oral presentation in a seminar format of a relevant topic within the area of specialization. The student upon consultation with the mentor or other academic advisor will select the topic. The topic may be from directed readings or from the student's research. The faculty will provide assistance to the student in preparing for the seminar presentation. The seminar is not the presentation of a research publication (single paper). It is intended to develop in the students the capacity to prepare a class on a specified topic. The student's course grade will be based on faculty evaluation of the seminar. The course consists of a one-hour seminar and a minimum of 23 hours of preparation including readings to prepare for the seminar, therefore the course is worth one credit hour. The seminar will be announced and open to the academic community. GPBSF 14 Seminar Presentation Evaluation Form will be used to evaluate students' presentations. MS/MA students are required to present two seminars. BMS 839A will be used for the first seminar offered by the student and BMS 839B for the second.

Department of Neuroscience

Graduate courses

BMS 889A/B Seminar in Neurosciences
1 Credit

This course consists of an oral presentation in a seminar format of a relevant topic within the area of specialization. The student upon consultation with the mentor or other academic advisor will select the topic. The topic may be from directed readings or from the student's research. The faculty will provide assistance to the student in preparing for the seminar presentation. The seminar is not the presentation of a research publication (single paper). It is intended to develop in the students the capacity to prepare a class on a specified topic. The student's course grade will be based on faculty evaluation of the seminar. The course consists of a one-hour seminar and a minimum of 23 hours of preparation including readings to prepare for the seminar, therefore the course is worth one credit hour. The seminar will be announced and open to the academic community. GPBSF 14 Seminar Presentation Evaluation Form will be used to evaluate students' presentations. MS/MA students are required to present two seminars. BMS 839A will be used for the first seminar offered by the student and BMS 839B for the second.

SUBSTANCE ABUSE COUNSELING PROGRAM

SUBSTACE ABUSE COUNSELING PROGRAM

Mission

The purpose of the educational program is the formation of high quality health professionals to provide excellent, high quality service in substance abuse treatment and prevention in response to current community need.

Course Load

The academic load of a full-time student will be no less than six (6) and no more than ten (10) credits each trimester.

Auditing Students

Those students who wish to audit courses may do so if they have the approval of the Program Coordinator and if they register during the registration period. They must also pay the corresponding fees.

Post-Baccalaureate Certificate in Substance Abuse Counseling

Goal

The Post-Baccalaureate Certificate in Substance Abuse Counseling trains professionals to provide addiction counseling services to individual clients, their families, groups and others in the community.

Objectives

1. Acquire competencies in knowledge, skills, and attitudes necessary for effective substance abuse counseling of individuals, groups, and families.
2. Understand and apply theoretical foundations necessary for substance abuse counseling of individuals, groups, and families.
3. Effectively perform the professional functions of an addiction counselor.
4. Apply knowledge and strategies for primary, secondary, and tertiary prevention of substance abuse.
5. Practice effective counseling within a biopsychosocial approach in diverse public and private settings.
6. Perform as member of a professional interdisciplinary team.
7. Understand various perspectives in issues related to substance abuse counseling; considering the social, political, economic, and cultural context within which substance abuse exits.

Time Limit

Students are allowed a maximum of three (3) years to complete the requirements of the Post-Baccalaureate Certificate in Substance Abuse Counseling.

Residence Requirements

Students must complete a minimum of 18 Credit Hours at the UCC.

Graduation

Students must apply and pay the corresponding graduation fee no later than the date set in the Academic Calendar. Application forms for this purpose are obtained from the Registrar's Office, and must be delivered to the Bursar's Office with the receipt of payment of the non-refundable graduation fee. Non-compliance with these requirements may postpone the conferring of the certificate.

Graduation requirements:

1. Complete the 25 Credit Hours required for the Post-Baccalaureate Certificate in Substance Abuse Counseling with a grade point average of 2.5 or higher.
2. Complete a minimum of 18 credits at the UCC.
3. Complete all requirements for the Certificate in Substance Abuse Counseling within three (3) years from the date of admission.
4. Comply with all academic and institutional requirements of the Program in Substance Abuse and the UCC.

Evaluation and Promotion Committee

The graduate student will be reviewed by a Committee on Promotions at the end of each *trimester* term to monitor academic progress. The Committee on Promotions will meet at the end of each academic year to evaluate the student academic status; the resulting recommendation will be based upon the general academic index (CQPI) on the four point scale, as follows:

1. To be in good academic standing, the student must have a grade index of 2.5 or higher.
2. If the grade index is below 2.5, the student will be on probation and will be required to repeat courses in order to achieve satisfactory academic progress. At the end of the term in which the student is repeating courses, he/she will be suspended if his/her grade index is not in good standing (2.5). Students on probation are not eligible for financial aid.
3. When a student is placed on probation, a formal written communication will be sent with the specific conditions as established by the Committee on Promotions.

Students who have been suspended indefinitely from the program may appeal their cases to the Committee on Graduate Studies, who will review the student's record and make the decision regarding whether to readmit the student or whether to recommend dismissal from the Program.

The grade index is calculated by dividing the weighted accumulated number of points by the total number of Credit Hours, including grades of F and repeated classes. Withdrawals and grades for transferred courses are not included in the calculation of the grade index.

Grade reports are sent to students at the end of each term. A certified letter is mailed to each student placed on probation or suspended. Since mail may be delayed or misdirected, it is the responsibility of every student to check with the Coordinator of the Program to determine his or her academic status before registration for the next trimester.

Courses of Study
Post-Baccalaureate Certificate in Substance Abuse Counseling

First Year

Code	Course Title	Credits
SAC 504	Human Development	3
SAC 503A	Neuropsychopharmacological Aspects of Substance Abuse	3
SAC 511	Theory and Practice of Individual Counseling	4
SAC 501A	Theoretical Models of Addictions and its Implications for Counseling	3
SAC 516	Theory and Practice of Family Counseling	3
SAC 514	Theory and Practice of Group Counseling	3
SAC 517	Ethical and Legal Aspects of Substance Abuse Counseling	2
SAC 530	Internship I: Substance Abuse Counseling	4

Total Credits: 25

Description of Courses

SAC 504 Human Development
3 Credits

The course engages in an analysis of the principal theories and concepts that have been developed to understand and explain human development through the life span. A selected group of human development theories will be discussed including: psychosexual, cognitive developmental theories (Piaget and Vigotsky), learning conditioning (Pavlov and Skinner), social learning (Bandura), cognitive behaviorism, and psychosocial (Erikson). Essential concepts drawn from the cultural theory, social role theory and humanism are discussed as they become relevant to the understanding of diversity, the psychosocial stages and developmental tasks. Following Erik Erikson's psychosocial developmental theory, the course encompasses a comprehensive analysis of the stages of development, the developmental tasks, the psychosocial crisis of each life stage, the central process for the resolution of the developmental crises, and the development of prime adaptive ego qualities and core pathologies. The impact of substance use and abuse on the biological, psychosocial and societal systems is addressed as the course progresses within a psychosocial framework discussing each developmental stage from the prenatal stage to the very old age.

SAC 503A Neuropsychopharmacological Aspects of Substance Abuse
3 Credits

This course examines the effects of psychoactive substances on various biological systems and behaviors. The pharmacokinetics (absorption, distribution, metabolism and excretion) and the pharmacodynamics (mechanisms and sites of action) of alcohol, sedative-hypnotics, barbiturates, stimulants, opiates and hallucinogens among others will be studied. The functional anatomy of the brain and neurons, the process of neurotransmission, and variations in individual responses to psychoactive substances are reviewed. Basic neuropsychopharmacological principles are discussed in terms of substance abuse treatment and prevention, and recent scientific developments and socio-historical issues pertinent to substance abuse counselors are presented.

SAC 511 Theory and Practice of Individual Counseling
4 Credits

Counseling is viewed as a process facilitating the client's achievement of constructive personal goals. Focus is placed on the student's ability to apply state-of-the-art individual counseling models and understand the implications of the stages of change to the counseling process. The theoretical basis and practice of motivational interviewing and the following counseling - cognitive, behavioral, and social learning - will be presented. Topics covered include crisis intervention, anger in the substance abuse process, relapse-prevention models, and distinct needs of special populations. Students practice the use of different assessment instruments and develop a comprehensive treatment

plan for a person with addiction-related problems. Various treatment modalities are discussed in terms of theoretical basis and effectiveness.

SAC 501A Theoretical Models of Addictions and its Implications for Counseling
3 Credits

This course provides the student with a clear articulation of what it means to be a professional substance abuse counselor. A summary introduction describes the foundation of knowledge, skills, and attitudes upon which the core functions of the substance abuse counselor are based. Selected theories are reviewed to understand the complexity of addiction for helping the student to develop a comprehensive model of substance abuse. The disease model, psychoanalytic perspective, behavioral and cognitive behavioral approaches, social learning theory, family systems theory, and the biopsychosocial paradigm are used to conceptualize addiction. The implications for substance abuse counseling associated to each model are discussed. Special emphasis is given to the development of awareness of personal constructs and these theoretical foundations in order to allow for an integration of these elements into an effective counseling approach.

SAC 514 Theory and Practice of Group Counseling
3 Credits

This course will focus on group strategies used in prevention and treatment of substance abuse. The group counseling will emphasize in-group process and the strategies designed to enhance mutual support and to acquire skills such as drug refusal. Presentation of material will be didactic and experimental. Demonstration of group work will be integrated throughout the course. An involvement in a group session outside the classroom is a course requirement.

SAC 516 Theory and Practice of Family Counseling
3 Credits

This course will focus on family strategies used in the prevention and treatment of substance abuse. The family counseling provides an overview of the interactions between family dynamics and substance abuse. Basic concepts of family systems theory will be discussed to learn the application of both didactic and experimental. Demonstrations of family counseling will be integrated throughout the course. Involvement in family sessions outside the classroom is a course requirement.

SAC 517 Ethical and Legal Aspects of Substance Abuse Counseling
2 Credits

This course examines the laws that directly affect substance abuse counseling and the ethical standards of substance abuse professionals. Topics included are: civil rights of substance abusers, confidentiality law (as amended in 1987), family law, criminal law, mental health care law, driving while intoxicated, commitment and guardianship, negligence, liability and the legal aspects of employee assistance programs. Also, the theories for ethical decision-making and the process and guidelines for reaching ethical decisions in difficult and sometimes complicated situations are presented and discussed. Particular emphasis is placed on the nature of legal and ethical obligations of the newly emerging professional substance abuse counselor in Puerto Rico.

SAC 530 Internship I: Substance Abuse Counseling
4 Credits

Internship I: Substance Abuse Counseling emphasizes the acquisition of substance abuse counseling skills and the integration of these skills into a variety of substance abuse prevention and treatment settings. A rich combination of at-risk populations, substance abuse treatment scenarios, and substance abuse counseling supervisors ensure that students acquire basic competencies in each core counselor function. An attempt is made to personalize the internship to meet each trainee's specific needs. The internship is divided into different rotations and a seminar. On each rotation the student works closely with the staff substance abuse counselor who provides supervision and guidance. The student becomes a member of the interdisciplinary team and provides counseling services to clients (individuals, family and groups), consultation to other professionals, attends interdisciplinary meetings and presents clients' progress in staff conferences. In consultation with the Internship Coordinator, the student selects internship sites from the available private and public treatment settings with which agreements have been reached. In addition to the rotations, the student is expected to participate in a two-hour seminar every other week. This didactic aspect of the internship is intended to offer academic training in areas that directly relate to the student's present and future career as a well-rounded

substance abuse counselor. The didactics include case presentations, lectures, and conferences. Topics covered in this seminar include substance abuse counseling strategies (individuals, family and group), research in neuropsychopharmacology and clinical aspects of substance abuse, and professional and ethical responsibilities of the substance abuse counselor.

*Each credit hour is equivalent to 12 contact hours of lecture or 24 hours of laboratory or 48 hours of clinical experience or independent study.

Master of Health Science in Substance Abuse Counseling

Goal and Objectives

The Master of Health Science in Substance Abuse Counseling imparts the knowledge, skills and attitudes that enable Counselors to provide and supervise counseling services and to plan, manage, and evaluate substance abuse counseling programs for prevention and treatment in public and private organizations.

The program objectives are:

1. Develop competencies to provide effective substance abuse counseling to individuals, groups, and families according to their needs and resources.
2. Develop knowledge, skills, and attitudes in management of Substance Abuse Counseling Programs.

Time Limit

Students are allowed a maximum of five (5) years to complete the requirements of the Master of Health Science in Substance Abuse Counseling.

Residence Requirements

Students must complete a minimum of 32 Credit Hours at the UCC.

Comprehensive Examination

The student must complete all courses required for the Master's degree and have achieved a CQPI of 3.00 before taking the comprehensive exam. The student must obtain 75% or higher in each topical area covered in the exam. If the student does not achieve this score, he/she will have two (2) additional opportunities to do so. Re-examination will take place no later than six (6) months after the first exam.

Dates for the comprehensive exam are announced by the Registrar's Office.

Graduation

Students must apply and pay the corresponding graduation fee no later than the date established in the Academic Calendar.

Application forms for this purpose are obtained from the Registrar's Office, and must be sent or delivered to the Bursar's Office with the receipt of payment of the non-refundable graduation fee. Non-compliance with these requirements may postpone the conferring of the degree.

Graduation requirements:

1. Complete the 44 Credit Hours required for the Master of Health Science in Substance Abuse Counseling with a grade point average of 3.0 or higher.
2. Complete a minimum of 32 credits at the UCC.
3. Pass a comprehensive exam with a minimum score of 75% in each component of the exam.

4. Comply with all academic and institutional requirements of the Program in Substance Abuse Counseling and the UCC.
5. Complete all requirements for the Master of Health Science in Substance Abuse Counseling within five (5) years from the date of admission.

Evaluation and Promotion Committee

The graduate student record is reviewed by a Committee on Promotions at the end of each *trimester* term to monitor academic progress. The Committee on Promotions meets at the end of each academic year to evaluate the student academic status. The resulting recommendations are based upon the general academic index on the four point scale, as follows:

1. To be in good academic standing, the student must have a grade index of 3.0 or higher.

2. If the grade index is below 3.0, but the deficiency does not extend beyond the limits for academic suspension, (2.5), the student will be on probation for the next academic year until he/she reaches satisfactory academic progress. Students on probation are not eligible for financial aid.

3. Any student who at the end of the second academic year has not reached satisfactory academic progress will not be eligible for taking the comprehensive exam. The Committee on Promotions will send a formal written communication with the specific conditions for the student to remain in the program if his/her academic performance in the second year is still within the limit of 2.99-2.55 (Probation). The student will be on probation and will be required to repeat courses in order to achieve satisfactory academic progress. At the end of the term in which the student is repeating courses, he/she will be suspended if his/her grade index is not in good standing 3.00. Students on probation are not eligible for financial aid.

4. A student may be suspended indefinitely from the program by:
   a. Being on probation for two consecutive terms.
   b. Attaining a grade index below 2.5 in any academic year

-Good Standing	3.0 +
-Probation	2.99 – 2.55
-Suspension	2.49

Students who have been suspended indefinitely from the program may appeal their cases to the Committee on Graduate Studies, who review the student's record and make the decision about whether to readmit the student or to recommend dismissal from the Program.

The grade index is calculated by dividing the weighted accumulated number of points by the total number of Credit Hours including grades of **F** and repeated classes. Withdrawals and grades from transferred courses are not included in the calculation of the grade index.

Grade reports are sent to students at the end of each term. A certified letter is mailed to each student placed on probation or suspended. Since mail may be delayed or misdirected, it is the responsibility of every student to check with the Coordinator of the Program to determine his or her academic status before registration for the next trimester.

Courses of Study
Master of Health Science in Substance Abuse Counseling

First Year

Code	Course Title	Credits
SAC 504	Human Development	3
SAC 503A	Neuropsychopharmacological Aspects of Substance Abuse	3
SAC 511	Theory and Practice of Individual Counseling	4
SAC 501A	Theoretical Models of Addictions and its Implications for Counseling	3
SAC 516	Theory and Practice of Family Counseling	3
SAC 514	Theory and Practice of Group Counseling	3
SAC 517	Ethical and Legal Aspects of Substance Abuse Counseling	2
SAC 530	Internship I: Substance Abuse Counseling	4

Second Year

Code	Course Title	Credits
SAC 635	Design, Planning and Implementation of Substance Abuse Counseling Programs	3
SAC 633	Research Methodology	3
SAC 629	Clinical Intervention of Special Populations	2
SAC 619	Theory and Practice of Supervision	3
SAC 625	Program Evaluation	2
SAC 515	Theory and Practice of Substance Abuse Prevention	2
SAC 630	Internship II: Planning, Management and Evaluation of Substance Abuse	4
	Comprehensive Exam	0

Total Credits: 44

Description of Courses

SAC 504 Human Development
3 Credits

The course engages in an analysis of the principal theories and concepts that have been developed to understand and explain human development through the life span. A selected group of human development theories will be discussed including: psychosexual, cognitive developmental theories (Piaget and Vigotsky), learning conditioning (Pavlov and Skinner), social learning (Bandura), cognitive behaviorism, and psychosocial (Erikson). Developmental theories are compared on the basis of its implications for human development and their links to the psychosocial theory. Essential concepts drawn from the cultural theory, social role theory and humanism are discussed as they become relevant to the understanding of diversity, the psychosocial stages and developmental tasks. Following Erik Erikson's psychosocial developmental theory the course encompasses a comprehensive analysis of the stages of development, the developmental tasks, the psychosocial crisis of each life stage, the central process for the resolution of the developmental crises, and the development of prime adaptive ego qualities and core pathologies. The impact of substance use and abuse on the biological, psychosocial and societal systems is addressed as the course progresses within a psychosocial framework discussing each developmental stage from the prenatal stage to the very old age.

SAC 503A Neuropsychopharmacological Aspects of Substance Abuse
3 Credits

This course examines the effects of psychoactive substances on various biological systems and behaviors. The pharmacokinetics (absorption, distribution, metabolism and excretion) and the pharmacodynamics (mechanisms and sites of action) of alcohol, sedative-hypnotics, barbiturates, stimulants, opiates and hallucinogens among others will be studied. The functional anatomy of the brain and neurons, the process of neurotransmission, and variations in individual responses to psychoactive substances are reviewed. Basic neuropsychopharmacological principles are discussed in terms of substance abuse treatment and prevention, and recent scientific developments, and socio-historical issues pertinent to substance abuse counselors are presented.

SAC 511 Theory and Practice of Individual Counseling
4 Credits

Counseling is viewed as a process facilitating the client's achievement of constructive personal goals. Focus is placed on the student's ability to apply state-of-the-art individual counseling models and understand the implications of the stages of change to the counseling process. The theoretical basis and practice of motivational interviewing and the following counseling: cognitive, behavioral, and social learning will be presented.

Topics covered include crisis interventions, anger in the substance abuse process, relapse-prevention models, and distinct needs of special population. Students practice the use of different assessment instruments and develop a comprehensive treatment plan for a person with addiction-related problems. Various treatment modalities are discussed in terms of theoretical basis, and effectiveness.

SAC 501A Theoretical Models of Addictions and its Implications for Counseling
3 Credits

This course provides the student with a clear articulation of what it means to be a professional substance abuse counselor. A summary introduction describes the foundation of knowledge, skills, and attitudes upon which the core functions of the substance abuse counselor are based. Selected theories are reviewed to understand the complexity of addiction for helping the student to develop a comprehensive model of substance abuse. The disease model, psychoanalytic perspective, behavioral and cognitive behavioral approaches, social learning theory, family systems theory, and the biopsychosocial
paradigm are used to conceptualize addiction. The implications for substance abuse counseling associated to each model are discussed. Special emphasis is given to the development of awareness of personal constructs and these theoretical foundations in order to allow for an integration of these elements into an effective counseling approach.

SAC 514 Theory and Practice of Group Counseling
3 Credits

This course will focus on group strategies used in prevention and treatment of substance abuse. The group counseling will emphasize in-group process and the strategies designed to enhance mutual support and to acquire skills such as drug refusal. Presentation of material will be didactic and experimental. Demonstration of group work will be integrated throughout the course. An involvement in group sessions outside the classroom is a course requirement.

SAC 516 Theory and Practice of Family Counseling
3 Credits

This course will focus on family strategies used in the prevention and treatment of substance abuse. The family counseling provides an overview of the interactions between family dynamics and substance abuse. Basic concepts of family systems theory will be discussed to learn the application of both didactic and experimental. Demonstrations of family counseling will be integrated throughout the course. Involvement in family sessions outside the classroom is a course requirement.

SAC 517 Ethical and Legal Aspects of Substance Abuse Counseling
2 Credits

This course examines the laws that directly affect substance abuse counseling and the ethical standards of substance abuse professionals. Topics included are: civil rights of substance abusers, confidentiality law (as

amended in 1987), family law, criminal law, mental health care law, driving while intoxicated, commitment and guardianship, negligence, liability and the legal aspects of employee assistance programs. Also, the theories for ethical decision-making and the process and guidelines for reaching ethical decisions in difficult and sometimes complicated situations are presented and discussed. Particular emphasis is placed on the nature of legal and ethical obligations of the newly emerging professional substance abuse counselor in Puerto Rico.

SAC 530 Internship I: Substance Abuse Counseling
4 Credits

Internship I: Substance Abuse Counseling emphasizes the acquisition of substance abuse counseling skills and the integration of these skills into a variety of substance abuse prevention and treatment settings. A rich combination of at-risk populations, substance abuse treatment scenarios, and substance abuse counseling supervisors ensure that students acquire basic competencies in each core counselor function. An attempt is made to personalize the internship to meet each trainee's specific needs. The internship is divided into different rotations and a seminar. On each rotation the student works closely with the staff substance abuse counselor who provides supervision and guidance. The student becomes a member of the interdisciplinary team and provides counseling services to clients (individuals, family and groups), consultation to other professionals, attends interdisciplinary meetings and presents clients' progress in staff conferences. In consultation with the Internship Coordinator, the student selects internship sites from the available private and public treatment settings with which agreements have been reached. In addition to the rotations, the student is expected to participate in a two-hour seminar every other week. This didactic aspect of the internship is intended to offer academic training in areas that directly relate to the student's present and future career as a well-rounded substance abuse counselor. The didactics include case presentations, lectures, and conferences. Topics covered in this seminar include substance abuse counseling strategies (individuals, family and group), research in neuropsychopharmacology and clinical aspects of substance abuse, and professional and ethical responsibilities of the substance abuse counselor.

SAC 635 Design, Planning and Implementation of Substance Abuse Counseling Programs
3 Credits

Students in this course will receive information and develop designing, planning, and implementation skills for Substance Abuse Counseling Programs. Special attention will be given to the development of goals and objectives in accordance with an organization’s vision and mission, and to enhance the student’s administration capabilities by increasing understanding and implications of important political and legal aspects. The strategic planning model will be discussed as a recommended approach to manage the designing, planning and implementation process of any given program.

SAC 633 Research Methodology
3 Credits

This course focus on how to conduct scientific investigation. The students will learn how to formulate investigative questions parting from a quantity and quality point to view. They will examine different types of design, instruments, and their respective collection methods and data analysis. The course will provide students the capacity to apply the basic principles of design and methodology of a qualified and quality scientific investigation. And finally, the course will evaluate scientific articles in reference to addiction counseling.

SAC 619 Theory and Practice of Supervision
3 Credits

This course examines the role of a substance abuse supervisor with clinical and management responsibilities. It includes theory, experiential and integrative components, and will focus on both the skills and the personal characteristics needed to be an effective clinical supervisor. Specific models of clinical supervision particularly relevant to alcohol and drug counseling, including the psychodynamic, cognitive-behavioral, skills, and family therapy models are considered in detail.

SAC 515 Theory and Practice of Substance Abuse Prevention
2 Credits

This course reviews historical developments in the formation and implementation of effective substance abuse prevention strategies. Components of successful community, workplace, church and school-based prevention programs are discussed, including needs assessment, program planning and evaluation, and maintenance of

grassroots prevention efforts. The association between parenting and the initiation of substance use, risk and protective factors, current prevention strategies, future prospects of prevention design programming, group development, volunteer management, and self-help group formation are also discussed. Although there is a focus on strategies targeting youth, the course also addresses other high-risk groups.

SAC 625 Program Evaluation
2 Credits

This course is designed to provide skills in program evaluation. Emphasis is given to evaluation designs, and the problems of implementing certain designs at the program level. The different methodologies for needs assessment, process, outcome, and impact analysis are examined. This course also trains students in basic statistical principles and their application to program evaluation. It equips students to conduct basic data collection and analysis and to organize and report data.

SAC 629 Clinical Intervention of Special Populations
2 Credits

This course will consist of lectures delivered by guest experts and students' presentations. The seminar focuses on the specified clinical needs and issues focused on special populations with substance abuse problems. Some of the populations identified are: women, elderly, gay and lesbian, and ethnic minorities, among others. Attention is given to the cultural and social biases and stereotypes confronted by these groups in general, but more so for those who are also experiencing substance abuse problems.

SAC 630 Internship II: Planning, Management and Evaluation of Substance Abuse Counseling Program
4 Credits

Planning, Management and Evaluation of Substance Abuse Counseling Programs is the culmination of the student's formal training in substance abuse. Through this internship, the student directly and actively engages in the process of identifying programmatic needs in order to supervise a substance abuse counseling service and plan, and implement, manage and evaluate a Substance Abuse Counseling Program. The students also attain direct experience in supervising substance abuse counselors. Students apply the knowledge and skills acquired in previous courses on the administration of Substance Abuse Counseling Programs, and gain first-hand appreciation of the factors that promote or impede effective planning, management, and evaluation.

*Each credit hour should include 12 contact hours of lecture or 24 hours of laboratory or 48 hours of clinical experience or independent study

MEDICAL IMAGES TECHNOLOGY PROGRAM

MEDICAL IMAGES TECHNOLOGY PROGRAM

Mission

To educate and train qualified personnel in the field of medical imaging technology, to provide direct service to patients using the latest in medical imaging modalities, with pride for the profession, compassion and empathy for patients and enthusiasm for lifelong learning.

Goals

1. To provide the opportunity to every qualified individual, regardless of race, creed, national origin and gender to seek the experiences, competencies, challenges, and knowledge that is required to perform as an entry level medical imaging professional.

2. To provide students with broad experiences and academic support in the academic and clinical aspects to allow them to develop and integrate knowledge, and develop competencies and attitudes needed for the optimum performance of his/her skills.

3. To contribute to the students' development in the personal, professional and humanistic aspects through academic counseling, support services and complementary activities.

4. To support Puerto Rico's medical imaging professionals through the development of continued education activities.

Our program has a qualified faculty in the medical imaging area as well as in other medical, biological, psychosocial and general education content areas. Faculty members strive to give a complete education to students, thus enabling him/her to offer a better service to patients.

Student Evaluation and Promotion

Performance of all students in the Medical Images Technology Program's offerings (Associate Degree in Radiologic Technology, post-Associate Certificates and Bachelor in Science) will be assessed applying rules and academic procedures and non-discriminatory policies.

Graduation Requirements

In order to obtain expected degrees for all Medical Images Technology Programs offerings, students must complete all the courses described on the program continuum with a qualification of "C" or above. In addition, they must comply with all the administrative requirements established by the Universidad Central del Caribe.

Individual Performance on Courses

At the beginning of each course, faculty members will provide students with a course syllabus describing learning objectives, competencies to be achieved and evaluation criteria. The evaluation of the performance of the individual students is the responsibility of the faculty member offering it. Final grade on the course is the product of:

- Student academic performance based on the objectives, requirements, and evaluation methods.
- The attendance and participation in class, clinical labs or other programmed educational activities.

Student's opinions and behavior unrelated to the academic requisites will not affect the evaluation and grade.

Minimum Grade to Approve Courses

All courses in the academic offerings of the Program must be approved with the minimum grade of "C" (Average) or higher.

Any student receiving an "F" in a course must repeat the course the next time the course is offered.

Academic Classifications

At the end of each evaluative period, the Students Evaluation and Promotion Committee reviews the academic performance of all students in all courses and makes recommendations to the program director on the status of students according to the standards performance. When the evaluation has been completed for each case the Committee submits the recommendations to its Program Director.

The Committee can recommend the following academic classifications based on the student performance: promotion, conditional promotion, academic probation, suspension and dismissal.

A. Promotion (UP)

The student will be promoted to next academic period as a regular student after having completed all courses in the study program with a "CQPI" of 2.00 or more and with no failures in any course.

After the end of the last academic period the student can be recommended to receive the corresponding degree/certificate if he/she:

1. Has completed the academic requirements with a "CQPI" of 2.00 or more.
2. Satisfactorily approved all courses required in the Program's continuum.
3. Complies with other institutional requirements as indicated at the beginning of the academic program.

B. Conditional Promotion (CP)

This classification is assigned when a student fails in less than 33% of the credits/courses registered in any evaluative period but maintains a “CQPI” of 2.00 or more. This implies that the student must repeat the failed course the next time it is offered. The course can be repeated in other institutions, with appropriate authorizations from the Program Director and the Registrar's Office.

C. Academic Probation (AP)

The Academic Probation classification corresponds to a period in which the student’s performance is continuously evaluated. This classification is assigned when:

1. The student’s "CQPI" is less than 2.00
2. The student receives a final grade of failure in more than 33%, but no more than 50% of the credits/courses registered in any evaluative period.

The Students Evaluation and Promotion Committee may recommend a limit of credits to be taken in the next academic period of enrollment as a condition for removal of the probation classification.

In order to be removed from academic probation the student must:

1. Maintain a "CQPI" of 2.00 or more in next academic year.
2. Repeat and satisfactorily complete all courses with previous grades of "F".
3. An Academic Probation status can be held for a maximum of two (2) evaluative periods, after which the student will be suspended.

D. Academic Suspension (AS)

Academic suspension is for a limited period of time, usually one year. The student may apply for readmission to the Program after the established period, as determined by the Program's Students Evaluation and Promotion Committee. Upon readmission the student will be assigned an Academic Probation classification. The student must comply with academic probation conditions to resume a regular course program.

The academic suspension of a student can be recommended under the following conditions:

1. The student "CQPI" is less than 2.00
2. The student receives a final grade of failure in more than 50%, but no more than 66% of the credits/courses registered in any evaluative period.
3. A student who has received an academic probation and on the next academic period fails in achieving a minimum “CQPI” of 2.00.
4. Suspension after course repetition: any student who has been asked to repeat any courses and fails it for a second time.

E. Academic Dismissal (AD)

Academic dismissal is a definitive action: the student will no longer be allowed to enroll in the Medical Images Technology Program at the UCC.

The academic dismissal of a student can be recommended under the following conditions:

1. A student who has received an academic suspension and in the next academic period fails in achieving a "CQPI" of 2.00 or fails in any one course for a third time.
2. Any student who fails in over 66% of the registered credits/courses in any evaluative period.

Satisfactory Academic Progress

To maintain satisfactory academic progress the student must achieve a CQPI of 2.00 at the end of the prescribed period and pass at least 66% of the enrolled credits.

Maximum Time Period to Obtain a Degree

The time to complete the Associated Degree in Radiologic Technology is two years (24 months), while the maximum period allowed for degree completion is three (3) years. The student can require additional time to complete degree for academic or personal reasons. In these cases the Evaluation and Promotion of Student Committee can establish a special schedule in order to allow the student to complete the requirements.

The maximum time to complete the post-Associate Certificate in Diagnostic Medical Sonographer and the Bachelor in Science in Diagnostic Images is twelve (12) months. Students can take an additional year to complete requisites for academic or personal reasons following approval by the Evaluation and Promotion of Students Committee.

The maximum time to complete the post-Associate Certificate in Mammography, Computerized Tomography and Magnetic Resonance is one semester. Students can take an additional semester to complete certificate’s requisites for academic or personal reasons following approval by the Students Evaluation and Promotion Committee.

Affiliated Institutions

The Medical Images Technology Program has over forty (40) formal affiliations with institutions throughout Puerto Rico that serve as clinical training sites for students.

Study Programs

Associate Degree in Radiologic Technology

Description

Since its discovery in 1895, X-rays have become an indispensable tool in the diagnosis of health conditions. A simple radiograph is probably the front door for many individuals into the health system. Conventional radiology is still the first step in a long ladder of modalities designed to produce medical diagnostic images.

Profile of a Radiologic Technologist

A Radiologic Technologist is the health professional that produces diagnostic images through the utilization of specialized equipment working with ionizing radiation and other electronic means. He/she is responsible for producing quality images, gathering patient history/information and submitting his findings to a certified physician for interpretation and diagnosis. The Radiologic Technologist will provide services to patient/clients in the most variable of settings, ranging from hospital, Diagnostic and Treatment Centers and stand-alone offices, public or private.

The Radiologic Technologist is responsible for assuring the safety and well-being of the patient /client under his charge and, as a member of the health professional team, has the additional responsibility of educating, supporting and serving his/her patient/client.

The Radiologic Technologist is capable of:

1. Evaluating the patient's medical and clinical information in order to follow the prescribed radiographic procedure.
2. Utilizing discrete and valorative judgment in the operation of specialized equipment and performance of radiographic procedures.
3. Performing radiographic procedures to achieve quality images that include unequivocal diagnostic information of the anatomic structure and of possible pathologic conditions.
4. Assisting the Radiologist in those invasive procedures requested or needed to fully evaluate functional conditions.
5. Facilitating the diagnosis by integrating medical information, clinical history and the images produced.
6. Orienting patients about the radiographic procedures and on healthy life styles.
7. Integrating quality assurance procedures to his/her professional duties as to maintain a consistent excellence level in performance.
8. Performing his/her duties in such a way that due respect and empathy for the human being prevails.

Educational Program

This program comprises three academic years (six semesters), divided into closely-related periods of didactic and clinical practice. The curriculum was designed based on the curricular recommendations of the American Society of Radiologic Technology and the Joint Review Committee on Education in Radiologic Technology. These two institutions recommend standardized education and accreditation of the majority of programs in Radiologic Technology in the United States. It is important to point out that we have adjusted the curriculum recommendations in order to comply with their requirements while meeting local regulations, and in accordance with the needs and realities of the Puerto Rican community.

The Program's Curriculum is designed in such a way that the balance between didactic and clinical requisites changes as the student progresses in training, increasing clinical responsibilities as the student approaches completion of the program. This system allows the student to adapt to professional life and at the same time achieve a more ordered transition towards entry-level work upon completion of training.

After the student completes all academic and administrative requirements, he/she receives the Associate Degree in Radiologic Technology and is eligible to sit for the Puerto Rico Radiology and Radiotherapy Technologists Examination Board and the American Registry of Radiologic Technologists tests.

Post-Associate Certificate in Diagnostic Medical Sonography

Description of the Post-Associate Certificate in Diagnostic Medical Sonography

Among the new trends in Medical Diagnostic, Ultrasound, or Sonography, has become one of the most common. This new technique of producing images by means of sound waves, because of its low cost and its wide use in areas prohibited to ionizing radiation (the reproduction organs) is used more every day in the specialty of obstetrics, gynecology, urology, internal medicine, pediatrics, cardiology and pediatric neurology.

Ultrasound is a technique by which the operator determines the diagnostic information that he/she needs and the techniques to be used to gather information according to the specific needs, situations and conditions of the patient.

Profile of the Sonographer

The Sonographer is the health professional that produces images of the soft tissues of the body by means of specialized equipment that uses very high frequency sound waves. He/She is responsible for producing high quality images and who later presents and submits his/her findings to a certified physician for analysis and diagnosis. The Sonographer is responsible for preserving the integrity of the patient/client under his/her charge and as a health professional, has the responsibility for educating, supporting and serving his patient/client.

The Sonographer is a health professional capable of:

1. Evaluating medical and clinical information of the patient to determine the appropriate procedure to follow.

2. Performing sonographic procedures using specialized electronic equipment to gather anatomic information that facilitates the interpretation of findings and the diagnosis of pathological conditions.

3. Assisting the physician in gathering sonographic information by means of the integration of medical information, clinical background and the images obtained.

4. Using discretion and valorative judgment in the use of procedures and operation of the equipment.

5. Providing orientation to the patient about the procedures made and as a health professional, collaborates in the promotion of good and healthy lifestyles.

Educational Program

This is a one-year academic program that seeks to develop in radiologic technologist's theoretical knowledge and practical training in the modalities of medical diagnosis by means of the ultrasound. The academic content is balanced in order to offer the student other opportunities to become more proficient in the theoretical processes related to this trend and develop practical skills in the equipment operation and patient management.

Graduates of this program will be prepared to successfully meet any professional evaluation required to practice the imaging modality selected, in Puerto Rico as well as in the continental United States.

The course content of the Post-Associate Certificate in Diagnostic Medical Sonography program has been developed following the curricular recommendations of the American Registry on Diagnostic Medical Sonographers (ARDMS).

The academic content has been balanced to offer the student the opportunity to master the theoretical processes related to the ultrasound modality and develop practical skills in the operation of the equipment and psychomotor and affective skills of patient management.

The courses and the clinical practice requirements for the certification are distributed across two semesters. The students attend theoretical courses, and at the same time, develop the necessary skills while pursuing their clinical practices.

Post-Associate Certificate in Mammography

Description of the Post-Associate Certificate in Mammography

Mammography is the imaging procedure which utilizes ionizing radiation to produce images of the human breast. Its effectiveness in the early detection of medical conditions of the breast and surrounding tissues has been widely corroborated. Because of its importance in the battle against breast cancer, a condition that has increased in the past ten years among women and men, Mammography is now considered an area of specialization in the field of medical diagnostic images.

Profile of the Mammographer

The Mammographer is the health professional that produces images of the breast by means of specialized equipment that uses low-level ionizing radiation. He/She is responsible for producing high quality images and later presenting and submitting his/her findings to a Radiologist for analysis and diagnosis. The Mammographer is responsible for preserving the integrity of the patient/client under his/her charge and as a health professional has the responsibility of educating, supporting and serving his patient/client.

The Mammographer is a health professional capable of:

1. Evaluating medical and clinical information of the patient to determine the appropriate procedure following established protocols.
2. Performing mammographic procedures using specialized equipment to gather anatomic information that facilitates the interpretation of findings and the diagnosis of pathological conditions, integrating medical information and clinical history with the obtained images.
3. Performing mammographic procedures in any patient, regardless of mental or physical capacity and without social, racial or cultural discrimination.
4. Providing support and orienting the patient about the procedures to be performed, familiarizing the patient with the equipment, the need for breast compression, type and importance of quality procedures.
5. Explaining to the patient the FDA and ACR recommendations about base mammography, the need of keeping previous films for comparison purposes and about breast self-examination.
6. Offering an optimum quality service in a prudent and reasonable time period.
7. Participating in invasive processes with the radiologist.
8. Performing routine and extraordinary quality assurance and quality control procedures related to mammography.
9. Using discretion and valorative judgment in the use of procedures and operation of the equipment.
10. Maintaining current knowledge in mammography through continued education.

Educational Program

The academic program seeks to develop, in a radiologic technologist, theoretical knowledge and practical training in the modalities of mammography. The academic content is balanced in order to offer the student other opportunities to comprehend theoretical processes related to this trend and develop practical skills in the equipment operation and patient management.

The certificate intends to produce a comprehensive professional dedicated to breast health. The didactic-practical program of the Certificate in Mammography is designed to develop in the graduates from an Associate Degree in Radiologic Technology the theoretical knowledge and practical competencies required to produce optimum quality images of this anatomical region to be used in the diagnosis of medical conditions. Also, the new tendency to complement the conventional mammography with sonomammography images is taken into consideration as part of the training.

After a period of one semester (15 weeks) participation in didactic activities related with the mammography techniques, and working directly with patients, the student will receive the Post-Associate Degree Certificate in Mammography. The participant will be prepared to meet the requirements of any professional evaluation required to practice the imaging modality selected, in Puerto Rico as well as in the continental United States.

Post-Associate Certificate in Computerized Tomography

Description of the Post-Associate Certificate in Computerized Tomography

Computerized Tomography, developed in 1972 by Engineer Geoffrey Hounsfield, uses ionizing radiation (X-rays) and radiation detectors to provide a computer with information about the density of the human tissues, which the computer then turns into a digital image of the body volumes. Resulting images are similar to a radiograph in its density, but the image is oriented perpendicular to the body axis. Computerized Tomography is used primarily to evaluate gastrointestinal, nervous and musculoskeletal systems.

The academic program of the Post-Associate Certificate in Computerized Tomography is designed to develop, in graduates of an Associate Degree in Radiologic Technology, the theoretical knowledge and the practical skills to produce medical diagnostic images by means of the Computerized Tomography equipment. This certificate is offered in one semester long (18 weeks) period.

Profile of the Computerized Tomography Technologist

The Imaging Technologist specializing in Computerized Tomography, is the health professional that operates very complex and sophisticated equipment and combines electronic elements with ionizing radiation to produce images of the human body with the purpose of making or defining a medical diagnosis.

Because of the impression the equipment produces on patients, a Computerized Tomography technologist's first task, before doing the procedure, is the responsibility of the technologist to interact with the patient in an effective manner to orient the patient on the procedure to be performed and lower the patient's anxieties. Before the procedure, the technologist explains to the patient the importance of following the instructions he will receive during the procedure, of maintaining the proper positioning and the proper way of breathing so as to acquire optimum quality images.

The Computerized Tomography Technologist will be able to:

1. Evaluate patient's medical and clinical information to determine the procedure to perform, following the protocols established by his/her workplace and according to the medical and physical condition of the patient.

2. Perform Computerized Tomography procedures acquiring the anatomic information, and integrating patient medical and clinical information to facilitate the patient diagnosis.

3. Assume full responsibility for his/her patient's and accompanying person's safety during the procedure, avoiding unnecessary radiation exposure to them.

4. Accurately manipulate the Computerized Tomography equipment to produce optimum quality images.

5. Demonstrate his/her knowledge about the operation and physical principles related to the Computerized Tomography equipment.

6. Perform any Computerized Tomography procedure that is required from him/her, regardless of the level of physical and/or mental condition of the patient and without of social, racial or cultural prejudice.

7. Educate patient and clarify any doubt the patient might have regarding the equipment, the need to use contrast media when indicated, and the importance of performing an optimum quality procedure to enhance diagnosis.

8. Support patient, before, during and after the procedure.

9. Offer optimum quality services in a prudent and reasonable lapse of time.

10. Document any incident that may occur before, during and after the procedure, in the patient's record and/or any form designed for this purpose.

11. Evaluate the quality of the services, keeping control of the quality of the operations and functioning of the equipment and its accessories, image printing and post-processing routines and image viewing conditions, among others.

12. Acquire optimum quality images in all procedures performed.

13. Apply discretion and critical thinking to the performance of all procedures and the operation of the equipment.

14. Collaborate with the Radiologist in the performance of interventional procedures using Computerized Tomography.

15. Assume responsibility for his/her own personal and professional development and enhancement through his/her participation in continued education activities and in new procedures capacitating workshops.

Post-Associate Certificate in Magnetic Resonance

Description of the Post-Associate Certificate in Magnetic Resonance

Magnetic Resonance images have revolutionized the medical diagnostic imaging field with the superb resolution of tissues of its images. Magnetic Resonance utilizes a strong magnetic field (several times stronger than gravity force) to alienate free protons (hydrogen ions), and then these protons are stimulated with a radio frequency and pushed out of alignment. When the protons return to the magnetized state, they resonate (they resend the energy used to de-align them), during which process they emit a signal captured by a radio antenna and passed to a computer. The computer then processes the information and produces an image based on the density and volume of the tissue being imaged. Images produced with Magnetic Resonance differ from Computerized Tomography in that there are various ways to analyze tissue density based on their magnetic properties.

The academic-practical program of the Post-Associate Certificate in Magnetic Resonance is designed to develop in graduates from an Associate Degree in Radiologic Technology, the theoretical knowledge and

practical skills needed to produce optimum quality images to be used in medical diagnosis through the use of highly sophisticated equipment using magnetic and radio frequency energy. This certificate comprises 13 academic credits, which are offered in a one semester long (18 weeks) period.

Profile of the Magnetic Resonance Technologist

The Imaging Technologist specializing in Magnetic Resonance is the health professional who operates very complex and sophisticated equipment that combines magnetic and electronic elements to produce images of the human body with the purpose of making or defining a medical diagnosis.

Because of the impression the equipment produces on patients, a Magnetic Resonance technologist's first task, before doing the procedure, is the responsibility to interact with the patient in an effective way to orient the patient on the procedure to be performed and lower patient anxieties. Before the procedure, the technologist explains to the patient the importance of following the instructions he will receive during the procedure; of maintaining the proper positioning and the proper way of breathing so as to acquire optimum quality images.

The Magnetic Resonance Technologist will be able to:

1. Evaluate patient's medical and clinical information to determine the procedure to perform, following the protocols established by his/her workplace and according to the medical and physical condition of the patient.

2. Perform Magnetic Resonance procedures acquiring the anatomic information, and integrating patient medical and clinical information to facilitate the patient diagnosis.

3. Assume full responsibility for his/her patient's and accompanying person's safety during the procedure, indicating the precautions to be taken around a strong magnetic field.

4. Interview patient to assess the possible risk of metal magnetization.

5. Accurately manipulate the Magnetic Resonance equipment to produce optimum quality images.

6. Demonstrate his/her knowledge about the operation and physical principles related to the Magnetic Resonance equipment.

7. Perform any Magnetic Resonance procedure that is required from him/her, regardless of the level of physical and/or mental condition of the patient and without social, racial or cultural prejudice.

8. Educate patient and clarify any doubt the patient may have regarding the equipment, the need to use contrast media when indicated, and the importance of performing an optimum quality procedure to enhance diagnosis.

9. Support patient, before, during and after the procedure.

10. Offer optimum quality services in a timely and reasonable time and manner.

11. Document any incident that might occur before, during and after the procedure, in the patient's record and/or any form designed for this purpose.

12. Evaluate the quality of the services, keeping control of the quality of the operations and functioning of the equipment and its accessories, image printing and post-processing routines and image viewing conditions, among others.

13. Acquire optimum quality images in all procedures performed.

14. Apply discretion and critical thinking to the performance of all procedures and the operation of the equipment.

15. Collaborate with the Radiologist in the performance of interventional procedures using Magnetic Resonance.

16. Assume responsibility for his/her own personal and professional development and enhancement through his/her participation in continued education activities and in new procedures capacitating workshops.

Bachelor of Science in Diagnostic Images

The Bachelor of Science in Diagnostic Images offers graduates from an Associate Degree in Radiologic Technology from an accredited or recognized program in Puerto Rico or the United States the opportunity to acquire a higher academic degree in their professional field. Through this program, graduates from Radiologic Technology Associate degree programs will continue their training by choosing and completing two or more specialization certificates and increase their direct patient attention competencies and organizational skills.

Baccalaureate students will complete additional general education courses beyond the Associate Degree curricula and take courses in basic managerial skills to be better prepared to face additional professional responsibilities. The graduate of the Bachelor of Science in Diagnostic Images will possess the competencies in at least three medical imaging modalities: conventional radiology and two other modalities of his/her choice; a rounded general education and managerial training in medical imaging services skills.

The UCC has designed this offering based upon the premise that almost all the radiologic technologists in Puerto Rico have attained an Associate Degree. The Bachelor of Science in Diagnostic Images will integrate admitted students' academic experiences through the incorporation of credits approved in courses in: (1) general education; (2) an Associate Degree in Radiologic Technology; (3) specialization certification (Sonography, Mammography, Computerized Tomography and Magnetic Resonance), and (5) Bachelor's degree higher courses.

Profile of the Bachelor of Science in Diagnostic Images Professional

The graduate of the Bachelor of Science in Diagnostic Images will be capable of:

1. Evaluating the referral and the patient's medical information and performing the required procedure in any of the selected modalities.

2. Recognizing medical terms, applying knowledge of human topographic and sectional anatomy, pathology, and physiology to determine the most adequate protocols in the selected modality.

3. Performing diagnostic procedures that collect, through the use of electronic and sophisticated equipment, information to facilitate a diagnostic interpretation of the results of the procedure.

4. Offering patients appropriate information about the risks, secondary effects, and indications and counter indications to the procedures, before, during and after performing the same.
5. Offering patients information about healthy life styles.

6. Presenting to the specialized physician, any information obtained during the procedures which facilitates the diagnosis through the integration of patient record information, clinical history and images obtained by means of the available modalities.

7. Participating in case discussion to determine any need for follow up or complementary procedures and perform the necessary procedures if requested.

8. Applying universal protection measures against infections during the performance of the requested procedures and in any emergency situation which may arise.

9. Using effective communication skills, in Spanish and English, written or verbal, with patients, patients' families, peers and community members.

10. Demonstrating a high level of respect for individuals, taking into consideration cultural and social diversity.

11. Integrating management concepts and strategies into the work, and participating in the development of coherent policies in risk management for the work area.

12. Continuously improving personal and professional knowledge and application of information systems and its applications to the medical images and diagnosis.

13. Applying problem solving, critical thinking and decision-making skills to improve services to patients while in the workplace.

14. Promptly identifying problems with the equipment used in the workplace and relating any such problems to those responsible for maintenance and repairs.

15. Developing assessment programs in order to continuously improve quality of services and recommended corrective measures as they are required.

16. Assuming leadership positions in the institutions where he/she is employed.

17. Acting as role models to those interested in continuing formal studies in the medical images field.

Courses of Study
Associate Degree in Radiologic Technology

First Year (30 credits)

Code	Course Title	Credits
CP-101	University Life	N/C
EN-101	English I	3
SP-101	Spanish I	3
CN-101	Fundaments of Science: Chemistry and Physics	3
MT-101	Fundaments in Mathemathics	3
RT-110	Introduction to Computer Systems	3
EN-102	English Language II	3
SP-102	Spanish Language II	3
RT-101	Introduction to Radiologic Technology	3
RT-103	Human Anatomy and Physiology I (w/lab)	3
RT-216	Basic Patient Care (w/lab)	3

Second Year (26 credits)

Code	Course Title	Credits
RT-104	Human Anatomy and Physiology II (w/lab)	3
RT-107	Principles of Radiographic Exposure (w/lab)	2
RT-111	Radiologic Physics	3
RT-113	Radiographic Procedures and Evaluation I; Extremities and Body Trunk (w/lab)	3

Code	Course Title	Credits
RT-202B	Clinical Practice I	2
RT-108	Principles of Image Acquisition and Procesing	2
RT-211	Radiation Biology	3
RT-213	Radiographic Procedures and Evaluation II; Abdomen y Thorax	3
RT-303	Sectional Anatomy (w/lab)	3
RT-203B	Clinical Practice II	2

THIRD YEAR (24 credits)

Code	Course Title	Credits
RT-115B	Radiologic Pathology	3
RT-204	Clinical Practice III	3
RT-316	Advance Patient Care	3
RT-314	Radiographic Procedures and Evaluation III; Skull and Neck	2
RT-315A	Legal Concepts Seminar	1
RT-320	Radiographic Quality Assurance	4
RT-350	Review for Professional Credentialing Exam	1
RT-414	Introduction to Imaging Modalities	3
RT-205	Clinical Practice IV	4

Total Credits: 80

Post-Associate Certificate in Diagnostic Medical Sonography

Code	Course Title	Credits
US-401	Clinical Practice I	3
US-411	Ultrasound Physics	4
US-416	Pelvic Sonography	2
US-419	Abdominal Sonography	3
US-421	Superficial organs and Special Procedures in Sonography	3
US-459	Integration Laboratory I	2
US-402	Clinical Practice II	3
US-417	Obstetric Sonography	3
US-427	Instrumentation and Quality Assurance	4
US-431	Basic Ultrasound Studies	3
US-440	Research Project	3
US-469	Integration Laboratory II	2

Total Credits: 35

Post-Associate Certificate in Mammography

Code	Course Title	Credits
MA 401	Mammography Procedures	3
MA 402	Anatomy, Physiology and Pathology of the Breast	2
MA 403	Physics and Quality Assurance in Mammography	3
MA 404	Operational and Clinic Fundamentals of Sonomammography	3
MA 405	Clinical Practice and Research	3

Total Credits: 14

Post-Associate Certificate in Computerized Tomography

Code	Course Title	Credits
CT 425	Operating Fundamentals of Computerized Tomography	3
CT 430	Computerized Tomography Procedures and Protocols	3
CT 435	Anatomy and Pathology in Computerized Tomography Images	3
CT 440	Clinical Practice and Research in Computerized Tomography	4

Total Credits: 13

Post-Associate Certificate in Magnetic Resonance

Code	Course Title	Credits
MR 400	Operating Fundamentals of MRI	3
MR 405	Procedures and Protocols in MRI	3
MR 410	Anatomy and Pathology in Magnetic Resonance Images	3
MR 415	Clinical Practice and Research in Magnetic Resonance	4

Total Credits: 13

Bachelor of Science in Diagnostic Images

First Year

Code	Course Title	Credits
EN-101	English I	3
SP-101	Spanish I	3
RT-101	Introduction to Radiologic Technology	3
RT-106	Principles of Radiographic Exposure and Development of Radiographic Images (w/lab)	4
RT-113	Radiographic Procedures and Evaluation I; Extremities and Body Trunk (w/lab)	3
RT-103	Human Anatomy and Physiology I (w/lab)	3
RT-110	Introduction to Computer Systems	3
CP-101	University Life	N/C
EN-102	English Language II	3
SP-102	Spanish Language II	3
RT-111	Radiologic Physics	3
RT-104	Human Anatomy and Physiology II (w/lab)	3

Code	Course Title	Credits
RT-213	Radiographic Procedures and Evaluation II; Abdomen y Thorax	3
RT-216	Patient Care (w/lab)	3
RT-202	Clinical Practice I	3
RT-203	Clinical Practice II (Summer Session)	3

Second Year

Code	Course Title	Credits
RT-303	Sectional Anatomy (w/lab)	3
RT-231	Integral Health Concepts	3
RT-314	Radiographic Procedures and Evaluation III; Skull and Neck	2
RT-211	Radiation Biology	3
RT-115	Radiologic Pathology	2
RT-204	Clinical Practice III	3
RT-223	Radiographic Critique and Quality Assurance	3
RT-413	Introduction to Ultrasound Imaging	3
RT-414	Introduction to Imaging Modalities	3
RT-315A	Legal Concepts Seminar	1
RT-350	Review for Professional Credentialing Exam	1
RT-205	Clinical Practice IV	4

Third Year

Code	Course Title	Credits
EN-201	English III	3
SP-201	Literary Genre	3
CN-101	Natural Sciences I	3
CN-102	Natural Sciences II	3
MT-101	Introduction to Mathematics	3
MT-102	Mathematics II	3
CS-101	Introduction to Sociology	3
HU-101	Occidental Civilizations	3
	Elective	3
Student must select a minimum of two of the following:		
	Post-Associate Certificate in Mammography	14
	Post-Associate Certificate in Computerized Tomography	13
	Post-Associate Certificate in Magnetic Resonance	13
	Post-Associate Certificate in Diagnostic Medical Sonography	35

Fourth Year

Code	Course Title	Credits
BSID 510	Administration and Supervision Diagnostic Images Service	3
BSID 520	Planning and Evaluation Diagnostic Images Service	3
BSID 530	Pharmacology in Diagnostic Imaging	3
BSID 540	Sociology of Health and Disease	3
BSID 550	Professional Lectures Seminar *	2

*Course lasts for two semesters

Total Credits: 144-167

Description of Courses

CP-101 University Life
0 Credits
The University Life course provides students with the skills needed to achieve a successful academic life: study habits, problem solving and critical thinking, time management, among others. Course deals with self-consciousness, recognition of strengths and weaknesses, and teamwork in the process of developing professional skills.

CN-101 Fundaments of Science: Chemistry and Physics
3 Credits
This course is designed to introduce topics in chemistry and physics at an entry level leading to a conceptual understanding of how these principles relate to everyday life. The topics in Physics in this course include Newton's laws, properties of matter, heat and thermodynamics, electricity and magnetism, and waves. The topics covered in Chemistry are measurements, nomenclature, atomic bonding, states of matter, solutions, equilibria, acids, bases, and pH. Students will apply these principles using practical examples, facilitated discussions, and experiments conducted through a virtual laboratory.

EN-101 English I
3 Credits
Deals with the basic structures of the language emphasizing their functional use and application aimed toward guiding students in attaining a greater mastery of such basic skills as: listening, reading, writing as a mean of improving their oral and written expression. Teaching strategies includes lectures, workshops and integration exercises and assignments. Students will be evaluated through tests, quizzes, special assignments, individual and group presentations, attendance and participation in programmed activities.

MT-101 Fundaments in Mathematics
3 Credits
This course comprises a review of the basic mathematical skills: integer number properties and operations, exponential notation, algebraic properties, calculations with polynomials and factorization. Lineal equations with integers and fractions and the formulation and resolution of problems with variables. Mathematical problems focused in science will be discussed.

RT-110 Introduction to Computer Systems
3 Credits
Introductory course dealing with concepts of the operations and programming of computerized system. Appropriate terminology and foundations on the use and operations of computers in the health field are discussed. Student acquires a functional knowledge of general use applications: Word, PowerPoint, Excel and Windows.

SP 101 Spanish I
3 Credits
Introduction to the Spanish language as a technical expression vehicle. Basic skills and concepts of written and oral communication in Spanish focused in the professional field are covered.

EN-102 English II
3 Credits / Pre-requisite EN-101
Continues the development of English language communication skills with applications to the professional life.

RT-101 Introduction to Radiologic Technology
3 Credits
Introductory course which presents Radiologic Technology as a science and other aspects related to this profession. The course covers basic medical terminology relevant to the Medical Images field. Includes first clinical practice period (60 hours) with exposure to the operation of the imaging center.

RT-103 Human Anatomy and Physiology I
3 Credits
Course oriented to introducing students to the basic anatomic and physiologic principles of the human body throughout descriptive Anatomy by regions and systems. Emphasis is given to the chemical, cellular, skeletal and muscular components of the human body. Course is complemented with laboratory experiences.

RT-216 Basic Patient Care
3 Credits
Comprises basic nursing procedures required for the care of the patient in the radiology department. Principles of human communication, precautionary and safety considerations, first aid, cardiopulmonary resuscitation, vital signs assessment, medication and contrast media administration, medical sepsis, and infection control procedures are discussed and demonstrated.

SP-102 Spanish II
3 Credits / Pre-requisite SP-101
Comprises the development of skills in oral and written communication in the Spanish language. Basic concepts on correct editing are presented. Different literary styles are discussed and analyzed.

RT-104 Human Anatomy and Physiology II
3 Credits / Pre-requisite RT-103
Course oriented to familiarizing students with the basic anatomical and physiological concepts of the nervous, circulatory, urinary, endocrine, respiratory, reproductive systems and their application in radiology. This course is complemented with laboratory experiences.

RT-107 Principles of Radiographic Exposure
2 Credits
Comprises the study of all concepts associated with the production of X-rays; equipment operation, exposure factors and interactions. Factors influencing image quality are presented and discussed. Practical demonstrations are used to facilitate comprehension of the course content.

RT-111 Radiologic Physics
3 Credits
This course offers students the opportunity of knowing the fundamental physics properties associated with the production and effects of X-Rays. As part of the course the basic components of an X-ray production equipment, operation and maintenance will be covered. Basic electrical schemes as applied to the X-ray circuit will be covered and discussed.

RT-113 Radiographic Procedures and Evaluation I: Extremities and Body Trunk
3 Credits
This course includes the study of the radiographic procedures as they relate to the skeletal system. Includes positioning, exposure techniques, film evaluation and related anatomy of superior and inferior extremities and skeletal trunk.

RT-202B Clinical Practice I
2 Credits / Pre-requisite RT-102
Students participate and develop skills in performing radiographic procedures pertaining to the skeletal system (superior and inferior extremities and skeletal trunk). They observe basic radiographic procedures requiring administration of contrast mediums for the visualization of the gastrointestinal and urinary systems.

RT-108 Principles of Image Acquisition and Processing
2 Credits
Comprises the study of all concepts associated with the image formation and development in conventional and digital radiology. Factors influencing image quality are presented and discussed. Practical demonstrations are used to facilitate comprehension of the course content.

RT-211 Radiation Biology
3 Credits / Pre-requisite RT-111
Comprises the information and knowledge of the interaction of radiation energy and matter. Units and manners of measuring X-rays and other radiation and its effects on living organisms, in particular its effects over long and short periods of exposure on patients.

RT-213 Radiographic Procedures and Evaluations II: Abdomen and Thorax
3 Credits / Pre-requisite RT-113
The study of radiographic procedures related to pathological conditions occurring in abdomen and thorax. Includes discussion of exposure techniques, positioning skills, medical indications and counter-indications for special studies pertaining to this anatomical region. Use of contrast media is discussed.

RT-203B Clinical Practice II
2 Credits / Pre-requisite RT-202B
Students participate and develop skills in the realization of special radiographic procedures of the gastrointestinal and genitourinary systems requiring the administration of contrast media.

RT-303 Sectional Anatomy
3 Credits / Pre-requisite RT-104
Course oriented to familiarizing students with the anatomical regions and planes as required for the application of advanced imaging modalities, such as Computerized Tomography, Magnetic Resonance Imaging and Ultrasound. Course is complemented with laboratory experiences.

RT-115B Radiologic Pathology
3 Credits / Pre-requisite RT-104
Study of the most common conditions and lesions affecting the human being and its relation to the changes observed in the radiographic image. Etiology, epidemiology and prognosis of these conditions are discussed.

RT-204 Clinical Practice III
3 Credits / Pre-requisite RT-203
Students participate and develop skills in the application of special radiographic procedures requiring the administration of contrast media and assisting the radiologist in interventional procedures.

RT-314 Radiographic Procedures and Evaluation III: Skull and Neck
2 Credits / Pre-requisite RT-213
Study of the radiographic procedures related to cranial structures, facial bones and neck. Includes discussion of exposure techniques, positioning skills, medical indications and indications for special and optional projections to be performed in traumatized patients and special studies pertaining to this anatomical region. Use of contrast media is discussed.

RT-315A Legal Concepts Seminar
1 Credit
Medical-legal considerations of the health professionals in Puerto Rico with emphasis on the radiologic technologist. Comprises current aspects on ethics, responsibilities, obligations and rights of the health professionals relative to patients and colleagues, including case presentation and discussion.

RT-316 Advance Patient Care
3 Credits
Advance course in Patient care, which presents an Emphasis is given to infection control, handling and disposal of hazardous materials and pharmacology as applied to the medical imaging field. . Also, an introductory vision of different content matters, considered basic in the health field: public health concepts, epidemiology, statistics, and administration of health services is included.

RT-205 Clinical Practice IV
4 Credits / Pre-requisite RT-204

Students participate and develop skills in radiographic critique and quality assurance. The students acquire proficiency in the application of all radiographic procedures (extremities, trunk, skull and facial bones, and special procedures and administration of contrast media) under indirect supervision. Students are exposed to new imaging modalities.

RT-320 Radiographic Quality Assurance
4 Credits

The course offers students basic knowledge on the importance and implementation of a quality assurance program in a radiological facility. Emphasis will be given to the quality control tests performed on radiographic exposure and film development equipment. Evaluation and analysis of radiographs performed during clinical practice. Course provides students with the opportunity to apply knowledge, acquired during their study/work time to a research project.

RT-350 Review for Professional Credentialing Exam (1)
1 Credit

This course summarizes and reviews the five content areas included in the American Registry of Radiologist Technologist (ARRT) examination: Radiographic Protection, Acquisition and Evaluation of Radiographic Images, Operation and Maintenance of Radiographic Equipment, Radiographic Procedures and Patient Care. Course content is offered through presentations, guided studies and simulated tests. At the end of the course, students will be required to approve a comprehensive test similar in content to the Registry exam.

RT-414 Introduction to Imaging Modalities
3 Credits / Pre-requisite RT-211

Introductory course dealing with new modalities of medical diagnosis imaging. Includes basic concepts of principles and operational procedures of lineal tomography, digital and computerized radiology, computerized tomography, digital subtraction arteriography, magnetic resonance, nuclear medicine and radiotherapy.

RT 106 Principles of Radiographic Exposure & Development of Radiographic Images
4 Credits

Comprises the study of all concepts associated with the production of X-rays; image formation and development. Factors influencing image quality are presented and discussed. Practical demonstrations and laboratory experiences are used to facilitate comprehension of the course content.

RT 231 Integral Health Concepts
3 Credits

Interdisciplinary course, which presents an integral and introductory vision of different content matters, considered basic in the health field: public health concepts, epidemiology, statistics, and administration of health services. Emphasis is given to human development process and the needs of the individual in preserving his/her health.

RT 223 Radiographic Critique and Quality Assurance
3 Credits

The course offers students basic knowledge on the importance and implementation of a quality assurance program in a radiological facility. Emphasis will be given to the quality control tests performed on radiographic exposure and film development equipment.

Evaluation and analysis of radiographs performed during clinical practice. Course provides students with the opportunity to apply knowledge, acquired during their study/work time, to a research project.

RT 413 Introduction to Ultrasound Imaging
3 Credits
Introduction to medical diagnostic ultrasound basic concepts, images and procedures used in this modality of imaging.

RT 206 Clinical Practice V
3 Credits
Students registered in this course are required to complete clinical competencies to gain proficiency in the application of all procedures related to diagnostic imaging. The student may select an elective appointment in a non-regular clinical site.

US 401 Clinical Practice I
3 Credits
This course comprises a supervised clinical experience in which the student has the opportunity to recognize the protocol and techniques of the basic ultrasonography studies. Students develop competencies in medical request interpretation, patient briefing and management, scanning protocols, and the sonographic appearance of normal and pathologic organs and tissues.

US 411 Ultrasound Physics
4 Credits
This course provides the student with the basic knowledge of the physics of sound. Course content includes mathematical operations as they apply to sonography and the physical concepts involved in the operation of ultrasound equipment. Teaching techniques include readings, lecture, and group discussion.

US 416 Pelvic Sonography
2 Credits
The imaging and diagnosis of conditions related to the female and male pelvis comprise the basis of this course. Contents include scanning protocols, terminology, complementary studies, and sonographic appearance of normal organs and pathologic conditions diagnosed by means of Ultrasound. Diverse teaching techniques are employed: readings, lectures, group discussion, and image and case critique.

US 419 Abdominal Sonography
3 Credits
This course emphasizes the study of the structures included in the human abdomen. Contents include protocol, terminology, complementary studies, and sonographic appearance of normal organs and pathologic conditions diagnosed by means of Ultrasound. Diverse teaching techniques are employed: readings, lectures, group discussion, and image and case critique.

US 421 Superficial Organs and Special Procedures in Sonography
3 Credits
Study of the procedures used on the evaluation of sonographic studies of thyroids, chest, testicles, popliteal vein, neonatal neurosonography, and injections and aspirations with needles. It also includes techniques of trans-esophageal, trans-vaginal sonography and endosonography of the gastrointestinal system. It includes medical terminology related to each of the studies; normal anatomy, pathology, and methods and techniques used to help in the sonographic diagnostic of conditions associated to each of these anatomical areas.

US 459 Integration Laboratory I
2 Credits
In this laboratory, under the direct supervision of a faculty member, the student practices the necessary competencies and protocols to perform basic sonography studies on simulated patients and peers. In this laboratory, the student integrates didactic knowledge and practices dexterity for the performance of sonographic studies. Clinical and practical teaching techniques are employed, in addition to the discussion of reviewed articles regarding scanning protocols of abdominal and pelvis sonograms.

US 402 Clinical Practice II
3 Credits

In this second clinical practice experience, the student has the opportunity to integrate didactic knowledge with practical competencies. Students develop advanced competencies for the correct performance of sonographic procedures and develop new competencies in special sonographic procedures.

US 417 Obstetric Sonography
3 Credits

The Obstetric Sonography course is divided into two sections. The first part provides the student with the basic knowledge of normal and pathological tissues present during pregnancy. This section also includes scanning protocols and techniques to visualize the embryo and the second and third trimester normal fetus. The second part increases student's knowledge of fetal pathology and medical complications and disorders related to pregnancy. Teaching techniques include assigned readings, lectures, and group discussion.

US 427 Instrumentation and Quality Assurance
4 Credits

This course expands on the previous Ultrasound Physics course content and includes concepts related to equipment operation, calibration and maintenance and the implementation of a quality assurance plan within a sonography unit. Basic Doppler concepts are introduced. Teaching techniques include readings, lectures, and group discussion.

US 431 Basic Ultrasound Studies
3 Credits

This course is designed to integrate didactic knowledge and clinical experiences. During the seminar cases performed by the students their clinical rotations are discussed. Additionally, students will be required to read, synthesize and react critically and constructively to professional articles related to Sonography found in journals and other electronic media.

US 440 Research Project
3 Credits

As part of this course students plan and develop a special project, incorporating research concepts and techniques, and the analysis of a problem or situation occurring in a medical diagnostic ultrasound clinical area. Emphasis is given to the techniques of gathering, organizing and analyzing research data. Student projects are evaluated through the extent and integration of all aspects of research in an oral and written report.

US 469 Integration Laboratory II
2 credits

In this laboratory, under the direct supervision of a faculty member, the student practices the necessary competencies and protocols to perform basic sonography studies on simulated patients and peers. In this laboratory, students integrate didactic knowledge and practice dexterity for the performance of sonographic studies of abdominal and pelvis organs. Clinical and practical teaching techniques are employed in addition to the discussion of assigned reviewed articles regarding scanning protocols of abdominal and pelvis sonograms.

MA 401 Mammography Procedures
3 Credits

Procedures, protocols and positioning techniques used in the evaluation of the human breast are discussed in this course. Variations from normal procedures required to accommodate patients with special needs are also presented and discussed.

Content includes positioning terminology, patient comfort requirements, special cases including reconstructed, irradiated and the presence of prosthetic accessories; magnification, cone down views and other procedures considered non-invasive. Skills in patient care and education related to the care and of the human breast are included in this course.

MA 402 Anatomy, Physiology and Pathology of the Breast
2 Credits

This course offers the student the opportunity to acquire concepts related to the anatomy, physiology and pathology of conditions related to the female and male breast. Content includes breast development and tissue composition, normal and abnormal variations, benign and malignant conditions and the visualization of these changes as they are presented in a mammography or sonomammography image. Changes in the breast tissue due to surgical or pathologic processes are discussed.

MA 403 Physics and Quality Assurance in Mammography
3 Credits

This course covers the basic concepts of radiation physics related to Mammography, such as: special equipment requirements, construction standards recommended by the FDA for mammography units, exposure factors, radiation interaction with breast tissue, maximum permissible doses, collimation, developing process, final image evaluation, operation and maintenance of accessories used in mammography. The students are able to recognize, develop and implement a quality assurance program of the mammography unit.

MA 404 Operational and Clinical Fundamentals of Sonomammography
, 3 Credits

This course comprises the basic concepts of physics, terminology, operation and instrumentation, and scanning protocols in the use of ultrasound for the evaluation and diagnosis of breast conditions. Normal anatomy, image artifacts, and interventional procedures of the breast using this modality are presented and discussed. Laboratory sessions are used to familiarize students with the sonomammography procedures and for them to acquire skills in scanning protocols, tissue recognition, and equipment adjustment.

MA 405 Clinical Practice and Research
3 Credits

Clinical experience in which the student implements all concepts learned in the didactic courses. As students advance in the clinical experience, they develop competencies for the correct performance of mammography and sonomammography procedures and acquire competencies in special procedures. As part of the clinical experience, the student must do a research project related to the field of breast health and imaging, in which he/she will deal with: defining a problem or situation, literature search, data acquisition and analysis, and problem solving.

Clinical practice is performed based on the development of a clinical portfolio and not on clinical hours. Clinical evaluation includes: interpreting medical orders, analysis of patient medical history; patient care and orientation; and competencies in positioning, communication, equipment handling, film critique and quality control procedures. Students are required to procure and secure a clinical practice site. Students already working in Mammography will be required to support and document their daily work to validate these experiences.

CT 425 Operating Fundamentals of Computerized Tomography
3 Credits

This course comprises the presentation and discussion of: history of computerized tomography (CT) ; applications and terminology used in CT; ionizing radiation physics; different protocols used in CT imaging centers; technical parameters used for the acquisition of CT images; ionizing radiation safety measures; quality assurance procedures implemented in CT.

CT 430 Computerized Tomography Procedures and Protocols
3 Credits

In this course, the protocols utilized to produce diagnostic images of the human body by means of the computerized tomography equipment are presented. The human body is divided into four basic regions: head and spine, neck and thorax, abdomen and pelvis, and extremities, and protocols are presented for each region, in terms of the: patient position, anatomy included in each slice, different variations needed to accommodate patient needs, and exposure factors.

CT 435 Anatomy and Pathology in Computerized Tomography Images
3 Credits

This course offers the student the opportunity to acquire concepts related to the anatomy and pathology of the human body as presented in Computerized Tomography (CT) images. The most common conditions and lesions, as seen in CT, are discussed. The course includes the analysis of: normal variations, etiology and prognosis of those conditions, and its relationship to the imaging conditions in CT.

CT 440 Clinical Practice and Research in Computerized Tomography
4 Credits

Student will complete a supervised clinical experience in computerized tomography (CT) in an accredited CT imaging center, in which the student implements all concepts learned in the didactic courses. As students advance in the clinical experience, they develop competencies in: patient care, education and management; patient's medical and clinical history interpretation; performing CT procedures following prescribed protocols, and image selection and processing. Clinical practice is performed based on the development of a clinical portfolio and not on clinical hours. As part of the clinical experience, the student must do a research project related to CT operations, in which he/she will deal with: defining a problem or situation, literature search, data acquisition and analysis, and problem solving.

MR 400 Operating Fundamentals of Magnetic Resonance
3 Credits

This course comprises the presentation and discussion of: history of magnetic resonance (MR) and the physical and chemical principles related to MR. Among the contents to be covered in this course are: magnetisms, resonance, equipment and instrumentation, tissue characteristics, signal production, tissue spatial location, sequences and technical parameters used in the acquisition of MR images, image processing techniques, special applications, patient and personnel security issues, and quality assurance procedures related to this modality.

MR 405 Procedures and Protocols in MRI
3 Credits

In this course, the protocols utilized to produce diagnostic images of the human body by means of the magnetic resonance (MR) equipment are presented. The human body is divided into four basic regions: head and spine, neck and thorax, abdomen and pelvis, and extremities, and protocols are presented for each region, in terms of the: patient position, anatomy included in each slice, different variations needed to accommodate patient needs, and exposure factors.

MR410 Anatomy and Pathology in Magnetic Resonance
45 Hours, 3 Credits

This course offers the student the opportunity to acquire concepts related to the anatomy and pathology of the human body as presented in Magnetic Resonance (MR) images. The most common conditions and lesions, as seen in MR, are discussed. The course includes the analysis of: normal variations, etiology and prognosis of those conditions, and its relationship to the imaging conditions in MR.

MR415 Clinical Practice and Research in Magnetic Resonance
4 Credits

Student will complete a supervised clinical experience in magnetic resonance (MR) in an accredited MR imaging center, in which the student implements all concepts learned in the didactic courses. As students advance in the clinical experience, they develop competencies in: patient care, education and management; patient's medical and clinical history interpretation; performing MR procedures following prescribed protocols, and image selection and processing. Clinical practice is performed based on the development of a clinical portfolio and not on clinical hours. As part of the clinical experience, the student must do a research project related to MR operations, in which he/she will deal with defining a problem or situation, literature search, data acquisition and analysis, and problem solving.

BSID 510 Administration and Supervision Diagnostic Images Services
3 Credits

Students will have the opportunity to develop basic skills in the organization and supervision of a diagnostic imaging center or service. This course offers students basic concepts of health service administration with an emphasis on the quality of the services offered to the community in diagnostic imaging centers. They will differentiate between the roles of the Medical Director, Administrator, Manager, and Supervisor in these types of services. Students will develop team work skills, dealing with issues such as: risk management; radiation protection and dosimetry; continuous quality improvement; service accreditation procedures and interpersonal relations. At the same time, this knowledge will help the student: design, implement, analyze and evaluate diagnostic images services, complying with state and federal policies, rules and regulations. Teaching strategies include: conferences, case presentations and discussion. Students will be evaluated through: written exams, short tests, assignments, and participation in programmed activities.

BSID 520 Planning and Evaluation Diagnostic Images Services
3 Credits

This course will present students with the basic concepts and skills in use for the planning and evaluation of diagnostic images services. Planning and evaluation of health services will be presented as a continuous process emphasizing problem identification, developing effective answers to problems, and implementing and evaluating the program or service proposed. Course content also includes: general aspects of a health service organization; and how to develop goals and objectives to fulfill an organization mission through a Strategic Plan. Students will participate in conferences, will discuss simulated models and will present an operational model for a diagnostic images center. Students will be evaluated through: practice exercises, short texts, application projects and literature review reports.

BSID 530 Pharmacology in Diagnostic Imaging
3 Credits

This course will offer students the knowledge and skills necessary for the management and administration of imaging contrast media agents and other medications used in the medical diagnostic field. Course content includes: general pharmacology concepts; patient assessment skills; strategies for the safe and responsible management of contrast media agents, and administration techniques. Teaching strategies include: conferences, case discussion, electronic reference reviews, and medication administration competencies laboratories.

BSID 540 Sociology of Health and Disease
3 Credits

This course will offer students the knowledge and skills necessary to provide support to patients of all types. Content is designed to offer students a review of the physiologic and anatomical changes related to diverse pathologies that affect the human being in different stages of life. As part of this course, the following issues will be discussed: responsible and safe patient management; rules and regulations related to patient's medical information confidentiality; community health concepts; and communication skills. Course content will be offered through conferences, case discussion, literature review, content related assignments.

BSID 550 Professional Lectures Seminar
2 Credits - Online course

This one-year course will develop the student's ability to conduct critical reading of professional articles. As part of the course, emphasis will be given to the discussion of issues related to: new developments and research in the medical diagnostic images field. This course will be conducted mainly through on-line strategies where students will complete course requirements in a virtual environment. As part of this course, the following skills will be evaluated: knowledge and skills in informatics; search, validity, analysis and application of the information; and Spanish and English written communication skills. During the course, students will present five critical analyses of professional articles and will participate in the discussion of articles presented by fellow students.

FACULTY

School of Chiropractic

Adorno-Bruno, Alex, DC, Assistant Professor and Chairperson
DC, New York Chiropractic College, 2009
Specialist in Post-Surgical Spine Rehabilitation, Laser Spine Institute and the American Chiropractic Association, 2015

Adorno-Bruno, Oscar R., DC, MSHSc, Assistant Professor
MSHSc, Life University, Marietta, GA, 2012
DC, New York Chiropractic College, Seneca Falls, NY, 2010

García-Osorio, Martha E., M.D., Assistant Professor
M.D., Universidad Pontificia Bolivariana de Antioquia, Medellín, Colombia SA., 1992
MHSA, Public Health School of Health State Department, Medellin, Colombia SA., 1994
MSc in Immunology, Universidad de Antioquia, School of Medicine, Colombia SA., 1998

Pedroza, Alexandra, DC, CFMP, Assistant Professor
DC, Life University, 2014
CFMP, Functional Medicine University, 2016

Santiago-Román, Jaime, Ph.D., MBA, Assistant Professor
Ph.D. in Business Administration, Northcentral University, Prescott Valley, AZ, 2013
MBA, University of Phinix, Guaynabo Campus, Guaynabo, PR, 2005

Vicente-Rodríguez, Teresita, DC, MS, Assistant Professor
DC, Life University, Marietta, GA, 2016
MS, Sport Health Science Concentration in Sports Chiropractic, Life University, Marietta, GA, 2017

School of Medicine
BASIC SCIENCES DEPARTMENTS

Department of Anatomy

Almodovar, Luis J., M.D., Assistant Professor
M.D., University of Puerto Rico, Medical Science Campus, 1999
Specialty in Neurological Surgery, University of Puerto Rico, Medical Science Campus, 2007
Fellowship in Neurosurgical Oncology Fellowship, University of Texas, M.D. Anderson Cancer Center, 2008

Baksi, Krishna, Ph.D, Associate Professor
Ph.D, India Institute of Medical Sciences, New Delhi, India, 1977
MS, University of Calcutta, India, 1970

Chinea-Martínó, José J., D.M.D., Professor
D.M.D., University of Puerto Rico, School of Medicine, 1969
MS University of Indiana, 1972

Darmawardhane-Flanagan, Suranganie, Ph.D, Associate Professor
Ph.D, University of Massachusetts, Amherst, MA, 1987
MS, Northeastern University, Boston, MA, 1985

Gómez-Pinzón, Héctor F., M.D., Associate Professor
M.D., Universidad Militar Nueva Granada, Bogotá, Colombia, 1984
Specialty in General Surgery, Instituto Nacional de Cancerología, 1995

Haiffe, Rosa M., M.D., Professor; (Dual Appointment in Pathology)
M.D., Universidad Autónoma (Dominican Republic), 1968
Specialty in Pathology, University District Hospital (UPR), 1974
Fellowship in Neuropathology, Indiana University, 1975

Jiménez, Sofía, Ph.D, Associate Professor and Chairperson
Ph.D, University of Puerto Rico, School of Medicine, 1984
MS, University of Puerto Rico, 1970

Marte, Erlin J., M.D., Assistant Professor
M.D., Pontificia Universidad Católica Madre y Maestra, RD., 1998

Oliver-Sostre, José L., D.M.D., Associate Professor
D.M.D., University of Puerto Rico, School of Medicine, 2002

Sánchez-Sánchez, Vivian, D.M.D., Assistant Professor
University of Puerto Rico, School of Dentistry, 1979

Sosa, Iván J., M.D., Assistant Professor
M.D., University of Puerto Rico, Medical Science Campus, 1997
Specialty in Neurological Surgery, University of Puerto Rico, Medical Science Campus

Toledo-González, María M., M.D., Assistant Professor
M.D., University of Puerto Rico, Medical Science Campus, 2000
Specialty in Neurosurgery, University of Puerto Rico, Medical Science Campus, 2006
Fellowship in Endovascular Neurosurgery, University of Puerto Rico, Medical Science Campus, 2008
Fellowship in Vascular and Skull Base Surgery, Barrow Neurological Institute, St. Joseph's Hospital, 2009

Torres-Vázquez, Armando, M.D., Associate Professor
M.D., Universidad Central del Caribe, School of Medicine, 1980
Specialty in Ophthalmology, Bronx-Lebanon Hospital Center, 1986

Villarubia, Héctor J., M.D., Associate Professor
M.D., Universidad Central del Caribe, School of Medicine, 2002
Specialty in Ophthalmology, University of Puerto Rico, SOM, 2006
Fellowship in Glaucoma, University of Texas, Health Science Center, 2007

Department of Biochemistry

Eaton, Misty, Ph.D, Professor
Ph.D, University of Texas Southwestern Medical Center, 1990

Eterovic, Vesna A., Ph.D, Professor (Dual appointment in Neuroscience & Chairperson)
Ph.D, National University Córdova, Argentina, 1971

Ferchmin, Pedro A., Ph.D, Professor
Ph.D, National University Cordova, Argentina, 1971

Gavillán-Suárez, Jannette, Ph.D., Professor
Ph.D., University of Puerto Rico, Medical Sciences Campus, 1982

Gradziak, George L., M.D., Professor
Ph.D., Wroclaw Medical University, Porland, 1978

Hann, Richard, M.D., Professoris Eminentis
M.D., University of Oklahoma College of Medicine, 1974

Kucheryavykh, Yuriy V, Ph.D, Associate Professor
Ph.D, Saint Petersburg State University, St. Petersburg, Russia, 2003

Kucheryavykh, Lilia, Ph.D, Associate Professor
Ph.D, Saint Petersburg State University, St. Petersburg, Russia, 2001

Martínez, Michelle M., Ph.D, Associate Professor
Ph.D, Michigan State University, 2004
MS, University of Puerto Rico, Mayagüez Campus, 2001

Méndez-González, Miguel P.D., Ph.D., Assistant Professor
Ph.D., Universidad Central del Caribe, School of Medicine, Bayamón, PR, 2016

Pagán, One, Ph.D., Assistant Professor
Ph.D., Cornell University, Ithaca, NY, 2005

Rivera-Aponte, David E., Ph.D., Assistant Professor
Ph.D., Universidad Central del Caribe, School of Medicine, Bayamón, PR, 2017

Skatchkov, Serguei, Ph.D, Professor (Dual appointment in Physiology)
Ph.D, Leningrad State University, Russia, 1991
M.P.H., Leningrad State University, Russia, 1979

Suárez-Arroyo, Ivette J., Ph.D., Assistant Professor
Ph.D., Universidad Central del Caribe, School of Medicine, Bayamón, PR 2016

Vélez-Carrasco, Wanda, Ph.D, Associate Professor & Acting Chairperson
Ph.D, Tufts University, Boston, 1998
MS, Tufts University, Boston, 1995

Department of Microbiology and Immunology

Alves, Janaina, Ph.D, Assistant Professor
Ph.D., Molecular Biology/Biochemistry, University Federal of São Paulo, 2009
Post Doc., Molecular Biology/Biochemistry, Universidad Central del Caribe, School of Medicine, 2011

Boukli, Nawal, Ph.D, Associate Professor
Ph.D, University of Missouri, 1999

Espino, Ana M., Ph.D, Assistant Professor
Ph.D, Instituto de Medicina Tropical, Cuba, 1997

Otero, Miguel, Ph.D, Assistant Professor
Ph.D, University of Puerto Rico, School of Medicine, 1998

Ríos, Zilka, MS, Associate Professor and Associate Dean for Academic Affairs of Medicine
MS, University of Puerto Rico, School of Medicine, 1978

Ríos-Olivares, Eddy O., Ph.D, MPH, Professor
Ph.D, University of Puerto Rico, School of Medicine, 1976
MPH, Sanitation Microbiology, University of Minnesota, 1967

Valentín-Acevedo, Aníbal J., Ph.D., Assistant Professor
Ph.D, Molecular Immunology, Rutgers, The State University of New Jersey, 2011
Certificate in Pharmaceutical and Clinical Trials Management, Rutgers,
The State University of New Jersey, 2012

Department of Neuroscience

Baccin-Martins, Antonio Henrique, PhD, Assistant Professor
Ph.D, Federal University of Sao Paulo, 2006

Ferrer-Acosta, Yancy, Ph.D, Assistant Professor
Ph.D in Biology, University of Puerto Rico, Medical Sciences Campus, 2013

Jorquera-Ayala, Ramón, Ph.D, Assistant Professor
Ph.D, Austral University of Chile, Valdivia, Chile, 2007

Sabeva, Nadezhda, Ph.D,, Assistant Professor
Ph.D, Pharmaceutical Sciences, University of Kentucky, Lexington, KY, 2011

Schikorski, Thomas, Ph.D, Associate Professor (Dual appointment in Anatomy)
Ph.D, in Zoology/Neuroscience, Johann-Wolfgang-Goethe University, Frankfurt, Germany, 1993
Postdoctoral in Neuroscience, The Salk Institute, San Diego, CA, 2000

Department of Pathology

Averbeck, Bruno B., Ph.D, Assistant Professor
Ph.D, in Neuroscience, University of Minnesota, 2001

Bonilla de Franceschini, Angelisa, M.D., Associate Professor & Chairperson
M.D. Universidad Central del Caribe, School of Medicine, 1981
Specialty in Pathology, University of Alabama Hospital at Birmingham, 1985

Castillo-Pichardo, Linette, Ph.D, Assistant Professor
Ph.D, University of Puerto Rico, Medical Science Campus, 2011

Conde-Stering, Daniel, M.D., Associate Professor
M.D., Universidad Central del Caribe, School of Medicine, 1992
Specialty in Pathology, Beth Israel Medical Center, New York, NY, 1997
Fellowship in Callender-Binford, Armed Forces Institute of Pathology, Washington, DC, 1999

Conte-Miller, María S., M.D. J.D., Associate Professor
M.D., Universidad Católica Madre y Maestra, School of Medicine, 1982
Specialty in Pathology, University of Puerto Rico, Medical Science Campus, 1988
Fellowship in Forensic Pathology, University of Miami, School of Medicine, 1989
Juris Doctor, Interamerican University of Puerto Rico, 1995

Dzakpasu, Rhonda, Ph.D., Associate Professor
Ph.D., The University of Michigan, 2003

Griebenow, Kai, Ph.D, Professor
Ph.D, Heinrich-Heine University Dusseldorf, 1992

Hill, William David II, Ph. D., Associate Professor
Ph.D, Bowman Gray, School of Medicine, 1988

Isales-Forsythe, Carlos, M.D., Associate Professor
M.D., University of Puerto Rico, School of Medicine, 1978

Méndez, Loyda B., Ph.D, Associate Professor
Ph.D, University of California, Irvine, 2006

Montoya-Ospina, Ruby A., Ph.D, Associate Professor
Ph.D, Wildlife and Fisheries Sciences, Texas A&M University, College Station, Texas, 1998

Platt, Manu O., Ph.D, Assistant Professor
Ph.D, Georgia Institute of Technology and Emory, Atlanta GA, 2006

Ramos-Pratts, Keyla M., Ph.D, Assistant Professor
Ph.D, University of Puerto Rico, Medical Sciences Campus, 2013

Rodríguez-Ortiz, Eveneida, MEd, Instructor
MEd, in Teaching and Curriculum in Science, Universidad del Turabo, Caguas, PR, 2014
MSc, Environmental Sciences, Universidad del Turabo, Caguas, PR, 2015

Rodríguez-Ramos, Luz M., M.D., Associate Professor
M.D., University of Puerto Rico, School of Medicine, 1982
Specialty in Pathology, University District Hospital and VA Hospital, 1986

Santos-Soto, Iván J., Ph.D, Assistant Professor
Ph.D, University of Puerto Rico, School of Medicine, 2012

Segarra. Verónica, Ph.D, Assistant Professor
Ph.D in Biophysics, Yale University, New Haven, CT, 2008

Silvestrini, Isis, M.D., Associate Professor
M.D., University of Puerto Rico, School of Medicine, 1985
Specialty in Pathology, University District Hospital (UPR), 1989

Simmons-García, José A., M.D., Assistant Professor
M.D., Universidad Central del Caribe, School of Medicine, 1987
Specialty in Pathology, University Hospital (UPR), 1992

Virella-Santana, Wilma, M.D., Assistant Professor
M.D., Temple University, School of Medicine, Philadelphia, PA, 1992

Zayas-Santiago, Astrid, Ph.D, Assistant Professor
M.D., Illinois Institute of Technology, Chicago, IL, 2009

Department of Pharmacology

Bychkov, Rostislav, Ph.D, Assistant Professor
Ph.D, University of St. Petersburg, Russia,1993

Maldonado, Héctor, Ph.D, Associate Professor and Chairperson
Ph.D, University of California, 1992

Pérez-Arcila, Alvaro, M.D. Associate Professor
MS, Universidad de Antioquía, Colombia, SA, 1995
M.D., Universidad de Antioquía, Colombia, SA, 1991

Salgado-Villanueva, Iris K., Ph.D, Assistant Professor
Ph.D. in Physiology, University of Puerto Rico, Medical Sciences Campus

Silva, Walter, Ph.D, Associate Professor
Ph.D, Mount Sinai School of Medicine, CUNY, 1986

Torres-Cruz, José L., Ph.D, Associate Professor
Ph.D, University of Puerto Rico, School of Medicine, 2011
M.S in Science, University of Puerto Rico, School of Medicine, 1976

Department of Physiology

Benedikt, Jan, Ph.D., Assistant Professor
Ph.D., Charles University in Praque and the Institute and the Institute, Praque, 2009

Camacho-Feliciano, Delia M., Professor & Associate Dean for Research and Graduate Program
Ph.D., University of Puerto Rico, Medical Sciences Campus, UPR, 1986

Escalona-Motta, Gladys, Ph.D, Professor
Ph.D, University of Puerto Rico, 1977

Hendricks, Timothy, Ph.D, Associate Professor
Ph.D in Neuroscience, Case Western Reserve University, 2003

Holmgren, Miguel, Ph.D, Assistant Professor
Ph.D, Physiology and Biophysics, Finch University of Health Sciences, Chicago, ILL, 1994

Inyushin, Mikhail Y., Ph.D, Assistant Professor
Ph.D, Leningrad State University, 1986

Rivera, Amelia, Ph.D, Professor
Ph.D, University of Puerto Rico, 1982

Rojas, Legier, Ph.D, Professor
Ph.D, University of Puerto Rico, Medical Sciences Campus, 1987

Sanabria, Priscila, Ph.D, Professor and Chairperson
Ph.D, University of Puerto Rico, Medical Sciences Campus, 1986

Zueva, Lidia Vladimirovna, Ph.D, Assistant Professor
Ph.D in Biology Sciences, Russian Academy of Sciences, St Petersburg, Russia, 1982

CLINICAL SCIENCES DEPARTMENTS

Department of Emergency Medicine

Abreu-Rivera, Arlene, M.D., MPH, Assistant Professor
M.D., San Juan Bautista School of Medicine, 1991
Specialty in Internal Medicine, St. Mary's Hospital, NY, 1994
Fellowship in Emergency Medicine Services, University of Pittsburgh, 1996

Acevedo-Valentín, Ismael A., Assistant Professor
M.D., Iberoamerican University, School of Medicine, 2002
Specialty in Internal Medicine, University Hospital Dr. R. Ruiz Arnau, 2007

Alonso-Serra, Héctor M., M.D., Associate professor
M.D., University of Puerto Rico, School of Medicine, 1989
Specialty in Emergency Medicine, University District Hospital (UPR), 1992

Arroyo-Marrero, Blas C., M.D., Assistant Professor
Specialty in Emergency Medicine, University District Hospital (UPR), 1984

Bou, Carmen Inés, M.D., Assistant Professor
M.D., Universidad Central del Caribe, School of Medicine, 2000
Specialty in Emergency Medicine, New York Medical College, 2003

Colón-Méndez, Manuel J., M.D., Assistant Professor
M.D., Universidad Autónoma de Puebla, 1979
Specialty in Emergency Medicine, 1988

Cruz-Calderon, Myriam, M.D., Assistant Professor
M.D., Universidad Autónoma de Guadalajara, México, 1992
Specialty in Internal Medicine, José M. Gándara Hospital, 1997

Cruz-Resto, Olga I., M.D., Assistant Professor
M.D., Universidad Autónoma, Santo Domingo, DR, 1978
Specialty in Obstetrics and Gynecology, Bayamón Regional Hospital, 1995

Díaz-Alcalá, José Eric, M.D, Associate Professor
M.D., Universidad Central del Caribe, School of Medicine, 1990
Specialty in Emergency Medicine, Lincoln Medical and Health Center,
New York Medical College, 1994
Fellowship in Medical Toxicology, Allegheny University of the Health Sciences,
Medical College of Pennsylvania, Hahnemann University, 1996

Gago-Rivera, Jorge, M.D., Associate Professor
M.D., Universidad Autónoma de Guadalajara, México, 1977
Specialty in Emergency Medicine, University Hospital (UPR), 1982

García-Castro, Juan A., M.D., Assistant Professor
M.D., Zaragoza School of Medicine, Spain, 1973
Specialty in Emergency Medicine, University District Hospital (UPR) 1983

García-Morales, José J., M.D., Assistant Professor
M.D., Universidad Nordeestana, San Francisco de Macoris, DR, 1986
Specialty in Emergency Medicine, University District Hospital (UPR), 1997

Gascot-Zayas, Javier, M.D., Assistant Professor
M.D., San Juan Bautista, School of Medicine, 2003

Hernández-Robles, Amaury, M.D, Assistant Professor
M.D, Universidad Autónoma de Santo Domingo, 1980

López-Rocafort, Jorge L., M.D., Assistant Professor
M.D., Ponce School of Medicine, 2000
Specialty in Emergency Medicine, University District Hospital (UPR), 2003

Marcano-Centeno, Geovannie, M.D., Assistant Professor
M.D., Ponce School of Medicine, 1998
Specialty in Emergency Medicine, University District Hospital (UPR), 2001

Marín- De Gracia, Jesús M., M.D., Assistant Professor and Chairperson
M.D., University of Seville, Spain, 1981
Specialty in Emergency Medicine, University District Hospital (UPR), 1995

Merced-Alvarez, Gadiel, M.D., Associate Professor
M.D., Universidad Central del Caribe, School of Medicine, 2006
Specialty in Emergency Medicine, University Hospital (UPR), 2010

Ramírez-Vega, Moises, M.D., Assistant Professor
M.D., Universidad Autónoma de Guadalajara, 2003

Rodríguez-Collazo, Víctor M., M.D., Assistant Professor
M.D., San Pedro de Macorís, Dominican Republic, 1978
Specialty in Emergency Medicine, 1984

Rodríguez-Cotto, Benjamín, M.D., Assistant Professor
M.D., Universidad de Sevilla, School of Medicine, Spain, 1992

Rodríguez-De Jesús, Mónica, M.D., Assistant Professor
M.D., University of Puerto Rico, School of Medicine, 2002
Specialty in Emergency Medicine, University Hospital (UPR), 2005

Rodríguez-Martínez, Maribel, M.D. Associate Professor
M.D., University of Puerto Rico, School of Medicine, 1989
Specialty in Emergency Medicine, Boston City Hospital, Massachusetts, 1993
Fellowship in Pediatric Emergency Medicine, Fairfax Hospital, 1995

Rodríguez-Rosello, Luis E., Assistant Professor
M.D., Universidad Iberoamericana, UNIBE, 2001

Rosa-Cartagena, Félix J., M.D., Assistant Professor
M.D. University of Puerto Rico, School of Medicine, 1985
Specialty in Emergency Medicine, University District Hospital (UPR), 1988

Rubero, José A., M.D., Associate Professor
M.D., Universidad Central del Caribe, School of Medicine, 1996
Specialty in Emergency Medicine, Cornell University, School of Medicine, 2002

Sepulveda-Serra, Raymond, M.D., Associate Professor
M.D., Santiago de Compostela University, Spain, 1975
Specialty in Emergency Medicine, University District Hospital (UPR), 1981

Department of Family Medicine

Altamar-Bueno, Gustavo, M.D.., Assistant Professor
M.D., Universidad Central del Caribe, School of Medicine, 2006
Specialty in Internal Medicine, University District Hospital (UPR), 2009

Acevedo-Sierra, Ignacio, M.D., Assistant Professor
M.D., Universidad Católica Madre y Maestra, Santiago, DR, 1989

Arroyo-García, Rosa, M.D., Assistant Professor
M.D., Universidad Central del Este, San Pedro de Macoris, Dominican Republic, 1979

Berríos-Marcano, Rafael, MD, Assistant Professor
MD, Universidad Central del Caribe, School of Medicine, 1989
Specialty in Obstetrics and Gynecology, University District Hospital, PR, 1993

Betancourt-Bojos, Félix, M.D., Associate Professor
M.D., University of Puerto Rico, Medical Sciences Campus, 1973

Cabezas-Villanueva, Ana, M.D., Assistant Professor
M.D., Universidad Central del Caribe, School of Medicine, 2002
Specialty in Pediatrics, University Pediatric Hospital (UPR) 2005

Carrero-Pérez, Astrid, M.D., Assmiranfdaistant Professor
M.D., Universidad Autónoma de Guadalajara, Jalisco, Mexico, 2002

Carrión-González, Ibis S. PsyD., Assistant Professor
PsyD., Psychology with Specialization in Clinical Psychology, Universidad Carlos Albizu, 2002

Castro-Ávila, Rosa, M.D., Assistant Professor
M.D., Universidad Autónoma de Guadalajara, 2000

Cedeño, Rafael, M.D., Assistant Professor
M.D., University of Puerto Rico, School of Medicine, 1981
Specialty in Family Medicine, San Pablo Hospital (UCC) 1988

Cedeño-Quintero, Gustavo, M.D., Assistant Professor
M.D., Universidad Central del Caribe, School of Medicine, 1993
Specialty in Family Medicine, University Hospital Dr. R. Ruiz Arnau (UCC), 1996C

Cintrón-Ponton, Marcelino, M.D., Assistant Professor
M.D., Ponce School of Medicine, 1985
Specialty in Family Medicine, University District Hospital, (UPR), 1988

Cintrón-Rivera, Vielka M.D., Associate Professor
M.D., Universidad Autónoma de Guadalajara, Jalisco, Mexico, 1998

Chico, Francisco, M.D., Instructor
M.D., Universidad Santiago de Compostela, School of Medicine, 1980
Specialty in Family Medicine, San Pablo Hospital (UCC) 1984

Cobián-Lugo, José L., M.D., Assistant Professor
M.D., Universidad Autónoma de Guadalajara, School of Medicine, 1999
Specialty in Internal Medicine, Hospital La Concepción Dr. Francisco Jaume Anselmi, San Germán, PR, 2000

Coppola-Muñoz, Angelo, M.D., Assistant Professor
M.D., Universidad Central del Caribe, School of Medicine, 1984
Specialty in Family Medicine, San Pablo Hospital, Bayamón, PR, 1987

Cruz-Feliciano Miguel A. Ph.D, Catedrático Auxiliar,
Ph.D in Public Health, Walden University, Minnesota, 2014

Cruz-Igartua, Ariel, M.D., Associate Professor
M.D., University of Puerto Rico, Medial Science Campus, 1982
Specialty in Family Medicine, San Pablo Hospital, Bayamón, PR, 1985

Cruz-Roman, Olga A., Assistant Professor
M.D., Universidad Autónoma de Santo Domingo, DR, 1991

Cuadrado-Figueroa, Fernando, M.D., Assistant Professor
Specialty in Family Medicine

De Jesús-Vargas, Luis A., M.D., Assistant Professor
M.D., University of Puerto Rico, School of Medicine, 1978
Specialty in Internal Medicine, University Hospital (UPR) 1981

Díaz-Hernández, Jaime M., M.D., Assistant Professor
M.D. University of Puerto Rico, School of Medicine, 1975
Specialty in Family Practice, University Hospital (UPR), 1978

Díaz-Pérez, Luis R., M.D., Assistant Professor
M.D., Universidad Central del Caribe, School of Medicine, 1980
Specialty in Family Medicine, San Pablo Hospital Residency Program, 1987

Díaz-Rodríguez, Nereida, Ph.D, Associate Professor and Dean of Academic Affairs
Ph.D, University of Puerto Rico, 1997
Clinical Psychology Internship, Bellevue Hospital-NYU Medical Center, 1989
MA, University of Puerto Rico, 1986

Dominguez-Girona, Lauribel, M.D., Assistant Professor
M.D., Universidad Central del Caribe, School of Medicine, 2001
Specialty in Family Medicine, San Pablo Hospital Residency Program, Bayamón, PR, 2004

Fabián-Argueta, Rafael, D.C., Instructor
D.C., Life University, Atlanta, GA, 2001

Feliberty, Evelyn, Ed,Dc, Assistant Professor
Ed.Dc., Interamerican University of P.R., At Present
MA, University of Puerto Rico, 1991

Feliciano, Héctor, M.D., Profesor Emeritus
M.D., Hahnemann University, 1953

Félix-Rodríguez, William, M.D., Assistant Professor
M.D., Univirsidad Central del Caribe, School of Medicine, 2005
Specialty in Emergency Medicine, University District Hospital (UPR), 2008
Fellowship in Primary Care Sports Medicine, Duke Medical Center, NC, 2010

García-Feliciano, Arturo T., M.D., Assistant Professor
M.D., Universidad Autónoma de Guadalajara, México, 1995

García-Lopez, Carola, Ph.D, Instructor
Ph.D, Centro de Estudios Avanzados de PR y el Caribe, 2006

García-Rodríguez, María del Mar, MSW, MHS. Assistant Professor
MSW, La Salle Graduate School of Social Work, University of Puerto Rico, 1970

García-Rosario, Luis, M.D., Assistant Professor
M.D., University of Puerto Rico, 1994
Specialty in Family Medicine,

González, Eric M., M.D., MPH, Professor and Chairperson
M.D., Universidad Central del Caribe, School of Medicine, 1980
MPH, University of Puerto Rico, 1985

González-Villanueva, Myriam, Ph.D, Assistant Professor
Ph.D, University of Puerto Rico Rio Piedras Campus, 2007

González-Rivera, Víctor M., Psy.D, Assistant Professor
Psy.D., Carlos Albizu University, San Juan, PR

Hussein, Esam A., M.D., Associate Professor
M.D., Universidad Central del Este, San Pedro de Macoris, DR, 1985

Incle-Serrano, Nicole, BS, Instructor
Post Baccalaureate Certificate in Substance Abuse Counseling, Universidad Central del Caribe, School of Medicine, 2010
BA in General Science, University of Puerto Rico, Medical Sciences Campus, 2009

Irizarry, Moises D., M.D., Assistant Professor
M.D., Universidad Central del Caribe, School of Medicine, 2001
Specialty in Family Medicine, University Hospital Dr. Ramón Ruiz Arnau (UCC), 2005

Key-Fernández, Eduardo E., M.D., Instructor
M.D., Universidad Autónoma de Guadalajara, 2011

Lespier-Torres, Zahira, Psy.D. Assistant Professor
Psy.D, Caribbean Center for Advanced Studies in Psychology, San Juan, PR, 1996

López-Rivera, Fermín A., M.D., Assistant Professor
M.D., Universidad Central del Este, San Pedro de Macorís, DR
Specialty in Pediatricas, Caguas Regional Hospital, Dr. Eduardo Garrido, 1986
Maldonado-Ríos, Gertrudis, Ph.D, Assistant Professor
Ph.D, University of Puerto Rico, School of Medicine, 1997

Marrero-Pagán, Yari, MHS, Instructor
MSH, Universidad Central del Caribe, School of Medicine

Marrero-Rodríguez, Carmen Amalia, Ed.D, Associate Professor
Ed.D, University of Puerto Rico, Rio Piedras Campus, 2013
MPH, University of Puerto Rico, Medical Sciences Campus, 1989

Marrero-Vázquez, Edith M., M.D., Assistant Professor
M.D., Autonomy University of Santo Domingo, DR, 1980

Martínez-Millares, Francisco, M.D., Assistant Professor
M.D., Ponce School of Medicine, Ponce, PR, 1985
Specialty in Family Medicine, University of Maryland Hospital, Baltimore, M.D., 1989

Medina-Vilar, Alejandro, M.D., Assistant Professor
M.D., Escuela de Medicina de Salamanca, Spain, 1988
Specialty in Family Medicine, San Pablo Hospital, Bayamón, PR, 1997

Meléndez-García, Jorge S., M.D., Assistant Professor
M.D., Universidad Nacional de Trujillo, Faculty Medicine, Perú
Sspecialty in Family Medicine, University Hospital Dr. Ramón Ruiz Arnau (UCC), Bayamón, PR

Menéndez-Ruiz, Benjamín, M.D., Assistant Professor
M.D., Universidad del Noreste, Tampico, Tampa, México, 1996

Mercado, Harry, M.D., Professor and Associate Dean for Clinical & Faculty Affairs
M.D., University of Puerto Rico, School of Medicine, 1980
Specialty in Family Medicine, University District Hospital (UPR), 1983

Miranda-Jiménez, Lisa A., Psy.D., Assistant Professor
Pontifical Catholic University, Ponce, PR, 2008

Montes-Carrillo, Bernadette, M.D., Professor
Universidad Autónoma de Guadalajara, 2005

Morales Pujals, Omar L., M.D., Assistant Professor
M.D., Universidad Autonoma Gualajara Mexico 2004
Speicalty in Family Medicine, Manati Medical Center Manati, PR, 2010

Moscoso, Margarita, Ph.D, Associate Professor
Ph.D, University of Michigan, 1992
M.Ed., University of Puerto Rico, School of Medicine, 1987

Muñiz-Vega, Elaine, M.D., Assistant Professor
M.D., Universidad Central del Caribe, School of Medicine, 2008

Nevárez-Pérez, Karla M., M.D., Assistant Professor
M.D., Interamerican University

Nicolau-Gómez, Yania, M.D., Assistant Professor
M.D., Universidad Central del Caribe, School of Medicine, 2010

Nieves-Díaz, Gil, M.D., Assistant Professor
M.D., University of Puerto Rico, School of Medicine, 1976
Specialty in Family Medicine, Caguas Regional Hospital, 1983

Nieves-Rodríguez, Aracelis, M.D., Assistant Professor
M.D., San Juan Bautista Medical School, Caguas, PR, 2008
Specialty in Family Medicine, Manati Medical Center Family Medicine Program, 2012

Oliver-Pichardo, José L., M.D., Assistant Professor
M.D., Universidad Santiago de Compostela, Escuela de Medicina, 1973

Oquendo, Leyda, M.D., Assistant Professor
M.D., Ponce School of Medicine, 1994
Specialty in Family Medicine, San Pablo Hospital, 1997

Ortiz-Díaz, Carlos, M.D., Assistant Professor
M.D., Universidad Central del Este, School of Medicine, Dominican Republic, 1982
Specialty in Pediatrics, Caguas Regional Hospital (UPR), 1992

Ortiz-Rodríguez, Cynthia M., M.D., Assistant Professor
M.D., Universidad de Zaragoza, Zaragoza, Spain, 1994
Specialty in Family Medicine, Dr. Alejandro Otero López Hospital, Manatí, PR, 1984

Ortiz-Sugrañes, Omar, M.D., Assistant Professor
M.D., Guadalajara Autonomy University, School of Medicine, Jalisco, Mexico, 1998
Specialty in Pediatrics, San Juan City Hospital, 2002

Pagán-Mercado, Ketsy L., Assistant Professor
M.D., Guadalajara Autonomy University, School of Medicine, México, 1999

Paoli-Bruno, Jorge, M.D., Assistant Professor
M.D., University of Puerto Rico, Medical Sciences Campus, 1994
Specialty in Family Medicine, University of Puerto Rico, Family Medicine Residency, 1997

Parrilla-Pablos, Maria P., M.D., Assistant Professor
M.D., Universidad Central del Este, San Pedro de Macoris, DR, 1997

Parrilla, Iris, Ph.D, Associate Professor
Ph.D, University of Puerto Rico, 2012

Pérez-Del Pilar, Omar, Ph.D, Assistant Professor and Dean of Admissions and Student Affairs
Ph.D, Clinical Psychology, University of Puerto Rico, 2002

Pesante-Pinto, José L., M.D., Associate Professor
M.D. University of Zaragoza, Spain, 1979
Specialty in Family Medicine, San Pablo Hospital (UCC) 1986

Pizarro-Skerret, Carmen, M.D., Assistant Professor
M.D., Universida Autónoma de Guadalajara, Jalisco, México, 1996

Quiñones-Berríos, Areliz, Ed.D, Instructor
Ed.D., Interamerican University, 2007
MSH, Universidad Central del Caribe, School of Medicine, 1999

Ramos-Rodríguez, Luis, M.D., Associate Professor
M.D., University of Puerto Rico, School of Medicine, 1984
Specialty in Obstetrics and Gynecology, San Juan City Hospital, 1988

Ramos Vargas, Luz N., Ph.D, Assistant Professor
Ph.D, Clinical Psychology, Ponce School of Medicine, 2013
MHSAC, Universidad Central del Caribe, 2008

Reyes-Pulliza, Juan Carlos, Ed.D Assistant Professor
EdD University of Puerto Rico, 2003
MS, University of Puerto Rico, 1990

Reyes-Rosario, Yadira, M.D., Assistant Professor
M.D., Universidad Autónoma de Guadalajara, School of Medicine, México, 2002
Specialty in Family Medicine, Manatí Medical Center Residency Program, 2009

Rivera-Linares, Anthony R., M.D., Instructor
M.D., UCETEC, School of Medicine, Dominican Republic

Rivera-Mercado, Damaris, M.D., Instructor
M.D., Universidad Autónoma de Guadalajara, 2010

Rivera-Riestra, Víctor, M.D., Assistant Professor
M.D., San Juan Bautista, School of Medicine, 2007

Rivera-Rivera, Erika, M.D., Assistant Professor
M.D., Universidad Autónoma de Guadalajara, México, 2004

Rodríguez, Francisco R., M.D., Associate Professor
M.D., Universidad Central del Este, DR, 1979
Specialty in Family Medicine, Hospital (UCC) Bayamón, PR,

Rodríguez-Figueroa, Linnette, Ph.D, Assistant Professor
Ph.D, University of Michigan, Rackham School of Graduate Studies, Michigan, 2008

Rodríguez-Mateo, Carlos, M.D., MPH, Assistant Professor
M.D., Pontificia Universidad Católica Madre y Maestra, DR, 1989

Rodríguez-Pombar, Miriam, M.D., Assistant Professor
M.D., University of Valladolid, Spain, 1991
Specialty in Family Medicine, 2008

Rodríguez-Reyes, Sylvia, M.D., Assistant Professor
M.D., University of Puerto Rico, School of Medicine, 1989
Specialty in Family Medicine, University District Hospital (UPR), 1992

Rodríguez-Rodríguez, Wilbert, M.D., Assistant Professor
M.D., Universidad Autónoma de Guadalajara, 2006

Rodríguez-Vázquez, María de los Angeles, M.D., Assistant Professor
M.D., Ponce School of Medicine, PR., 1990
Specialty in Family Medicine, San Pablo Hospital (UCC) Bayamón, PR, 2000

Rolón-Orengo, Laura, M.D., Assistant Professor
M.D., Universidad de Cadiz, Facultad de Medicina, Spain, 1981

Romero-Ramos, Christian E., MSH, Instructor
MSH, Universidad Central del Caribe, School of Medicine, 2015

Rosa-Toledo, Luis, M.D., Associate Professor
M.D., Universidad Autónoma de Guadalajara, 1989
Specialty in Family Medicine, Dr. Alejandro Otero López Hospital, Manatí, PR, 1994

Santos-Reyes, Héctor O., M.D., MHS, Assistant Professor
M.D., University of Puerto Rico, Medical Sciences Campus, 1980
Specialty in Pediatrics, Dr. Eduardo Garrido Morales Hospital, 1986

Sierra-Quiñonez, Yolanda, M.D., Assistant Professor
M.D., Zaragoza Medical School, 1977
Specialty in Internal Medicine, Bayamón Reginal Hospital, PR, 1982

Suárez, Ramón A., M.D., Professor Emeritus
M.D. University of Puerto Rico, School of Medicine, 1977
Specialty in Family Medicine, University District Hospital (UPR), 1979
Fellowship Faculty Development, University of Illinois, 1981

Tasch-Ramírez, Raymond J., M.D., Instructor
M.D., Universidad Autónoma, Guadalajara, México, 1986
Specialty in Family Medicine, University Hospital Dr. Ramón Ruiz Arnau, 1996

Tavárez-Alarcón, Luis E., M.D., Assistant Professor
M.D., Universidad Central del Este, DR, 1979
Specialty in Family Medicine, Dr. Alejandro Otero López Hospital, Manatí, PR, 1998

Tocuyo, Carmen M., M.D., Assistant Professor
M.D., Universidad Autónoma de Guadalajara, 1987
Specialty in Family Medicine, San Pablo Medical Center, 1994

Toledo-Pérez, Gloria C., M.D., Assistant Professor
M.D., The University of Monterrey, New Leon, Mexico, 2001

Torres-Reyes, Neisa M., M.D., Associate Professor
M.D., Universidad Central del Caribe, School of Medicine, 1995
Specialty in Internal Medicine, University Hospital Dr. Ramón Ruiz Arnau (UCC), 1998
Fellowship Pulmonary Disease, San Juan City Hospital, 2000

Torres-Rivera, Francisco, Ph.D, Assistant Professor
Ph.D, Union Graduate School, Ohio, 1973

Torres-Romero, Luz, M.D., Associate Professor
M.D., Universidad Central del Caribe, School of Medicine, 1983
Specialty in Physical Medicine and Rehabilitation, New York Medical College, NY
Fellowship in Upper and Lower Limb Prosthetics and Orthotics, New York University, NY

Toro, Ismael, M.D., ABFP, ABG, Assistant Professor
M.D., Universidad Central del Caribe, School of Medicine, 1980
Specialty in Family Medicine, Lutheran Medical Center, 1983
Fellowship in Faculty Development, Michigan State University, 1984
Fellowship in Geriatrics, New York University, 1984

Tort-Ortiz, Bernat, Ph.Dc., Instructor
Ph.Dc., Universidad Complutense, Madrid, Spain, (at present)

Vargas-Vidot, José A., M.D., Assistant Professor
M.D., Eugenio María de Hostos University, Dominican Republic, 1986

Velázquez-Valle, Miguel Ali, M.D., Assistant Professor
M.D., University of Puerto Rico, School of Medicine, 2000
Specialty in Family Practice, University of Puerto Rico, School of Medicine, 2003

Vélez Crespo, Michael, MS, Assistant Professor
MS, University of Puerto Rico, 1995

Vera-Muñiz, Carlos J., Instructor
M.D., Universidad Autónima de Guadalajara, 1992
Specialty in Family Medicine, San Pablo Hospital, Bayamón, PR, 1998

Zaldua, Eduardo, M.D., Assistant Professor
M.D., Universidad Central del Caribe, School of Medicine, 1995
Specialty in Family Medicine, Universidad Central del Caribe, SOM, 2006

Department of Internal Medicine

Adorno-Fontánez, José R., M.D., Associate Professor
M.D., Ponce School of Medicine, 2003
Specialty in Internal Medicine,
Fellowship in Pulmonary & Critical Care Medicine, VA Caribbean Healthcare System, PR, 2009

Alequín-Sánchez, Ricardo, M.D., Instructor
M.D., Universidad Autónoma de Guadalajara, México, 2003
Specialty in Internal Medicine, University Hospital Dr. R. Ruiz Arnau, (UCC), 2006

Agosto-Maury, Norma, M.D., Assistant Professor
M.D., Universidad de Valencia, 1993

Andino-Rivas, Ada I., M.D., Associate Professor
M.D., University of Puerto Rico, School of Medicine, 1990
Specialty in Neurology, University District Hospital (UPR) 1994
Fellowship in Clinical Neurophysiology, Veterans Administration Hospital (UPR) 1995

Armaiz-Aponte, Guillermo R., Assistant Professor
M.D., Universidad Central del Caribe, School of Medicine, 1980
Specialty in Internal Medicine, San Juan City Hospital (UPR), 1983

Ayala-Vélez, Iván S., M.D., Assistant Professor
M.D., University of Puerto Rico, School of Medicine, 1987
Specialty in Internal Medicine, University Hospital, 1990
Fellowship in Cardiology, University Hospital, 1994

Bacó, Francis P., M.D., Associate Professor
M.D., University of Puerto Rico, Medical Sciences Campus, 1981
Specialty in Internal Medicine, University District Hospital (UPR) 1984
Fellowship in Endocrinology, Diabetes & Metabolism, University District Hospital (UPR) 1986

Bernal-Cabrero, Delfín, M.D., Assistant Professor
M.D., University of Barcelona, Spain, 1955
Specialty in Internal Medicine, 1958

Benítez-Colón, Carlos R., M.D., Assistant Professor
M.D., Universidad Central del Este, 1982
Specialty in Internal Medicine

Blanco-Franco, Alejandro, M.D., Assistant Professor
M.D., Universidad Autónoma de Guadalaja, México, 2007
Specialty in Internal Medicine, University Hospital Dr. Ramón Ruiz Arnau (UCC) PR, 2012

Cáceres, William, M.D., Associate Professor
M.D., University of Puerto Rico, School of Medicine
Specialty in Internal Medicine
Fellowship in Hematology Oncology

Cantres-Fonseca, Onix J., M.D., Assistant Professor
M.D., University of Puerto Rico, Medical Sciences Campus, 2006
Specialty in Internal Medicine, University District Hospital (UPR) 2009
Fellowship in Pulmonary & Critical Care, VA Caribbean Healthcare System, PR, 2012

Campos-Ruiz, Rafael, M.D., Instructor
M.D., Universidad Central del Caribe, School of Medicine, 1981
Specialty in Internal Medicine, University Hospital Dr. Ramón Ruiz Arnau (UCC), 1984

Carbelleira, David, M.D., Associate Professor
M.D., University of Puerto Rico, Medical Sciences Campus, 1984
Specialty in Internal Medicine, University District Hospital (UPR) 1987

Carrillo-Morales, Sol Melissa, M.D., Assistant Professor
M.D., University of Puerto Rico, Medical Sciences Campus, 2007
Specialty in Internal Medicine, University District Hospital UPR), 2010
Sub-specialty in Infectious Diseases, University District Hospital (UPR) 2011

Carrasquillo, Efraín, M.D., Assistant Professor
M.D., Universidad Central del Caribe, School of Medicine, 1994
Specialty in Internal Medicine, Franklin Square Hospital Center, Baltimore, M.D., 1997
Fellowship in Rheumatology, San Juan City Hospital, 2001

Casal, Jesús R., M.D., Associate Professor
M.D., Universidad Central del Caribe, School of Medicine, 1989
Specialty in Internal Medicine, VA Caribbean Healthcare System, PR
Fellowship in Pulmonary & Critical Care, Veterans Administration Hospital, PR

Catellanos-Martin, Michelle, M.D., Assistant Professor
M.D., Universidad Central del Caribe, School of Medicine, 2011
Specialty in Internal Medicine, University Hospital Dr. Ramón Ruiz Arau (UCC) 2014

Chabrier-Beauchamp, Lissette, M.D., Associate Professor
M.D., University of Puerto Rico, School of Medicine,
Specialty in Dermatology,

Chiesa Cedo, Carlos J., M.D., Assistant Professor
M.D., University of Navarra, Spain, 1972
Fellowship in Hematology-Oncology, University District Hospital (UPR), 1980

Chinea-Martínez, Angel, M.D., Associate Professor
M.D., Universidad de Valencia, Spain, 1980
Specialty in Neurology, San Juan VA and San Juan City Hospital, PR, 1987

Colón-Candelaria, Mayra M., M.D., Associate Professor
M.D., Universidad Central del Caribe, School of Medicine, 1999
Sub-specialty in Infectious Diseases, Veterans Administration Hospital

Colón-Fontánez, Francisco, M.D., Associate Professor
M.D., University of Puerto Rico, School of Medicine,
Specialty in Dermatology

Colón-Quintana, Melba, M.D., Associate Professor
M.D., University of Puerto Rico, School of Medicine, 1980
Specialty in Internal Medicine, University District Hospital (UPR), 1983
Fellowship in Infectious Disease, San Juan VA Medical Center, Puerto Rico, 1985

Correa, María de los Ángeles, M.D., Associate Professor
M.D., Universidad Central del Caribe, School of Medicine, 1981
Specialty in Internal Medicine 1984

Cortés, Carmen, M.D., Associate Professor
M.D., Ponce School of Medicine, 1983

Cruz-Loubriel, Abdiel, M.D., Assistant Professor
M.D., University of Puerto Rico, School of Medicine, 2003
Specialty in Internal Medicine, University District Hospital (UPR), 2006
Fellowship in Gastroenterology, University District Hospital (UPR), 2009

Cruz-Rivera, Carmen L., M.D., Assistant Professor
M.D., University of Puerto Rico, School of Medicine, 1982
Specialty in Dermatology, University District Hospital, UPR, 1987

Cuebas-Rodríguez, Clara E., M.D., Associate Professor
M.D., University of Puerto Rico, School of Medicine, 1983
Specialty in Neurology, University District Hospital (UPR), 1991

De Jesús, Eilyn, M.D., Instructor
M.D., Universidad Autónoma de Guadalajara, México
Specialty in Internal Medicine, University Hospital Dr. Ramón Ruiz Arnau

De La Torre-Lugo, Eneida, M.D., Assistant Professor
M.D., University of Puerto Rico, School of Medicine, 2008
Specialty in Dermalology, University District Hospital (UPR) 2012

Del Río-Rodríguez, Félix G., M.D., Associate Professor
M.D., Universidad Central del Caribe, School of Medicine, 1989
Specialty in Internal Medicine, Maimonides Medical Center, Brooklyn, NY, 1993
Fellowship in Cardiology, Maimonides Medical Center, Brooklyn, NY, 1996

Del Río-Santiago, Valentín, M.D., Associate Professor
M.D., Universidad Central del Caribe, School of Medicine, 2006
Specialty in Internal Medicine, VA Caribbean Healthcare System, 2009
Fellowship in Cardiovascular Disease, VA Caribbean Healthcare System, 2013

Deniz, Juan, M.D., Assistant Professor
M.D., Universidad de Zaragoza, 1976
Specialty in Internal Medicine

Díaz-Hernández, Antonio L., M.D., Associate Professor
M.D., Ponce School of Medicine, 2005
Specialty in Internal Medicine, San Juan VA Medical Center, 2008
Fellowship in Nephrology, San Juan VA Medical Center, 2010

Díaz-Olivo, Rolando, M.D., Associate Professor
M.D., University of Puerto Rico, School of Medicine, 1984
Specialty in Neurology, 1988

Ducoudroy, Samadys, M.D., Assistant Professor
M.D., Ponce School of Medicine, 1992
Specialty in Internal Medicine

Dueño-Carmoega, María I., M.D., Associate Professor
M.D., University of Puerto Rico, School of Medicine
Specialty in Internal Medicine
Fellowship in Gastroenterology

Esponda, Omar L., M.D., Assistant Professor
M.D., Universidad Central del Caribe, School of Medicine, 2006
Specialty in Internal Medicine, University Hospital Dr. Ramón Ruiz Arnau, 2009

Feliciano, Marcos, M.D., Assistant Professor
M.D., University of Puerto Rico, Medical Sciences Campus, 1988
Specialty in Specialty in Internal Medicine

Feliciano-Astacio, Briseida E., M.D., Associate Professor
M.D., University of Puerto Rico, School of Medicine, 1987
Specialty in Internal Medicine, University District Hospital (UPR), 1991
Fellowship in Clinical Neurophysiology, University Hospital (UPR), 1992

Fernández-Santos, Diana, Ed.D., Assistant Professor
E.D., University of Puerto Rico, School of Medicine, 1994

Figueroa, Javier, M.D., Assistant Professor
M.D., University of Puerto Rico, School of Medicine
Specialty in Internal Medicine
Fellowship in Infectious Disease

Figueroa-Robles, José R., M.D., Assistant Professor
M.D., Universidad Iberoamericana, Santo Domingo, DR, 2010
Specialty in Internal Medicine, University Hospital Dr. R. Ruiz Arnau (UCC), 2017

Forastieri-Maldonado, Luis, M.D., Assistant Professor
M.D., University of Puerto Rico, School of Medicine, 1996
Specialty in Internal Medicine

Fuxench, Zelma Z., M.D., Assistant Professor
M.D., University of Puerto Rico, School of Medicine, 1977
Specialty in Internal Medicine, 1980

Galib, Hamid, M.D., Professor
M.D., University of Puerto Rico, School of Medicine, 1972
Specialty in Internal Medicine, University District Hospital (UPR) 1975
Fellowship in Gastroenterology, University District Hospital (UPR) 1977

Garayalde-Cotrones, Glen, M.D., Associate Professor
M.D., University of Puerto Rico, School of Medicine, 1977
Specialty in Neurology, Boston University Hospital, 1982

García-Maldonado, Miosotis, M.D., Assistant Professor
M.D., Universidad Central del Caribe, Medical Science Campus, 2004
Specialty in Anatomic and Clinical Pathology, University of Puerto Rico, Medical Science Campus, 2008

Girón-Morell, Jessie, M.D., Assistant Professor
M.D., Universidad Iberoamericana (UNIBE), Dominican Repubic, 2001
Specialty in Internal Medicine, University Hospital Dr. R. Ruiz Arnau, 2008

Gómez, René, M.D., Associate Professor
M.D., University of Puerto Rico, School of Medicine, 1965
Specialty in Internal Medicine

González-Claudio, Glenda M., M.D., Associate Professor
M.D., Universidad Central del Caribe, School of Medicine, 1993
Specialty in Internal Medicine, VA Caribbean Healthcare System, 1996
Fellowship in Infectious Disease, VA Caribbean Healthcare System, 1999

Guardiola-Rivera, Benjamín R., M.D., Assistant Professor
M.D., Universidad Iberoamericana, Dominican Republic, 2002
Specialty in Internal Medicine, University Hospital Dr. R. Ruiz Arnau, 2007

Gutiérrez-Nuñez, José J., M.D., Associate Professor
M.D., University of Puerto Rico, School of Medicine, 1976
Specialty in Internal Medicine, University District Hospital (UPR), 1979
Fellowship in Infectious Disease, VA Medical Center, 1981

Hernández-Ayala, María I., M.D., Associate Professor
M.D., Universidad de Zaragoza, Spain, 1976
Sub-Specialty in Neurology, University District Hospital (UPR), 1980

Hernández-Castillo, Ricardo A., M.D., Assistant Professor
M.D., Universidad de Monterrey, Nueva León, México, 2004
Specialty in Internal Medicine, Hospital La Concepción, PR, 2009
Fellowship in Pulmonary and Critical Care Medicine, VA Caribbean Healthcare System, PR, 2013

Hunter-Mellado, Robert, M.D., Professor
M.D. University of Puerto Rico, School of Medicine, 1979
Specialty in Internal Medicine, San Juan VA Hospital, 1981
Fellowship Hematology, Medical Oncology, Duke University Medical Center, 1984

Igartúa, Juan M., M.D., Assistant Professor
M.D., Universidad de Zaragoza, Spain, 1976
Specialty in Internal Medicine, Veterans Administration Hospital, PR, 1981
Fellowship in Cardiology, Veterans Administration Hospital, PR, 1983

Jiménez-Rodríguez, Harry, M.D., Assistant Professor
M.D., University of Puerto Rico, School of Medicine, 1972
Fellowship in Endocrinology, University District Hospital (UPR), 1977

Lasa-Imbert, Arnaldo E., M.D., Assistant Professor
M.D., Universidad Central del Caribe, School of Medicine, 2005
Specialty in Internal Medicine, Veterans Administration Hospital, PR, 2008
Fellowship in Gastroenterology and Hepatology, Veterans Administration Hospital, PR, 2011

León-Valiente, Carlos F., M.D., Associate Professor
M.D., Universidad de Barcelona, Spain, 1971
Specialty in Internal Medicine, Veterans Administration Hospital, 1975
Fellowship in Infectious Disease, Veterans Administration Hospital, 1977

Llado-González, Ileana J., M.D., Assistant Professor
M.D., Universidad Pedro Henriquez Ureña (Dominican Republic), 1978
Specialty in Internal Medicine, University District Hospital (UPR), 1982
Specialty in Cardiology, University Hospital, 1984

López, Esteban, M.D., Assistant Professor
M.D., CETEC, Dominican Republic, 1982
Specialty in Internal Medicine

Lozada, Antonio, M.D., Assistant Professor
M.D., American University of the Caribbean, School of Medicine, 2004
Specialty in Internal Medicine, Saint Vincent Catholic Medical Center, NY, 2007

Maldonado-Mercado, Awilda, M.D., Assistant Professor
M.D., University of Puerto Rico, School of Medicine, 1982
Specialty in Internal Medicine, Veterans Administration Hospital, PR, 1985
Fellowship in Hematology Oncology, University District Hospital (UPR) 1987

Marchand, Ernesto, M.D., Professor Emeritus
M.D., St. Louis University, Missouri, 1943
Specialty in Internal Medicine School of Tropical Medicine; San Juan City Hospital (UPR);
Graduate School of Medicine, University of Pennsylvania, 1950
Fellowship in Cardiology, John Sealy Hospital, Fellowship Cardiovascular Diseases, University of Texas, 1951

Martínez, Héctor J., M.D., A, Associate Professor
M.D., University of Puerto Rico, School of Medicine, 2005
Specialty in Internal Medicine, Veteran Administration Medical Center, 2008

Martínez, Johanna L., M.D., Associate Professor
M.D., San Juan Bautista, School of Medicine, Caguas, PR, 2001
Specialty in Internal Medicine, Bronx-Lebanon/Albert Einstein College of Medicine, NY, 2007

Martínez-Souss, Jaime, M.D., Associate Professor
M.D., University of Puerto Rico, School of Medicine
Specialty in Internal Medicine
Fellowship in Gastroenteroloy

Martínez-Ojeda, José A., M.D., Associate Professor
M.D., University of Puerto Rico, School of Medicine, 2001
Specialty in Internal Medicine, University District Hospital, 2004
Fellowship in Cardiology, University District Hospital (UPR) 2008
Fellowship in Interventional Cardiology, Drexel University/Hahnemann Hospital, 2009

Martínó-Morales, Alejandro, M.D., Associate Professor
M.D., University of Puerto Rico, School of Medicine
Specialty in Internal Medicine,
Fellowship in Endocrinology, Diabetes & Metabolism

Mayor-Becerra, Ángel M., M.D., Assistant Professor
M.D., Military University Nueva Granada, Bogotá, Colombia, 1986

Medina, Augusto, M.D., Assistant Professor
M.D., Universidad San Juan Bautista, 1991
Specialty in Internal Medicine, McLaren Regional Medical Center, 1995
Fellowship in Hematology-Oncology, Michigan State University College, 1998

Medina-De Vandroux, Lisa M., M.D., Associate Professor
M.D., Universidad Central del Caribe, School of Medicine, 1990
Specialty in Internal Medicine, University Hospital Dr. Ramón Ruiz Arnau (UCC), 1993

Meléndez-Reyes, Edna G., M.D., Assistant Professor
M.D., Universidad Central del Caribe, School of Medicine, 1988
Specialty in Internal Medicine, San Juan City Hospital (UPR) 1992
Fellowship in Endocrinology, San Juan City Hospital (UPR) 1994

Meléndez-Rosa, Myriam, M.D., Associate Professor
M.D., Universidad Central del Caribe, 1986
Specialty in Internal Medicine, University Hospital Dr. Ramón Ruiz Arnau (UCC),1990 Fellowship in Pneumology, San Juan City Hospital, PR, 1992

Mendoza-Castro, Verónica, M.D., Assistant Professor
M.D., CETEC, Dominican Republic, 1981
Specialty in Internal Medicine

Miranda, Mario C., M.D., Assistant Professor;
M.D., University of Puerto Rico, School of Medicine, 1958
Specialty in Internal Medicine, San Juan VA Hospital, 1967

Miranda-Díaz, Christine, Ph.D., M.P.H., Assistant Professor
Ph.D., in Community Health Promotion and Education, Walden University, College of Health Sciences, 2015
M.P.H., University of Puerto Rico, Medical Sciences Campus, 2007

Mojica-Cosme, José, M.D., Assistant Professor
M.D., Universidad Central del Caribe, School of Medicine, 1985
Specialty in Internal Medicine, University Hospital Dr. Ramón Ruiz Arnau (UCC), 1988

Mojica Preciado, Víctor M., M.D., Assistant Professor
M.D., University of Puerto Rico, School of Medicine, 1989
Specialty in Neurology, University District Hospital (UPR), 1996

Molinary-Fernández, Luis, M.D., Associate Professor
M.D., University of Puerto Rico, School of Medicine, 1987
Specialty in Internal Medicine, University District Hospital, 1990
Subspecialty in Cardiology, Centro Cardiovascular de PR y el Caribe, UPR, School of Medicine, 1994

Montes-Ruiz, Juan, M.D., Associate Professor
M.D., Universidad Central del Caribe, School of Medicine, 1980
Specialty in Internal Medicine, University Hospital Dr. Ramón Ruiz Arnau (CEA), 1983

Morales, José A., M.D., Associate Professor
M.D., Universidad Autónoma de Guadalajara, 1978
Specialty in Internal Medicine, San Juan City Hospital, 1984

Nazario, Sylvette, M.D., Assistant Professor
M.D., University of Puerto Rico, School of Medicine
Specialty in Internal Medicine
Fellowship in Allergy & Immunology

Nieves-Rivera, Erick G., M.D., Assistant Professor
M.D., National University Pedro Hernández Ureña, School of Medicine, DR, 1984
Specialty in Internal Medicine, Mayaguez Medical Center, PR, 1993

Noriega, Ángel, M.D., Associate Professor
M.D., Universidad Autónoma de Santo Domingo, 1968
Specialty in Neurology, University Hospital, 1973
Fellowship in Electroencephalography, Indiana University, 1975

Ortiz, Juan Carlos, M.D., Associate Professor
M.D., Universidad Central del Caribe, School of Medicine, 2004
Specialty in Internal Medicine, University District Hospital (UPR) 2007

Ortiz-Rivera, Damarys, M.D., Assistant Professor
M.D., Universidad Autónoma de Guadalajara, 2000
Specialty in Internal Medicine, Veterans Administration Medical Center, 2004

Ortiz-Rosario, José D., M.D., Assistant Professor
M.D., Universidad Central del Caribe, School of Medicine, 2008
Specialty in Internal Medicine, Veterans Administration Hospital, PR, 2011
Fellowship in Nephrology, Veterans Administration Hospital, 2013

Palacios, Miguel, M.D., Assistant Professor
M.D., Universidad Central del Caribe, School of Medicine, 1980
Specialty in Internal Medicine

Pereyo-Díaz, José E., M.D., Associate Professor
M.D., University of Puerto Rico, School of Medicine, 1998
Specialty in Internal Medicine
Fellowship in Cardiology

Pereyo-Torruellas, José A., M.D., Associate Professor
M.D., University of Maryland, 1959
Specialty in Internal Medicine
Fellowship in Cardiology

Pérez-Echevarria, Tricia B., M.D., Assistant Professor
M.D., University of Puerto Rico, School of Medicine
Specialty in Internal Medicine
Fellowship in Geriatric Medicine

Pérez-Maldonado, Nicolás, M.D., Associate Professor
M.D., University of Puerto Rico, School of Medicine, 1988
Specialty in Internal Medicine

Pérez, Milton, M.D., Associate Professor
M.D., Universidad Central del Caribe, School of Medicine, 1981
Specialty in Internal Medicine, Staten Island Hospital, NY, 1984
Fellowship in Pulmonary Disease, Maimonides Medical Center, Brooklyn, 1986

Pérez Ríos, Rene E., M.D., Assistant Professor
M.D., University of Puerto Rico, School of Medicine, 1981
Fellowship in Cardiology, 1987

Rivera-Pérez, Erik X., M.D., Assistant Professor
M.D., Universidad Central del Caribe, School of Medicine, 2009
Specialty in Internal Medicine, University Hospital Dr. Ramón Ruiz Arnau, 2012

Quiñones-Bayron, Jacobo E., M.D., Assistant Professor
M.D., San Juan Bautista, School of Medicine, 1998
Specialty in Internal Medicine, Hospital de la Concepción, San Germán, PR, 2003

Quintero, Aida, M.D., Assistant Professor
M.D., University of Puerto Rico, School of Medicine, 1985
Specialty in Internal Medicine

Ramírez-Rivera, José, M.D., Professor
M.D., Yale University, 1953
Specialty in Internal Medicine,

Reyes, Meilyn, M.D., Associate Professor
M.D., University of Puerto Rico, School of Medicine, 2003
Specialty in Internal Medicine, Louisiana State University, New Orleans, LA, 2006

Rivera, Ángel, M.D., M.D., Assistant Professor
M.D., University of Puerto Rico, School of Medicine, 1965
Specialty in Internal Medicine

Rivera-Del Río, José R., M.D. Associate Professor
M.D., Universidad Nacional Pedro Henríquez Ureña, 1972
Specialty in Internal Medicine, San Juan V.A. Hospital, 1981
Fellowship in Cardiology, San Juan V.A. Hospital, 1993

Rivera-Vallés, José A., M.D., Assistant Professor
M.D., Universidad Autónoma de Guadalajara, México, 2000
Specialty in Internal Medicine, University Hospital Dr. R. Ruiz Arnau, 2009

Rodríguez-Monge, Steven, M.D., Assistant Professor
M.D., CETEC, Dominican Republic, 1984
Specialty in Internal Medicine

Rodríguez-Monge, Edgardo, M.D., Assistant Professor
M.D., San Juan Bautista School of Medicine, 1991
Specialty in Internal Medicine

Rodríguez, Porfirio, M.D., Assistant Professor
M.D., University of Puerto Rico, School of Medicine, 1988
Fellowship in Neurology, University District Hospital (UPR), 1992

Rodríguez-Cruz, Gilda, M.D., Assistant Professor
Specialty in Internal Medicine
Rodríguez-Olavarri, Enrique J., M.D., Instructor
M.D., Universidad de Salamandra, 1987
Specialty in Internal Medicine

Rodríguez-Cintrón, William, M.D., Professor
M.D., University of Puerto Rico, School of Medicine, 1983
Specialty in Internal Medicine, Veterans Administration Hospital, 1987
Fellowship in Pulmonary & Critical Care Medicine, Baylor College of Medicine
Affiliated Hospitals, 1991

Rodríguez-Ospina, Luis F., M.D., Assistant Professor
M.D., University of Puerto Rico, School of Medicine, 1991
Specialty in Internal Medicine, VA Medical Center, 1994
Fellowship in Cardiovascular Diseases, VA Medical Center, 1997

Rodríguez-Vila, Orlando, M.D., Associate Professor
M.D., University of Puerto Rico, School of Medicine, 1991
Specialty in Internal Medicine, Beth Israel Hospital, Boston, 1994
Fellowship in Cardiovascular Diseases, Beth Israel Hospital, 1997

Rodríguez, Wilmer, M.D., Associate Professor
M.D., University of Puerto Rico, School of Medicine, 1979
Specialty in Internal Medicine, Veterans Administration Hospital, 1982
Fellowship in Gastroenterology, University of Colorado Health Sciences Center, Denver, 1984

Rosado, Angelo, M.D., Assistant Professor
M.D., Universidad Nacional Pedro Henríquez Ureña, 1989
Specialty in Internal Medicine, La Concepción Hospital, 1994
Fellowship in Endocrinology and Metabolism, San Juan Municipal Hospital, 1997

Rosado-Rodríguez, Carlos S., M.D., Associate Professor
M.D., University of Puerto Rico, Medical Science Campus, 1985
Specialty in Internal Medicine, San Juan VA Medical Center, PR, 1988
Fellowship in Nephrology, San Juan VA Medical Center, 1990

Ruiz-Candelaria, Yelitza, M.D., Assistant Professor
M.D., Universidad Central del Caribe, School of Medicine, 2001
Specialty in Internal Medicine, University District Hospital (UPR), 2004
Fellowship in Hematology/Oncology, Veteran Administration Hospital, 2008

Ruiz-Ramos, Juan, M.D., Associate Professor
M.D., Universidad Central del Caribe, School of Medicine, 1984
Specialty in Internal Medicine, St. Michael's Medical Center (New Jersey) 1989

Salgado-Vila, Norma, M.D., Associate Professor
M.D., Universidad Autónoma de Guadalajara, México, 1999
Specialty in Internal Medicine in San Juan VA Medical Center, 2004
Fellowship in Hematology/Oncology, San Juan Municipal Hospital, 2008
Fellowship in Bone Marrow Transplant, H. Lee Moffitt Cancer Center, FL, 2009

Santana, Arnulfo, M.D., Assistant Professor
M.D., CETEC, Dominican Republic, 1982
Specialty in Internal Medicine

Santiago, Ivonne, M.D., Assistant Professor
M.D., Universidad Autónoma de Guadalajara, 1988
Specialty in Internal Medicine

Santiago-Rodríguez, Eduardo, MPH, Instructor
MPH in Epidemiology, University of Puerto Rico, Medical Sciences Campus, 2010

Santiago-Sánchez, Michellealdema, M.D., Associate Professor
M.D., Universidad Central del Caribe, School of Medicine, 2005
Specialty in Internal Medicine, Veterans Administration Hospital, PR, 2008

Santos, Eladio, M.D., Associate Professor
M.D., University of Puerto Rico, School of Medicine, 1985
Specialty in Internal Medicine, 1992
Fellowship in Endocrinology Diabetes and Metabolism, 1995

Santori, Renato, M.D., Assistant Professor
M.D., University of Pavia, Italia, 1964
Specialty in Internal Medicine

Silva-Bermúdez, Juan, M.D., Instructor
M.D., Universidad Central del Caribe, School of Medicine, 2007
Specialty in Internal Medicine, University Hospital Dr. Ramón Ruiz Arnau (UCC) 2012

Soler-Ramírez, Ricardo J., M.D., Assistant Professor
M.D., Universidad Autónoma de México
Specialty in Internal Medicine

Toro, Aníbal, M.D., Assistant Professor
M.D., Universidad Central del Caribe, School of Medicine, 1997
Specialty in Internal Medicine, V A Caribbean Healthcare System, PR, 1986
Fellowship in Gastroenterology, University District Hospital (UPR) 1988

Toro, Doris H., M.D., Professor
M.D., University of Puerto Rico, School of Medicine, 1983
Specialty in Internal Medicine, Veterans Administration, 1986
Fellowship in Gastroenterology, University District Hospital, 1988

Torres-Berríos, Damarys, M.D., Assistant Professor
M.D., Universidad Central del Caribe, School of Medicine, 1994
Specialty in Neurology, University District Hospital (UPR), 1998

Torres-Palacios, José E., M.D., Associate Professor
M.D., Universidad Central del Caribe, School of Medicine, 2004
Specialty in Internal Medicine, Veterans Administration Hospital (PR) 2007
Fellowship in Pulmonary and Critical Care, Veterans Administration Hospital, 2010

Torres-Talavera, Magaly, MS., Instructor
MS, Interamerican University, Metropolitan Campus, PR, 2004

Vallejo, Nelson, M.D., Assistant Professor
M.D., Universidad de Salamanca, 1987
Specialty in Internal Medicine

Vargas, Vivianne Marie, M.D., Assistant Professor
M.D., Universidad Central del Caribe, School of Medicine, 2000
Specialty in Internal Medicine, Veterans Administration Medical Center, 2003

Vázquez-Díaz, María M., M.D., Assistant Professor
M.D., Universidad Iberoamericana (UNIBE) DR, 2001
Specialty in Internal Medicine, University Hospital Dr. Ramón Ruiz Arnau (UCC) 2008

Vázquez-Medina, Juan M., M.D., Assistant Professor
M.D., Universidad Autónoma Guadalajara (México) 1976
Specialty in Internal Medicine, Ponce District Hospital, 1981
Fellowship in Hematology-Oncology, Roswell Park Memorial Institute, 1983

Velázquez, Roberto K., M.D., Associate Professor
M.D., Universidad de Guadalajara, Jalisco, México, 2004
Specialty in Internal Medicine, Hospital de la Concepción, San Germán, PR, 2010

Vendrell, Roberto M., M.D., Assistant Professor
M.D., University of Puerto Rico, School of Medicine, 2001
Specialty in Internal Medicine, University of Texas, Southwestern Medical Center, 2004
Fellowship in Gastroenterology, University District Hospital (UPR), 2009

Vidal-Cardona, Ana, M.D., Assistant Professor
M.D., University of Puerto Rico, School of Medicine
Specialty in Internal Medicine
Fellowship in Neurology

Vilá-Pérez, Salvador, M.D., Professor
M.D., University of Puerto Rico, School of Medicine, 1976
Specialty in Internal Medicine, Cleveland Clinic, 1979
Research Fellow, Cleveland Clinic, 1980
Fellowship in Rheumatology, University of Texas, 1983

Vila-Rivera, Karina, M.D., Assistant Professor
M.D., Universidad Central del Caribe, School of Medicine, 2005
Specialty in Internal Medicine, University Hospital Dr. Ramón Ruiz Arnau, 2009
Sub-specialty in Rheumalogy, University District Hospital (UPR) 2012

Villafañe-San Inocencio, Edwin, M.D., Associate Professor
M.D., Universidad Nacional Pedro Henríquez Ureña (Dominican Republic), 1977
Specialty in Internal Medicine, San Juan V.A. Hospital, 1982

Viñuelas-Cabezas. Angel, M.D., Ph.D., Assistant Professor
M.D., Universidad Autónoma de Madrid, Spain, 1994
Ph.D in Neurocience, Universidad Autónoma de Madrid, Spain, 2002
Specialty in Neurology, University District Hospital, 2010
Fellowship in Movement Disorders, Columbia University/New York Presbyterian, 2015

Zavala-Rivera, Manuel A., M.D., Associate Professor
M.D., Ponce School of Medicine, 1992
Specialty in Internal Medicine, Veterans Administration Hospital, PR, 1995

Department of Obstetrics and Gynecology

Ashby-Vilá, Sheila, M.D., Associate Professor
M.D., Universidad Central del Caribe, School of Medicine, 2005
Specialty in Obstetrics and Gynecology, San Juan City Hospital, 2009

Álvarez-Pérez, Jesús, M.D., Associate Professor
M.D., Universidad Central del Caribe, School of Medicine, 2000
Specialty in OB/Gyn, UM.D. New Jersey Medical School, 2004
Fellowship in Maternal Fetal Medicine, UM.D. New Jersey, Medical School, 2007

Beauchamp, Pedro J., M.D., Associate Professor
M.D., University of Puerto Rico, School of Medicine, 1976
Specialty in Obstetrics and Gynecology, Johns Hopkins Hospital, Baltimore, Maryland, 1980
Fellowship in Reproductive Endocrinology and Infertility, University Hospital of Pennsylvania, 1982

Benabe-González, Erika M., Associate Professor
M.D., Universidad Central del Caribe, School of Medicine, 2003
Specialty in Obstetrics and Gynecology, San Juan City Hospital, 2007

Bonnin-Surís, María E., M.D., Assistant Professor
M.D., Universidad Central del Caribe, School of Medicine, 2004
Specialty in Obstetrics and Gynecology, San Juan City Hospital, 2008

Cruzado, Gustavo, M.D., Associate Professor
M.D., Universidad Central del Caribe, School of Medicine, 2000
Specialty in OB/Gyn

Del Toro, Iván, M.D., Assistant Professor
M.D., University of Puerto Rico, School of Medicine, 1976
Specialty in OB/Gyn, University District Hospital (UPR), 1980

Díaz, Rodrigo, M.D., Associate Professor
M.D. University of Puerto Rico, School of Medicine, 1989
Specialty in OB/Gyn, San Juan City Hospital, PR, 1994

Escobar, Pedro F., M.D., Associate Professor
M.D., University of Puerto Rico, School of Medicine, 1998
Specialty in Ob/Gyn, Northwestern University, Chicago, IL, 2002

Figueroa-De Los Reyes, Rafael, M.D., Associate Professor
M.D., Universidad Autónoma de Guadalajara, 1983
Specialty in OB/Gyn, San Juan City Hospital Medical Center, 1986

Fonseca-Salgado, Carlos A., M.D., Assistant Professor
M.D., Universidad Central del Caribe, School of Medicine, 2002
Specialty in Obstetrics and Gynecology, San Juan City Hospital, 2005

Fraguada-Reyes, Ángel L., M.D., Assistant Professor
M.D., Universidad Central del Caribe, School of Medicine, 1985
Specialty in OB/Gyn, San Juan City Hospital, 1991
Fellowship in ACOG
Board Certified

Gelpi-Guzmán, Angel L., M.D., Associate Professor
M.D., Universidad Central del Caribe, School of Medicine, 1983
Specialty in OB/Gyn, University District Hospital (UPR) 1987

González-Recio, Ailed, M.D., Associate Professor
M.D., University of Puerto Rico, School of Medicine, 1979
Specialty in OB/Gyn, University District Hospital (UPR), 1983

Llorens-Martínez, Amaury, M.D., Assistant Professor
M.D., Universidad Central del Caribe, School of Medicine, 1994
Specialty in Ob/Gyn, San Juan Municipal Hospital, 1999
Fellowship in Reproductive Endocrinology and Infertility, New Jersey Medical School, 2002

Márquez-Goyco, Cecile, M.D., Assistant Professor
M.D., Universidad Autónoma de Guadalajara, 1977
Specialty in Obstetrics and Gynecology, Caguas Regional Hospital, PR, 1982
Fellowship in Pediatric & Adolescent Gynecology, Harvard Medical School, 1983

Martín-Rodríguez, José C., M.D., Assistant Professor
M.D., University of Puerto Rico, School of Medicine, 1994
Specialty in OB/Gyn, San Juan District Hospital, 1998
Board Certified

Méndez-Mártir, Celia G., M.D., Assistant Professor
M.D., Universidad Central del Caribe, School of Medicine, 1989
Specialty in OB/Gyn, Catholic Medical Center of Brooklyn & Queens, 1993

Muñiz-Vélez, Eduardo J., Associate Professor
M.D., Universidad Central del Caribe, School of Medicine, 1994
Specialty in OB/Gyn, University District Hospital, 1999

Ortiz-Roque, Carmen, M.D., Associate Professor
M.D., University of Puerto Rico, School of Medicine, 1986
Specialty in OB/Gyn, Brookdale Hospital Medical Center, NY, 1994

Pérez, Lianette M., M.D., Associate Professor
M.D., Ponce School of Medicine, 1996
Specialty in OB/Gyn, Ponce University Hospital, 2000

Rodríguez-Millayes, Héctor J., M.D., Assistant Professor
M.D., Universidad Central del Caribe, School of Medicine, 2001
Specialty in OB/Gyn, San Juan City Hospital, PR, 2005

Salgado-Moráles, Juan L., M.D., Associate Professor
M.D., Universidad Central del Caribe, School of Medicine, 1984
Specialty in OB/Gyn, Caguas Regional Hospital Dr. Eduardo Garrido, 1989
Salgueiro-Bravo, Jesúsmanuel, M.D., Assistant Professor
M.D. Universidad Central del Caribe, School of Medicine, 1997
Specialty in OB/Gyn, University District Hospital (UPR), 2001

Serrano-Isern, Alfonso, M.D., Associate Professor
M.D., Ponce School of Medicine, 1985
Specialty in OB/Gyn, San Juan City Hospital, 1989

Vélez-Rodríguez, Herminio, M.D., Assistant Professor
M.D., Universidad Central del Caribe, School of Medicine, 1987
Specialty in Obstetrics and Gynecology, Mayaguez Medical Center, PR, 1992

Zweig, María E., M.D., Associate Professor
M.D., Universidad Central del Caribe, School of Medicine, 1983
Specialty in Obstetrics and Gynecology, Jackson Memorial Hospital, Miami, FL, 1987

Department of Pediatrics

Agosto-Pérez, Mariely, M.D., Assistant Professor
M.D., University of Puerto Rico, School of Medicine, 1993
Residency in Pediatrics, University Pediatric Hospital (UPR) 1996

Alvelo-Santiago, Jesús M., M.D., Assistant Professor
M.D., Universidad Central del Caribe, School of Medicine, 1980
Specialty in Pediatrics,

Báez-Rivera, Emilio, M.D., Associate Professor
M.D., University of Puerto Rico, Medical Science Campus, 1991
Specialty in Pediatrics, University Pediatric Hospital (UPR), 1994
Fellowship in Pediatric Critical Care, University Pediatric Hospital (UPR), 1997

Cantellops-Montalvo, José M., M.D., Assistant Professor
M.D., Universidad Nacional Pedro Henriquez Ureña, RD, 1987
Specialty in Pediatrics, University Hospital Dr. Ramón Ruiz Arnau, 1990

Clavel-Rodríguez, Luis, M.D., Professor
M.D., University of Puerto Rico, School of Medicine, 1976
Specialty in Pediatrics, University of California Davis, School of Medicine, 1978
Fellowship in Hematology-Oncology, Children's Hospital Medical Center, Boston, & Sidney Farber Cancer Institute, 1980

Colón-Pérez, Ivette, M.D., Associate Professor
M.D., University of Puerto Rico, School of Medicine, 1994
Specialty in Pediatrics, 1997

Cotto-Rodríguez, Roalba, M.D., Assistant Professor
M.D., Universidad Central del Este San Pedro de Macorís, RD, 1985
Specialty in Pediatrics, University Hospital Dr. Ramón Ruiz Arnau, 2007

Cuevas-Marrero, Javier, M.D., Assistant Professor
M.D., Universidad Central del Caribe, 1997
Specialty in Pediatrics, 2000

De Jesús-Pagán, Brenda M., M.D., Associate Professor
M.D., Ponce School of Medicine, 1997
Specialty in Pediatrics, San Juan City Hospital, 2000

Delgado-Marrero, Maribel, M.D., Assistant Professor
M.D., University of Puerto Rico, School of Medicine, 1997
Specialty in Pediatrics, University Pediatric Hospital (UPR), 2000

Deseda, Carmen, M.D., Associate Professor
M.D., Universidad Central del Caribe, School of Medicine, 1980
Specialty in Pediatrics, San Pediatrics Hospital (UPR)

Díaz-Pinto, Héctor F., M.D., Associate Professor
M.D., University of Puerto Rico, School of Medicine, 1976
Specialty in Pediatrics, San Juan City Hospital, PR, 1983

Figueroa, Wanda, M.D., Associate Professor
M.D., University of Puerto Rico, School of Medicine, 1986
Specialty in Pediatrics, Dr. Eduardo Garrido Morales Regional Hospital, 1989

Freyre-González, Nylsa, M.D., Assistant Professor
M.D., Universidad Central del Caribe, School of Medicine, 1981
Specialty in Pediatrics,

García-Contreras, Frances, M.D., Associate Professor
M.D., University of Puerto Rico, School of Medicine, 1973
Specialty in Pediatrics, University District Hospital (UPR), 1976

González-Rodríguez, Rafael, M.D., Assistant Professor
M.D., University of Puerto Rico, School of Medicine, 1983
Specialty in Pediatrics, Mount Sinai, School of Medicine, 1986
Subspecialty in Nephrology, Health Sciences Medical Center, SUNY, Brooklyn, 1990

Irizarry, Luis, M.D., Associate Professor
M.D., Universidad de Zaragoza, 1984
Specialty in Pediatrics, University Hospital Dr. Ramón Ruiz Arnau (UCC), 1999

Laó-Vélez, Carlos, M.D., Professor
M.D., University of Puerto Rico, School of Medicine, 1971
Specialty in Pediatrics, University District Hospital (UPR), 1974
Fellowship Pediatrics Neurology, John Hopkins Hospital, Baltimore, 1977

López-Martínez, Annette Y., Assistant Professor
M.D., Universidad Central del Caribe, School of Medicine, 2005
Specialty in Pediatrics, University Pediatrics Hospital (UPR) 2008
Fellowship in Pediatric Rheumatology, Cincinnati Children's Medical Center, 2011

Malavé-Félix, Leila V., M.D., Associate Professor
M.D., Universidad Autónoma de Barcelona, Spain, 1976
Specialty in Pediatrics, University Pediatric Hospital (UPR), 1980

Malavé-Rodríguez, Marisol, M.D., Assistant Professor
M.D., University of Puerto Rico, Medical Science Campus, 1998
Specialty in Pediatrics, University Pediatric Hospital (UPR), 2001

Martínez-Santiago, Glenda, Associate Professor
M.D., Universidad Central del Caribe, School of Medicine, 1989
Specialty in Pediatrics, University Pediatric Hospital (UPR), 1992

Montañez-Ramos, Víctor M., M.D., Assistant Professor
M.D., Universidad Autónoma de Guadalajara, México, 1987
Specialty in Pediatrics, San Juan City Hospital, 1996

Ochoa-Bacallao, Eduardo, M.D., Associate Professor
M.D., Universidad Central del Caribe, School of Medicine, 1980
Specialty in Pediatrics, San Juan City Hospital, 1983
Fellowship in Pediatric Critical Care, University Pediatric Hospital, 1984

Ponce-Paredes, Guillermo, M.D., Associate Professor
M.D., Federico Villarreal National University, School of Medicine, Peru
Specialty in Pediatrics, San Juan City Hospital, 2004

Puig-Ramos, Gilberto, M.D., Assistant Professor
M.D., University of Puerto Rico, School of Medicine, 1987
Specialty in Pediatric Critical Care, 1993

Quintero-Del Río, Ana I., M.D., MPH. Associate Professor
M.D., San Juan Bautista, School of Medicine, 1989
Specialty in Pediatrics, University Hospital Dr. R. Ruiz Arnau, 1993
Fellowship in Pediatric Rheumatology, UT Southwestern Medical Center, TX 1997
Post Doctor Research Fellowship, Oklahoma Medical Research Foundation &
OU Medical Center, Department of Arthritis and Immunology, OK, 1999
MPH, in Epidemiology, Oklahoma University Health Science Center, OK, 2004

Reyes-Díaz, Clara N., M.D., Associate Professor
M.D., University of Puerto Rico, Medical Science Campus, 1980
Specialty in Pediatrics, University Pediatric Hospital, 1983
Fellowship in Hematology and Oncology, University District Hospital (UPR), 1986

Rodríguez-Irizarry, José G., M.D., Professor, President and Dean of Medicine
M.D., Ponce School of Medicine, 1983
Specialty in Pediatrics, University Hospital Dr. Ramón Ruiz Arnau (UCC), 1986

Rodríguez-Cruz, Sandra, M.D., Assistant Professor
M.D., University of Puerto Rico, Medical Science Campus, 1986
Specialty in Pediatrics, University Pediatric Hospital (UPR), 1989

Rullán-Spallone, Grace, M.D., Assistant Professor
M.D., Universidad Central del Caribe, 1984
Subspecialty in Pediatrics, University Hospital Dr. Ramón Ruiz Arnau (UCC), 1988

Sánchez-Longo, Mercedes, M.D., Assistant Professor
M.D., Universidad Católica Madre y Maestra, Santiago de los Caballeros, 1981
Specialty in Pediatrics, University Hospital Dr. Ramón Ruiz Arnau (UCC), 1988
Fellowship in Electroensephalogy and Clinical Neuro-Physiology, 1990

Sánchez-Lugo, Fermin, M.D., Professor
M.D., University of Puerto Rico, School of Medicine, 1970
Specialty in Pediatrics, University Pediatrics Hospital, 1975
Fellowship Pediatric Endocrinology, University District Hospital (UPR), 1977

Sastre, Eduardo, M.D., Associate Professor
M.D., Universidad Central del Caribe, School of Medicine, 1982
Specialty in Pediatrics

Serrano-Oyola, Edna, M.D., Assistant Professor
M.D., Universidad Autónoma de Guadalajara, School of Medicine 1986
Specialty in Pediatrics, 1993
Fellowship in Adolescentology, 1995

Suárez-Martínez, Carmen I., M.D., Assistant Professor
M.D., Universidad Central del Caribe, School of Medicine, 1989
Specialty in Pediatrics, Maimonides Medical Center, 1992

Vera-Arocho, Antonio A., M.D., Assistant Professor
M.D., Universidad Autónoma de Guadalajara, Mexico, 1980
Specialty in Pediatrics, San Juan City Hospital, 1986

Zaragoza-Díaz, Elizabeth, M.D., Assistant Professor
M.D., Universidad Central del Este, San Pedro de Macorís, 1984
Specialty in Pediatrics, San Juan City Hospital, 1993

Department of Physical Medicine and Rehabilitation

Acevedo, William, M.D., Associate Professor
M.D., Universidad Central del Caribe, School of Medicine, 1987
Specialty in Physical Medicine and Rehabilitation, San Juan VA Medical Center, 1991

Arroyo, Mara, M.D., Associate Professor
M.D., Universidad Central del Caribe, School of Medicine, 1987
Specialty in Physical Medicine and Rehabilitation, San Juan VA Medical Center, 1991

Avilés-Guzman, Xavier, M.D., Associate Professor
M.D., Universidad Central del Caribe, School of Medicine, 1995
Specialty in Physical Medicine and Rehabilitation, Emory University, Georgia, 1999

Borrás, Isabel C., M.D., Associate Professor
M.D., Universidad Central del Caribe, School of Medicine, 1994
Specialty Combined Program in Internal Medicine and Rehabilitation, 1999

Cintrón-Rodríguez, Ana Virginia, M.D., FAAPMR, Associate Professor
M.D., University of Puerto Rico, School of Medicine, 1980
Specialty in Physical Medicine and Rehabilitation, San Juan VA Medical Center, 1987

Cruz-Jiménez, Maricarmen, M.D., Associate Professor
M.D., Universidad Central del Caribe, School of Medicine, 1994
Specialty in Physical Medicine and Rehabilitation, San Juan VA Medical Center, 1998

Cuadrado-Pereira, Marianela, M.D., Associate Professor
M.D., University of Puerto Rico, School of Medicine, 1999
Specialty in Physical Medicine and Rehabilitation, San Juan VA Medical Center, 2003

Hernández-González, Liza M., M.D., Associate Professor
M.D., University of Puerto Rico, School of Medicine, 2002
Specialty in Physical Medicine and Rehabilitation, University District Hospital (UPR), 2006
Fellowship in Pain Medicine and Palliative Care, Beth Israel Medical Center, NY, 2007

Jiménez-Figueroa, Anabel, M.D., Associate Professor
M.D., University of Puerto Rico, School of Medicine, 2001
Specialty in Physical Medicine and Rehabilitation, Tufts New England Medical Center, MA, 2005

Morales-López, Irma I., M.D., Associate Professor
M.D., Universidad del Este, Dominican Republic, 1980
Specialty in Physical Medicine and Rehabilitation, San Juan VA Medical Center, 1996

Motta-Valancia, Keryl, M.D., Associate Professor
M.D., University of Puerto Rico, School of Medicine, 1998
Specialty in Physical Medicine and Rehabilitation, San Juan VA Medical Center, 2002

Rodríguez-Campos, Marimie, M.D., Associate Professor
M.D., Universidad Central del Caribe, School of Medicine, 2003
Specialty in Physical Medicine and Rehabilitation, University District Hospital (UPR), 2007
Fellowship in Interventional Pain Medicine, Beth Israel Medical Center, NY, 2008

Soto-Quijano, David A., M.D., Associate Professor
M.D., University of Puerto Rico, School of Medicine, 1996
Specialty in Physical Medicine and Rehabilitation, University District Hospital (UPR), 2000
Fellowship in Musculoskeletal and Sports Medicine, Baylor College of Medicine, Texas, 2004

Torres-Rivera, Anelys, M.D., Associate Professor
M.D., University of Puerto Rico, School of Medicine, 1986
Specialty in Physical Medicine and Rehabilitation, San Juan VA Medical Center, 1990

Department of Psychiatry

Allmodovar-Sánchez, William, M.D., Assistant Professor
M.D., Ponce School of Medicine, 2001
Specialty in Psychiatric, Veterans Administration Hospital, 2006

Alicea-Rosado, Dhilma L., M.D., Assistant Professor
M.D., University of Puerto Rico, School of Medicine, 1994
Specialty in Psychiatry, University District Hospital (UPR), 1998

Alvarado-Espada, Luis R., M.D., Assistant Professor
M.D., Universidad Iberoamericana de Santo Domingo, DR, 2008
Specialty in University of Puerto Rico, Medical Sciences Campus, 2015
Fellowship in Addiction Psychiatry, VA Caribbean Healthcare System, 2018

Arroyo, Lillian M., Assistant Professor
M.D., University of Puerto Rico, School of Medicine, 1985
Specialty in Psychiatry, Veterans Administration Hospital (UPR) PR, 1989

Berríos-Merced, Joalmi, M.D., Assistant Professor
M.D., Universidad Central del Caribe, School of Medicine, 1999
Specialty in Psychiatry, University District Hospital (UPR) 2006

Berrios-Reyes, Sylvia, M.D., Assistant Professor
M.D., University of Puerto Rico, Medical Sciences Campus, 2006
Specialty in Psychiatry, University of Puerto Rico, Medical Sciences Campus, 2010

Brito-Medina, Carmen, M.D., Assistant Professor
M.D., Universidad Iberoamericana, DR, 2003
Specialty in Psychiatry, University of Puerto Rico, Medical Sciences Campus, 2010

Cardona-Medina, Dodanid, M.D., Assistant Professor
M.D., Universidad Central del Caribe, School of Medicine, 1999
Specialty in Psychiatry, Albert Einstein Medical Center, Penn, 2002
Fellowship in Child and Adolescent Psychiaty, University of Pennsylvania, 2004

Caro-Pérez, Osvaldo, M.D., Instructor
M.D., University of Puerto Rico, School of Medicine, 1989
Specialty in Psychiatry, University Hospital, 1993

Cott-Dorta, Héctor M., M.D., Assistant Professor
M.D., San Juan Bautista School of Medicine, 2000
Specialty in Psychiatry, San Juan Bautista Medical Center, 2004

Del Valle-Rodríguez, Benjamín, M.D., Instructor
M.D., Universidad Nordestana, San Francisco de Macorís, DR, 1985
Specialty in Psychiatry, Puerto Rico Institute of Psychiatry, 2002

Entenza-Cabrera, Fernando, M.D., Associate Professor
M.D., University of Puerto Rico, School of Medicine, 1990
Specialty in Psychiatry, University District Hospital (UPR), 1994
Fellowship in Geriatric Psychiatry, University of Pennsylvania, 1995

Escobar-Roger, Frank F., Assistant Professor
M.D., Universidad Tecnológica de Santiago, Santo Domingo, DR, 1985
Specialty in Psychiatry, Kings County Hospital, Brooklyn, NY, 1998
Fellowship in Child and Adolescent Psychiatry, Kings County Hospital, Brooklyn, NY, 2000

Esparza-Razo, Bogart R., M.D., Assistant Professor
M.D., Universidad Autónoma de Guadalajara, School of Medicine, Mexico, 1989
Specialty in Psychiatry, The Puerto Rico Institute of Psychiatry, 1998

Fors-Rodríguez, Gustavo E., M.D., Assistant Professor
M.D., University of Puerto Rico, Medical Sciences Campus, 20012
Specialty in Psychiatry, University of Puerto Rico, School of Medicine, 2016

Franceschini-Carlo, José A., M.D., Professor and Chairperson
M.D., Universidad Central del Caribe, School of Medicine, 1981
Specialty in Psychiatry, University of Alabama, 1984
Fellowship in Geriatric Psychiatry; University of Alabama, 1985

Franco-Yambo, Glory Ann, M.D., Assistant Professor
M.D., Universidad Central del Caribe, School of Medicine, 2002
Specialty in Psychiatry, University of Puerto Rico, Medical Sciences Campus, 2007

Gutiérrez, Ramón J., M.D., Assistant Professor
M.D., San Juan Bautista School of Medicine, Caguas, PR, 1991
Specialty in Psychiatry, Westchester Medical Center, Michigan, 1994
Fellowship in Child and Adolescent, Westchester Medical Center, Michigan, NY, 1999

Hernández-Almodovar, Maritere, M.D., Assistant Professor
M.D., Ponce School of Medicine, 2008
Specialty in Psychiatry, University of Puerto Rico, School of Medicine, 2012
Ifarraguerri-Gómez, Carlos E., M.D., Instructor
M.D., University of Maryland, 1961
Specialty in Psychiatry, New York State Psychiatric, 1971

Liberatore-Gallardo, Katia, M.D., Assistant Professor
M.D., University of Puerto Rico, School of Medicine, 2005
Specialty in Psychiatry, University of Puerto Rico, School of Medicine, 2010

Maldonado-Santos, Carlos I., M.D., Assistant Professor
M.D., University of Puerto Rico, School of Medicine, 2007
Specialty in Psychiatry, University of Puerto Rico, Medical Sciences Campus, 2011

Martínez-Irizarry, Angel E., M.D., Assistant Professor
M.D., Ponce School of Medicine, 2008
Specialty in Psychiatry, Ponce School of Medicine, 2013

Pérez-Alvarado, Reynaldo J., M.D., Assistant Professor
M.D., San Juan Bautista School of Medicine, Caguas, PR, 2001
Specialty in Psychiatry, San Juan Bautista Medical Center, Caguas, PR, 2005

Pierantoni, Marlene M., M.D,, Assistant Professor
M.D., University of Puerto Rico, School of Medicine, 2004.
Specialty in Psychiatry, James A. Haley & Bay Pines VA Hospital, Tampa General Hospital, 2008
Fellowship in Psychosomatic Medicine and Psycho-Oncology, Memorial Sloan-Kettering Cancer Center, New York Presbyterian Hospital, Weill Medical College of Cornell, NY, 2009

Quiles-Rodríguez, Dinorah, M.D., Assistant Professor
M.D., University of Puerto Rico, School of Medicine, 2003
Specialty in Psychiatry, University of Puerto Rico, School of Medicine, 2008

Ramírez-Ortiz, Beatriz, M.D., Assistant Professor
M.D., Universidad Autónoma de Santo Domingo, 1986
Specialty in Psychiatry, University District Hospital (UPR), 2001
Fellowship in Child and Adolescent Psychiatry, 2002

Reoyo-Ortiz, Zaida, M.D., Instructor
M.D., Universidad Central del Caribe, School of Medicine, 1993
Specialty in Psychiatry, University of Miami, 1997
Fellowship in Geriatric, University of Miami, 1998

Reyes-Rabanillo, María, M.D., Assistant Professor
M.D., Universidad Central del Caribe, School of Medicine, 1996
Specialty in Psychiatry, University District Hospital (UPR) 2005

Rivera-Monserrate, Gretchen, M.D., Assistant Professor
M.D., Universidad Autónoma de Guadalajara, School of Medicine, Mexico, 2006
Specialty in Psychiatry, University of Puerto Rico, School of Medicine, 2012

Rodríguez-Llauger, Anabelle, M.D., Assistant Professor
M.D., University of Puerto Rico, School of Medicine, 1986
Specialty in Psychiatry, Veterans Administration Hospital, 1990

Rodríguez-Maldonado, Justo X., M.D., Assistant Professor
M.D., Universidad del Noroeste, Escuela de Medicina, México, 1999
Specialty in Psychiatry, San Juan Bautista Medical Center, PR, 2004

Román-Ithier, Jan C., M.D., J.D., Assistant Professor
M.D., JD. University of Puerto Rico, School of Medicine and School of Law, 2009
Specialty in Psychiatry, University of Puerto Rico, School of Medicine, 2013
Fellowship in Addiction Psychiatry, University of Pittsburgh Medical Center, 2016

Romero-Medina, Marialba, M.D., Assistant Professor
M.D., Universidad Central del Caribe, School of Medicine, 2007
Specialty in Psychiatry, University of Puerto Rico, Medical Sciences Campus, 2011
Fellowship in Child and Adolescent Psychiatry, Drexel University Colle of Medicine, 2013

Santiago-Luna, Aidarilys, M.D., Instructor
M.D., University of Puerto Rico, School of Medicine, 2000
Specialty in Psychiatry, University District Hospital (UPR), 2003 and
Ponce Health Sciences University, 2013

Santiago-Colón, Jorge, M.D., Instructor
M.D., University of Puerto Rico, School of Medicine, 1995
Specialty of Psychiatry, University District Hospital (UPR), 1999

Soto-Raices, Ohel, M.D., Assistant Professor
M.D., Universidad Central del Caribe, School of Medicine, 1997
Specialty in Psychiatry, University of Florida College of Medicine, 2001
Fellowship in Pediatric Psychiatry, University of Florida College of Medicine &
Affiliated Hospitals, Gainesville, Florida, 2004

Suris-Dávila, Dharma, M.D., Assistant Professor
M.D., Universidad Central del Caribe, School of Medicine, 2005
Specialty in Psychiatry, University of Puerto Rico, Medical Sciences Campus, 2009

Toro-Ruiz, Caroline, M.D., Assistant Professor
M.D., San Juan Bautista, School of Medicine, 2011
Specialty in Psychiatry, VA Caribbean Healthcare System, PR, 2013

Torres, Ana I., M.D., Assistant Professor
M.D., University of Puerto Rico, School of Medicine, 1987
Specialty in Psychiatry, 1991

Torres-Plata, Jaime G., M.D., Assistant Professor
M.D., Universidad Central del Caribe, School of Medicine, 2006
Specialty in Psychiatry, Ponce School of Medicine, VA Medical Center, 2010

Torres-Rodríguez, Alexis, M.D., Assistant Professor
M.D., Universidad Central del Caribe, School of Medicine, 2006
Specialty in Psychiatry, Ponce School of Medicine, 2011
Fellowship in Child and Adolescent Psychiatry, 2013

Troche-Panetto, Michelle, M.D., Assistant Professor
M.D., Universidad Central del Caribe, School of Medicine, 1998
Specialty of Psychiatry, Albany Medical Center, NY, 2002
Fellowship Medical College of Virginia and H.H. McGuire VAMC, Virginia, 2003

Vargas-Nazario, Analicia, M.D., Assistant Professor
M.D., University of Puerto Rico, School of Medicine, 2006
Specialty in Psychiatry, University of Puerto Rico, Medical Sciences Campus, 2010

Vega-Vázquez, Nina M., M.D., Assistant Professor
M.D., Ponce School of Medicine, 2008
Specialty in Psychiatry, Ponce School of Medicine, VA Hospital, 2012
Fellowship in Child and Adolescent Psychiatry, Ponce School of Medicine, VA Hospital, 2013

Department of Radiology

Álvarez-Villar, Carmen, M.D., Assistant Professor
M.D., University of Puerto Rico, School of Medicine, 1981
Specialty in Diagnostic Radiology, University Hospital, 1985

Barreras-Rincón, José, M.D., Assistant Professor
M.D. Universidad Central del Caribe, School of Medicine, 1994
Nuclear Medicine Residency, Christ Hospital, Cincinnati, Ohio, 1998
Specialty in Diagnostic Radiology, Sisters of Charity Medical Center, Saint Vincent's Hospital, 2002

Cruz-Jové, Eva L., M.D., Associate Professor
M.D., University of Puerto Rico, School of Medicine, 1995
Specialty in Diagnostic Radiology, University District Hospital (UPR), 1999

De Choudens, Mercedes, M.D., Assistant Professor
M.D., University of Puerto Rico, School of Medicine, 1988
Specialty in Diagnostic Radiology, University Hospital, 1993

De Jesús, Ricardo, M.D., Associate Professor
M.D., University of Puerto Rico, School of Medicine, 1999
Specialty in Diagnostic Radiology, Christina Care Hospital, Newark, DE, 2005

Estela-Jové, Zoraida E., M.D., Assistant Professor
M.D., Universidad Central del Caribe, School of Medicine, 1997
Specialty in Diagnostic Radiology, University Hospital (UPR), 2002

Matos, Nelson F., M.D., Associate Professor
M.D., University of Puerto Rico, School of Medicine, 2000
Specialty in Diagnostic Radiology, University District Hospital (UPR), 2005
Fellowship in Neuroradiology, Medical College of Georgia, 2006

Marcial-Vega, Víctor A., M.D., Associate Professor
M.D., University of Puerto Rico, School of Medicine, 1984
Specialty in Radiation Oncology, Johns Hopkins University, 1988

Medina-Soto, Rochelly, M.D., Associate Professor
M.D., Universidad Central del Caribe, School of Medicine, 1999
Specialty in Diagnostic Radiology, University District Hospital (UPR), 2004

Polo, Mario J., M.D., Associate Professor
M.D., University of Puerto Rico, School of Medicine, 2004
Specialty in Diagnostic Radiology, Baylor College of Medicine, TX, 2009
Fellowship in Diagnostic and Interventional Neuroradiology, Baylor College of Medicine, 2010
Fellowship in Endovascular & Therapeutic Neuroradiology, The Methodist Neurological Institute, TX 2011

Rivera-Jiménez, Ricardo E., M.D., Associate Professor
M.D., Universidad Central del Caribe, School of Medicine, 1998
Specialty in Diagnostic Radiology, Mount Sinai Medical Center, Florida, 2003
Fellowship in Neuroradiology, University of Miami, Jackson Memorial Hospital, 2004
Fellowship in Musculoskeletal/MRI, Univ. of Miami, Jackson Memorial Hospital, 2005

Vázquez-De Corral, Lorraine, M.D., Associate Professor
M.D., University of Puerto Rico, School of Medicine, 1980
Specialty in Diagnostic Radiology, University Hospital, 1984

Vázquez-Josué, M.D., Associate Professor
M.D., University of Puerto Rico, School of Medicine, 2004
Specialty in Diagnostic Radiology, Massachusetts General Hospital, Boston, MA, 2009
Fellowship in Musculoskeletal Imaging, Massachusetts General Hospital, Boston, MA, 2010

Zalduondo, Fernando, M.D., Associate Professor
M.D., Columbia College of Physicians & Surgeons, 1989
Specialty in Diagnostic Radiology, St. Luke's Roosevelt Hospital Center, 1994
Fellowship in Neuroradiology, Duke University Medical Center, 1995

Department of Surgery

Aponte-López, Luis, M.D., Assistant Professor
M.D., Universidad Central del Caribe, School of Medicine, 1986
Specialty in Surgery Brooklyn Hospital Center, 1991
Fellowship in Cardiovascular, Brooklyn Hospital Center, 1994

Arboleda-Osorio, Bolívar, M.D., Assistant Professor
M.D., University of Puerto Rico, School of Medicine, 1983
Specialty in Surgery, University of Puerto Rico, University Hospital, 1988

Bibiloni, Juan J. M.D., Associate Professor
M.D., University of Puerto Rico, School of Medicine, 1983
Specialty in Orthopedic Surgery, University District Hospital (UPR), 1984

Brau-Ramírez, Ricardo H., M.D., Professor
M.D., University of Puerto Rico, School of Medicine, 1975
Specialty in Neurological Surgery, University of Alabama at Birmingham, 1980U

Calimano, Carlos, M.D., Associate Professor
M.D., University of Puerto Rico, School of Medicine, 1971
Specialty in Surgery, Henry Ford Hospital, Detroit, Michigan, 1976
Fellowship in Vascular Surgery, Henry Ford Hospital, Detroit, Michigan, 1977

Casanova-Rodríguez, Heriberto, M.D., Assistant Professor
M.D., Instituto Sluperior de Ciencias Médicas de la Habana, Cuba, 1986
Specialty in General Surgery, University of Puerto Rico, Medical Sciences Campus, 2016

Debs-Elías, Natalio, M.D., Associate Professor
M.D., University of Puerto Rico, School of Medicine, 1981
Specialty in General Surgery, Affiliated Hospitals University of Puerto Rico, 1986
Fellowship in Burns-Clinical & Research, Southern Illinois University, SOM, 1987
Fellowship in Hand Surgery, University of Connecticut Health Center, 1990

Dubocq, Francisco M., M.D., Assistant Professor
M.D., Universidad Autónoma de Guadalajara, Mexico, 1986
Specialty in General Surgery, University District Hospital (UPR) 1995
Fellowship in Urology, Stanford University Medical Center, 1996
Fellowship in Andrology, Wayne University Medical Center, 1997

Fontánez-Sullivan, Felipe, M.D., Associate Professor
M.D., University of Puerto Rico, School of Medicine, 1980
Specialty in Surgery, University District Hospital (UPR), 1985

García-Ruiz, Manuel, M.D., Associate Professor
M.D., Universidad Santiago de Compostela, Spain, 1974
Specialty in Orthopedic, University District Hospital (UPR), 1980
Fellowship in Pediatric Ortho & Scoliosis, 1981

Giráldez-Rodríguez, Laureano A., M.D., Associate Professor
M.D., University of Puerto Rico, School of Medicine, 2007
Specialty in Surgery, Head & Neck Surgery, University of Puerto Rico, School of Medicine, 2012
Fellowship in Laryngology, Emory University, 2013
Fellowship in Head & Neck Cancer and Microvascular Reconstructive Surgery, Mount Sinai, SOM, 2014

Guerrero, Andrés, M.D., Assistant Professor
M.D., University of Puerto Rico, School of Medicine, 1985
Specialty in Surgery

Gutiérrez-Tabar, Cristella O., M.D., Assistant Professor
M.D., Universidad Autónoma de Santo Domingo, DR, 1961
Specialty in Anesthesiology, University District Hospital (UPR) 1970

Henn, Carmen, M.D., Associate Professor
M.D., Associate Professor, University of Puerto Rico, School of Medicine
Specialty in Surgery

Izquierdo, Natalio J., M.D., Associate Professor
M.D., Ponce School of Medicine, 1986
Specialty in Ophthalmology, University District Hospital (UPR), 1991
Fellowship in Glaucoma and Anterior Segment Laser Surgery,
Georgetown University Medical Center, 1993

Jiménez-Dávila, Christine, M.D., Assistant Professor
M.D., University of Puerto Rico, School of Medicine, 2009
Specialty in General Surgery, University District Hospital (UPR), 2014

Lugo-Piazza, Edwin, M.D., Professor
M.D., Escuela de Medicina de Zaragoza, Spain
Specialty in Neurological Surgery,

Luque-Fontánez, César, Assistant Professor
M.D., University of Puerto Rico, School of Medicine, 2011
Specialty in General Surgery, University District Hospital (UPR), 2016

Maeso, Andres, M.D., Assistant Professor
M.D., Universidad de Madrid, Spain, 1957
Specialty in Surgery, Veterans Administration Hospital, PR 1961
Fellowship in ENT, Medical College of Virginia, 1966

Miranda, Gabriel, M.D., Assistant Professor
M.D., University of Puerto Rico, School of Medicine, 1989
Specialty in Urology, University District Hospital (UPR) 1994

Montañez-Falcón, Rufino, M.D., Assistant Professor
M.D., University of Zaragoza (Spain) 1975
Specialty in Orthopedic Surgery, University Hospital, 1984

Ortiz-Justiniano, Víctor N., M.D., Professor
M.D., University of Puerto Rico, School of Medicine, 1964
Specialty in Pediatric Surgery, Columbus Children's Hospital, 1978

Otero-López, Antonio M., M.D., Assistant Professor
M.D., University of Puerto Rico, School of Medicine, 2003
Specialty in Orthopedic Surgery, University District Hospital (UPR), 2008

Otero-López, Francisco J., M.D., Assistant Professor
M.D., University of Puerto Rico, School of Medicine, 2000
Specialty in Orthopedic Surgery, University District Hospital (UPR), 2005
Fellowship in Arthroscopy & Sports Medicine, Orthopedic Research of Virginia, 2006

Perazza, Elizabeth, M.D., Associate Professor
M.D., University of Puerto Rico, School of Medicine, 1993
Specialty in Surgery

Pérez-De León, Emilio, M.D., Assistant Professor
M.D., University of Puerto Rico, School of Medicine, 1983
Specialty in Surgery, University District Hospital (UPR), 1988

Ramírez-Tánchez, Carlos, M.D., Professor
M.D., Universidad Central del Caribe, 1995
Specialty in General Surgery, 2000

Ramos, Nestor W., M.D., Assistant Professor
M.D., San Andrés University, School of Medicine, Bolivia, 1965
Specialty in Surgery, University District Hospital (UPR), 1977
Fellowship in Pediatric Orthopedic, San Diego, California, 1987
Fellowship Orthoscopic Surgery, Hospital for Joint Diseases, NY, 1989

Ramos-Cruz, Alberto, M.D., Assistant Professor
M.D., University of Sevilla, Spain, 1980
Specialty in Orthopedic and Fracture Surgery, University District Hospital (UPR) 1986

Reyes, Reinaldo, M.D., Assistant Professor
M.D., University of Puerto Rico, School of Medicine, 1993
Specialty in Surgery

Riviere-William, Jean, Assistant Professor
M.D., Universidad Central del Caribe, School of Medicine, 2002
Specialty in Surgery

Rodríguez-Vázquez, Eduardo, M.D., Assistant Professor
M.D., Universidad Central del Caribe, School of Medicine, 1980
Specialty in General Surgery, University District Hospital (UPR), 1987
Fellowship in Hand Surgery, Harford Medical Program, Connecticut, 1998

Rosario-Mendoza, Ricardo, M.D., Assistant Professor
M.D., Universidad Complutense de Madrid (Spain) 1974
Specialty in General Surgery, University District Hospital (UPR), 1980

Rullán, Pedro, M.D. Associate Professor
M.D., University of Puerto Rico, School of Medicine, 1981
Specialty in Surgery

Sánchez-Caso, Luis Pio, Associate Professor
M.D. Universidad Central del Caribe, School of Medicine, 1990
Specialty in Orthopaedics, University of Puerto Rico Affiliated Hospital, 1997
Fellowship in Spine-Scoliosis, The New York Hospital-Cornell Medical Center and MemorialSloan-Kattering Cancer Center, NY, 1998

Santiago-Delpin, Eduardo A., M.D., Professor
M.D., University of Puerto Rico, School of Medicine, 1965
Specialty in General Surgery, University District Hospital (UPR), 1970
Post-Graduate: Transplantation Surgery, University of Minnesota, 1972
Fellowship in Cancer, University District Hospital (UPR)
Special Research Fellow, National Institutes of Health, University of Minnesota, 1972

Santiago, Norma, M.D., Assistant Professor
M.D., University of Puerto Rico, School of Medicine, 1990

Sepúlveda-Abreu, Ramón, M.D., Assistant Professor
M.D., Universidad Santiago de Compostela, Spain, 1975
Specialty in Surgery

Soler-Salas, Antonio H., M.D., Associate Professor
M.D., University of Puerto Rico, School of Medicine, 1983
Specialty in Orthopedic, San Juan City Hospital, 1988
Fellowship in Sport Medicine, Temple University, Philadelphia, 1989

Soltero-Venegas, M.D., J.D., Associate Professor
M.D., University of Puerto Rico School of Medicine, 1985
Specialty in Surgery, University District Hospital –Veterans Administration Med Center (UPR), 1990
J.D., University of Puerto Rico, Law School, 2011

Sorrentino, José, M.D., Assistant Professor
M.D., University of Puerto Rico, School of Medicine, 1986
Specialty in Surgery

Sotomayor-Ramírez, Ramón, M.D., Assistant Professor
M.D., University of Puerto Rico, School of Medicine, 1989
Specialty in Surgery

Suárez-Pesante, Juan R., M.D., Associate Professor
M.D., University of Puerto Rico, School of Medicine, 1988
Specialty in Orthopedic Surgery, University District Hospital (UPR), 1994
Fellowship in Orthopedic Sports Medicine, Houghton Sports Medicine Hospital, Georgia, 1995

Tort-Saadé, Pedro, M.D., Associate Professor
M.D., Universidad Central del Caribe, School of Medicine, 1998
Fellowship in Minimally Invasive Knee and Hip Replacement,
Rush University Medical Center, Chicago, IL. 2005

Vargas-Ramos, Irma, M.D., Assistant Professor
M.D., San Juan Bautista, School of Medicine, 1989
Specialty in Anesthesiology, St. Vincent's Hospital, NY, 1994

Biomedical Science Graduate Faculty

Department of Anatomy

Baksi, Krishna, Ph.D, Associate Professor
Ph.D, India Institute of Medical Sciences, New Delhi, India, 1977
MS, University of Calcutta, India, 1970

Darmawardhane-Flanagan, Suranganie, Ph.D, Associate Professor
Ph.D, University of Massachusetts, Amherst, MA, 1987
MS, Northeastern University, Boston, MA, 1985

Haiffe, Rosa M., M.D., Professor; (Dual Appointment in Pathology)
M.D., Universidad Autónoma (Dominican Republic), 1968
Specialty in Pathology, University District Hospital (UPR), 1974
Fellowship in Neuropathology, Indiana University, 1975

Jiménez, Sofía, Ph.D, Associate Professor and Chairperson
Ph.D, University of Puerto Rico, School of Medicine, 1984
MS, University of Puerto Rico, 1970

Oliver-Sostre, José L., D.M.D., Associate Professor
D.M.D., University of Puerto Rico, School of Medicine, 2002

Department of Biochemistry

Eaton, Misty, Ph.D, Professor
Ph.D, University of Texas Southwestern Medical Center, 1990

Eterovic, Vesna A., Ph.D, Professor (Dual appointment in Neuroscience)
Ph.D, National University Córdova, Argentina, 1971

Ferchmin, Pedro A., Ph.D, Professor
Ph.D, National University Cordova, Argentina, 1971

Hann, Richard, M.D., Professoris Eminentis
M.D., University of Oklahoma College of Medicine, 1974

Kucheryavykh, Yuriy V, Ph.D, Assistant Professor
Ph.D, Saint Petersburg State University, St. Petersburg, Russia, 2003

Kucheryavykh, Lilia, Ph.D, Assistant Professor
Ph.D, Saint Petersburg State University, St. Petersburg, Russia, 2001

Martínez, Michelle M., Ph.D, Assistant Professor
Ph.D, Michigan State University, 2004
MS, University of Puerto Rico, Mayagüez Campus, 2001

Rivera-Aponte, David E., Ph.D., Assistant Professor
Ph.D., Universidad Central del Caribe, School of Medicine, Bayamón, PR, 2017

Skatchkov, Serguei, Ph.D, Professor (Dual appointment in Physiology)
Ph.D, Leningrad State University, Russia, 1991
M.P.H., Leningrad State University, Russia, 1979

Suárez-Arroyo, Ivette J., Ph.D., Assistant Professor
Ph.D., Universidad Central del Caribe, School of Medicine, Bayamón, PR 2016

Vélez-Carrasco, Wanda, Ph.D, Associate Professor & Acting Chairperson
Ph.D, Tufts University, Boston, 1998
MS, Tufts University, Boston, 1995

Department of Microbiology and Immunology

Alves, Janaina, Ph.D, Assistant Professor
Ph.D., Molecular Biology/Biochemistry, University Federal of São Paulo, 2009
Post Doc., Molecular Biology/Biochemistry, Universidad Central del Caribe, School of Medicine, 2011

Boukli, Nawal, Ph.D, Associate Professor
Ph.D, University of Missouri, 1999

Espino, Ana M., Ph.D, Assistant Professor
Ph.D, Instituto de Medicina Tropical, Cuba, 1997

Otero, Miguel, Ph.D, Assistant Professor
Ph.D, University of Puerto Rico, School of Medicine, 1998

Ríos, Zilka, MS, Associate Professor and Associate Dean for Academic Affairs of Medicine
MS, University of Puerto Rico, School of Medicine, 1978

Ríos-Olivares, Eddy O., Ph.D, MPH, Professor
Ph.D, University of Puerto Rico, School of Medicine, 1976
MPH, Sanitation Microbiology, University of Minnesota, 1967

Valentín-Acevedo, Aníbal J., Ph.D., Assistant Professor
Ph.D, Molecular Immunology, Rutgers, The State University of New Jersey, 2011
Certificate in Pharmaceutical and Clinical Trials Management, Rutgers,
The State University of New Jersey, 2012

Department of Neuroscience

Baccin-Martins, Antonio Henrique, PhD, Assistant Professor
Ph.D, Federal University of Sao Paulo, 2006

Ferrer-Acosta, Yancy, Ph.D, Assistant Professor
Ph.D in Biology, University of Puerto Rico, Medical Sciences Campus, 2013

Jorquera-Ayala, Ramón, Ph.D, Assistant Professor
Ph.D, Austral University of Chile, Valdivia, Chile, 2007

Sabeva, Nadezhda, Ph.D,, Assistant Professor
Ph.D, Pharmaceutical Sciences, University of Kentucky, Lexington, KY, 2011

Schikorski, Thomas, Ph.D, Associate Professor (Dual appointment in Anatomy)
Ph.D, in Zoology/Neuroscience, Johann-Wolfgang-Goethe University, Frankfurt, Germany, 1993
Postdoctoral in Neuroscience, The Salk Institute, San Diego, CA, 2000

Department of Pharmacology

Bychkov, Rostislav, Ph.D, Assistant Professor
Ph.D, University of St. Petersburg, Russia, 1993

Maldonado, Héctor, Ph.D, Associate Professor and Chairperson
Ph.D, University of California, 1992

Salgado-Villanueva, Iris K., Ph.D, Assistant Professor
Ph.D. in Physiology, University of Puerto Rico, Medical Sciences Campus

Silva, Walter, Ph.D, Associate Professor
Ph.D, Mount Sinai School of Medicine, CUNY, 1986

Torres-Cruz, José L., Ph.D, Associate Professor
Ph.D, University of Puerto Rico, School of Medicine, 2011
M.S in Science, University of Puerto Rico, School of Medicine, 1976

Department of Physiology

Camacho-Feliciano, Delia M., Professor & Associate Dean for Research and Graduate Program
Ph.D., University of Puerto Rico, Medical Sciences Campus, UPR, 1986

Escalona-Motta, Gladys, Ph.D, Professor
Ph.D, University of Puerto Rico, 1977

Inyushin, Mikhail Y., Ph.D, Assistant Professor
Ph.D, Leningrad State University, 1986

Rivera, Amelia, Ph.D, Professor
Ph.D, University of Puerto Rico, 1982

Rojas, Legier, Ph.D, Professor
Ph.D, University of Puerto Rico, Medical Sciences Campus, 1987

Sanabria, Priscila, Ph.D, Professor and Chairperson
Ph.D, University of Puerto Rico, Medical Sciences Campus, 1986

Zueva, Lidia Vladimirovna, Ph.D, Assistant Professor
Ph.D in Biology Sciences, Russian Academy of Sciences, St Petersburg, Russia, 1982

Substance Abuse Counseling Faculty

Carrión-González, Ibis S. PsyD., Assistant Professor
PsyD., Psychology with Specialization in Clinical Psychology, Universidad Carlos Albizu, 2002

Díaz-Rodríguez, Nereida, Ph.D, Associate Professor and Dean of Academic Affairs
Ph.D, University of Puerto Rico, 1997
Clinical Psychology Internship, Bellevue Hospital-NYU Medical Center, 1989
MA, University of Puerto Rico, 1986

Feliberty, Evelyn, Ed,Dc, Assistant Professor
Ed.Dc., Interamerican University of P.R., At Present
MA, University of Puerto Rico, 1991

García-Rodríguez, María del Mar, MSW, MHS. Assistant Professor
MSW, La Salle Graduate School of Social Work, University of Puerto Rico, 1970

González-Villanueva, Myriam, Ph.D, Assistant Professor
Ph.D, University of Puerto Rico Rio Piedras Campus, 2007

Lespier-Torres, Zahira, Psy.D. Assistant Professor
Psy.D, Caribbean Center for Advanced Studies in Psychology, San Juan, PR, 1996

Maldonado-Ríos, Gertrudis, Ph.D, Assistant Professor
Ph.D, University of Puerto Rico, School of Medicine, 1997

Marrero-Pagán, Yari, MHS, Instructor
MSH, Universidad Central del Caribe, School of Medicine

Marrero-Rodríguez, Carmen Amalia, Ed.D, Associate Professor
Ed.D, University of Puerto Rico, Rio Piedras Campus, 2013
MPH, University of Puerto Rico, Medical Sciences Campus, 1989

Miranda-Jiménez, Lisa A., Psy.D, Assistant Professor
Pontifical Catholic University, Ponce, PR, 2008

Pérez-Del Pilar, Omar, Ph.D, Assistant Professor and Dean of Admissions and Student Affairs
Ph.D, Clinical Psychology, University of Puerto Rico, 2002

Quiñones-Berríos, Areliz, Ed.D, Instructor
Ed.D., Interamerican University, 2007
MSH, Universidad Central del Caribe, School of Medicine, 1999

Ramos Vargas, Luz N., Ph.D, Assistant Professor
Ph.D, Clinical Psychology, Ponce School of Medicine, 2013
MHSAC, Universidad Central del Caribe, 2008

Romero-Ramos, Christian, MHS, Instructor
MSH, Universidad Central del Caribe, School of Medicine

Reyes-Pulliza, Juan Carlos, Ph.D Assistant Professor
Ed.D University of Puerto Rico, 2003
MS, University of Puerto Rico, 1990

Santos-Reyes, Héctor O., M.D., MHS, Assistant Professor
M.D., University of Puerto Rico, Medical Sciences Campus, 1980
Specialty in Pediatrics, Dr. Eduardo Garrido Morales Hospital, 1986

Torres-Rivera, Francisco, Ph.D, Assistant Professor
Ph.D, Union Graduate School, Ohio, 1973

Medical Images Technology Faculty

Bermúdez, Carlos, MA, Adjunct Instructor
MA, Río Piedras Campus, University of Puerto Rico, 1978

Colón-Lancara, Edgar, Ph.D, ARRT (R)(RM)(CT); Adjunct Instructor
Ph.D, Atlantic International University, 2004
MPH in Epidemiology, Public Health School, Medical Science Campus, UPR, 1998
BsHS, College of Health Allied Professions, Medical Science Campus, University of Puerto Rico, 1992

Díaz-Morales, Anibal, MPH, BSc, Professor Emeritus
MPH Public Health School, Medical Science Campus, University of Puerto Rico
BsHS, College of Health Allied Professions, Medical Science Campus, UPR
TR, University Regional Hospital of Puerto Rico

Fernández-Mora, Rosa Marina, TR, MPH; Adjunct Instructor
MPH, Public Health School, Medical Science Campus, UPR, 1986
BsHS, College of Health Allied Professions, Medical Science Campus UPR, 1984
ASRT, Collage of Health Allied Professions, UPR. , 1983

González-Rivera, María Enid, TR, MPH, Assistant Professor
ADTR, Universidad Central del Caribe, 1989
MPH, University of Puerto Rico, Medical Sciences Campus, 2000

Labrador-García, Ada I., BS DI, Instructor
BS, Universidad Central del Caribe, Medical Images Technology Program, 2009

Lopez, Roberto, MA, Instructor
MA, Instructional Design and Educational Technology, Universidad del Sagrado Corazón, 1994

Moráles-Torres, Minerva, MS, Instructor
MS, in Counseling, Universidad Central de Bayamón, 2001

Moscoso, José Rafael, TR, BSc, MPH, EdD, Professor and Program Director;
EdD, Río Piedras Campus, University of Puerto Rico (UPR), 2005
MPH, School of Public Health, Medical Science Campus, UPR, 1985
BSc, Río Piedras Campus, UPR, 1979
ADRT, College of Allied Health Professions, Medical Science Campus, 1978

Natal, Maria del Pilar, MA, Instructor
MA, Instructional Design and Educational Technology, Universidad del Sagrado Corazón, 1994
BBA in Finance, Universidad de Puerto Rico, Rio Piedras Campus, 1967

Orama-Feliciano, Crucita, MSE., Instructor
MS in Education, Inter American University, 1984

Pérez-Ocasio, Juan RT, MSEH; Adjunct Instructor;
MSEH, Public Health School, Medical Science Campus, University of Puerto Rico, 2003
BS in Biology, Rio Piedras Campus, University of Puerto Rico, 1990
AS, Universidad Central del Caribe, 1992

Pérez-Sierra, Sylvia, Bs.H.S., Instructor
BS in Health Sciences, Universidad de Puerto Rico, Medical Science Campus, 1999

Rivera Vázquez, Mildred I., CIS, Instructor
CIS, Universidad de Puerto Rico, Rio Piedras Campus, 2003
MA Library Sciences, Universidad de Puerto Rico, Rio Piedras Campus, 1986
MA Hispanic Civilization, University of California at Santa Barbara, 1982
BA in Economy, Universidad de Puerto Rico, Rio Piedras Campus, 1977

Rodríguez-Martínez, Ana Ivette, BSc, RD, MS, Assistant Professor
MS, Universidad Sagrado Corazón, 2005
BSc, University of Puerto Rico, Cayey University College, 1988

Rodríguez, Miriam E., BS, Instructor
BS, Universidad del Este, Sistema Ana G. Méndez, 2016

Rodríguez-Nieves, Gladys, MA, Instructor
MA,Ed., University of Phoenix, PR Campus, 2003

Ruiz-Izcoa, Elaine I., TR, MPH, Assistant Professor
MPH, University of Puerto Rico, Río Piedras Campus, 1999
TR, Universidad Central del Caribe, School of Medicine, 1993

Torres, José Luis Ph.D, Associate Professor
Ph.D, Universidad de Puerto Rico, Medical Science Campus; 2011
MS Anatomy, Universidad de Puerto Rico, Medical Science Campus, 1976
B.S. in Biology, Universidad de Puerto Rico, Mayaguez Campus; 1971

Valentín Caro, Natalia, Ph.D., MS, Instructor
Ph.D., in Cellular and Molecular Biology, Universidad Central del Caribe, School of Medicine, 2018
MS in Biomedical Sciences, Universidad Central del Caribe, 2011

Vélez Crespo, Michael, MSD;
MS in Demography, Universidad de Puerto Rico, Medical Science Campus: 1995
BA in Education (Mathematics), Universidad de Puerto Rico, Rio Piedras Campus, 1989