UNIVERSIDAD CENTRAL DEL CARIBE

Graduate Program in Biomedical Sciences

Catalog 2024-2025

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CORRESPONDENCE

For information on the Graduate Program in Biomedical Sciences (GPBS), please contact:

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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.

Changes to the GPBS Manual to address Institutional policies, regulations, or accreditation standards not previously addressed will apply to all students irrespective of the year of admission.

AFFIRMATIVE ACTION STATEMENT

The Universidad Central del Caribe (UCC) is committed to maintaining a diverse workforce and an inclusive work environment. We recognize the right of all persons to work and to advance on the basis on their talent, skills, abilities, and diverse backgrounds, and are 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, sexual orientation, age, national origin, disability, protected veteran status, gender identity, or any other factor protected by applicable federal, state, or local laws.

RIGHTS AND RESPONSIBILITIES OF GRADUATE STUDENTS

Students have the responsibility to familiarize themselves with the policies and procedures of the University, the Graduate Program in Biomedical Sciences (GPBS), and their department or program. Students are responsible for knowing the degree requirements and following the policies that govern their academic program. If students have any concerns or doubts about individual policies and procedures, they should contact their advisor, their department Chair, or the Office of the Associate Dean for Research and Graduate Studies.

MISSION OF THE UNIVERSIDAD CENTRAL DEL CARIBE

To prepare high-quality and devoted health professionals and biomedical scientists 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.

GRADUATE PROGRAM IN BIOMEDICAL SCIENCES MISSION

The mission of the Graduate Program in Biomedical Sciences is to develop highly trained, independent, and ethically oriented scientists, through interdisciplinary research, academic training and community outreach activities to advance the current knowledge in biomedical sciences contributing to the scientific workforce for the benefit of the human health. (Revised 2024)

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 Postsecondary Institutions Board and accredited by the Middle States Commission on Higher Education (MSCHE). In 2020 the MSCHE authorized the institution to include the delivery method of distance education within the scope of its accreditation. The MSCHE review process requires periodic institutional self-studies aimed at continuous improvement, survey visits, and reporting. The next MSCHE institutional self-study evaluation is scheduled for the academic year 2026-2027.

The program leading to the MD holds accreditation from the Liaison Committee on Medical Education (LCME). As of December 2021, the medical school has graduated 2,837 physicians serving the Commonwealth of Puerto Rico and Hispanic communities in the United States. `

The school of medicine houses a Graduate Program in Biomedical Sciences that was 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 47 master's degrees and 27 PhDs. Since 1978, the UCC School of Medicine has sponsored a residency program in Internal Medicine with categorical and preliminary positions accredited by the Accreditation Council on Graduate Medical Education (ACGME). The UCCSoM also sponsors, since 2019, the first Multidisciplinary Fellowship in Addiction Medicine for primary care physicians on the island.

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 203 degrees.

The Medical Imaging Technology Program (formerly the Radiologic Technology Program) has awarded 1,815 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. Since 2020 the Post-Associate Certificate in Mammography was authorized as an online education modality program.

The academic program conducive to a Doctor of Chiropractic (DC) degree was initiated in August 2018. The Doctor of Chiropractic Program (DCP) combines a solid foundation in basic sciences and clinical skills, together with an in-depth immersion into the evidence-based chiropractic field. The Council on Chiropractic Education (CCE) awarded in June 2021 the maximum initial accreditation of 4-years.

GOVERNANCE AND ADMINISTRATION

An eleven-member board of trustees outline the general policies and oversees at the policy level the operations of the university, framed under shared governance best practices. 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.

To fulfill her responsibilities, the president of the UCC has the assistance of qualified administrators consisting of a vice president of finances and operations, a dean of academic affairs, a dean of admissions and student affairs, a dean of administration, and a dean of institutional development and strategic planning. To complete her cabinet, two faculty deans follow the day-to-day activities at the programmatic levels: a dean of the school of medicine (Medicine and Graduate Programs in Biomedical Sciences) and a dean of health science and technologies (Doctor of Chiropractic, Substance Abuse, Medical Images and its modalities). The dean of academic affairs, with the support of an assistant dean of curriculum development, accreditations, and licensing, oversees the academic rigor and coherence of the academic programs.

The dean of admissions and student affairs, in collaboration with the assistant 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 dean of institutional development and strategic planning supports strategic planning, the search for external funding, and the Office of Alumni.

The dean of the school of medicine is supported by three associate deans (academic affairs, research and graduate studies, and faculty and clinical affairs), an assistant dean of student affairs, and a cadre of Basic Science and Clinical departmental chairs. The associate dean of academic affairs of the SoM is responsible for the curriculum conducive to the Doctor of Medicine Program. The associate dean of research and graduate studies oversees the research agenda and the academic director of the Graduate Program in Biomedical Sciences. The dean of faculty and clinical affairs assure optimal communication with the clinical affiliates network, the operations of the faculty practice plan, and continuing medical education. The school of medicine sponsors a residency program in Internal Medicine with categorical and preliminary positions as well as the first Multidisciplinary Fellowship in Addiction Medicine for primary care physicians on the island.

The recently established School of Chiropractic is led by the Dean of Chiropractic which has the oversight of the Doctor of Chiropractic Program. The dean of chiropractic is supported by the program associate directors.

The Office of the Dean of Health Sciences and Technologies has the oversight of the graduate-level Substance Abuse Programs and the undergraduate-level Medical Images Technology Program. In the discharge of her duties and responsibilities, the dean of health sciences and technologies supervises and is supported by the program directors and coordinators.

The UCC's size and governance structure make it possible to offer an array of academic programs in the health science field with the appropriate support services, ensuring a personal and meaningful experience for its students

GPBS Administration
The academic administration of the GPBS corresponds to the Associate Dean for Research and Graduate Studies, who works in close contact with the Academic Director of the Graduate Program in Biomedical Sciences, the Graduate Program Coordinator and one coordinator from each of the Basic Sciences departments: Anatomy and Cell Biology, Biochemistry, Microbiology and Immunology, Neuroscience, Pharmacology and Physiology.

TEACHING FACILITIES
The Biomedical Sciences Building has lecture rooms, student laboratories and a Learning Resources Center. Students perform laboratory work in Gross Anatomy, Histology and Embryology, Neuroanatomy, Biochemistry, Microbiology, Pharmacology and Physiology.

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 Resource Center is staffed with specialized personnel in animal care and handling to support research and education activities. The center 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 center also provides technical assistance and advice dealing with animal species used for investigation and supports research programs by making readily available animals, materials and animal husbandry supplies.

The center 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 facility has two major components: A) the equipment infrastructure and B) the technical support division. The facility offers equipment for remote behavior visualization (RBV).

Biomedical Proteomic Facility (BPF)
The mission of the facility is to accelerate discovery by giving UCC investigators access to cutting-edge technologies in proteomics and mass spectrometry. The facility stimulates the use of 2D gels and protein analysis, via the software PD-Quest, 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
It is a core area housing major equipment such as ultracentrifuges, freezers, spectrophotometers, gamma counters, etc., as well as the centralized cell culture facility. The unit 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.

Optical Imaging Facility
The OIF facility provides microscope-based systems and complementary resources necessary to carry out successful live cell, single, double, and triple fluorescence imaging. The facility equipment located on the 1st floor of the Basic Sciences (BS) building includes upright and inverted light microscopes equipped for transmitted light (brightfield, phase contrast & DIC) and epifluorescence imaging. The OIF also includes an Olympus Flouview 1000 confocal laser scanning microscope located at the BS basement. The Fluoview 1000 is a three-laser confocal microscope that acquires simultaneous or sequential high-resolution fluorescence images from thick specimens (20-200 microns). In addition, the OIF has three online and two offline licenses of the Molecular Devices image analysis software MetaMorph®. The software contains various application modules that provide quantitative morphometric analysis used for cell counting, assessing cell cycle, cell migration, cell viability, apoptosis, cytotoxicity, motion analysis and particle tracking.

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 an 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 OFFICES

Office of the Associate Dean for Research and Graduate Studies (OADRGS)
The main goal of the OADRGS is to actively facilitate and promote research development, interdisciplinary research enterprises and graduate program curriculum development within UCC's academic community. The OADRGS is devoted to establishing and implementing pre-and-post-award procedures, assisting researchers in the preparation of proposals and publications, establishing a strong profile for the generation of external revenue and research grant management, and fostering research collaborations. The Graduate Program as part of the OADRGS, monitors and oversee all academic endeavors within the Graduate Program in Biomedical Sciences, including but not limited to, curriculum development, students' academic monitoring, mentoring and training. The Academic Director will also work closely with other institutional offices and programs to identify resources and develop strategies for the benefit of all graduate students.

Research Development and Sponsored Programs
OADRGS research development personnel provide technical assistance to faculty in the development and preparation of proposals, contracts, cooperative agreements processing of proposals, and electronic proposal submission (pre-award). Additionally, they provide services such as the preparation of budget, budget management and progress report submissions (post-award). They facilitate 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, assists in the management of external funds; 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.

Graduate Student Association
The Graduate Student Association (GSA) comprises degree-seeking graduate students at the Universidad Central del Caribe. The GSA's mission is to enrich the graduate student experience and to represent, support, and promote graduate student interests. The GSA collaborates with 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.

PROGRAM ADMINISTRATIVE PROCEDURES

Deanship for Admissions and Student Affairs
The Deanship for Admissions and Student Affairs is responsible for administering and helping coordinate the admissions process. The Admissions Office assures confidentiality and integrity in the admissions process in adherence to institutional and federal regulations.

ADMISSION TO THE PROGRAM
Admission to the Graduate Program in Biomedical Sciences (GPBS) is the sole responsibility of the GPBS Admissions Committee in evaluating applicants, the Admissions Committee considers academic qualifications, personal traits and potential for success in the program as evidenced in academic records, personal statement, and letters of recommendation, personal interviews, research and other related experience.

General Admission Requirements
1. Applicants must have a bachelor's degree from a college or university accredited by the Council of Higher Education or the corresponding US accrediting agency.
    a. *Students from foreign institutions must send an official translation, validation, and/or equivalency to the 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.
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 the 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 the college/university level).
4. Total coursework must include the following:
    - 2 courses in Mathematics
    - 2 courses in Chemistry
    - 2 courses in Biology
    - 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. Seminars, bibliographic reports, dissertation/thesis, proposal defenses and candidacy exams will be in English.

Application Requirements

1. An institutional Application for the Graduate Program in Biomedical Sciences. The application must be submitted no later than April 15th.
2. An essay indicating your interest in a graduate degree in biomedical sciences, including a statement of purpose and a personal statement.

   The statement of purpose highlights the candidate's reason for choosing a specific program and research topic of interest. The personal statement highlights the student's motivation for applying.
3. An official transcript from each college/university attended to be sent directly to our Admissions Office. *
4. Three letters of recommendation, including at least two from former professors in the student´s area of specialization of the last completed degree.
5. Payment of a $50.00 non-refundable processing fee established at our institution. Please contact the Admission Office for payment procedures.
6. A Criminal Background Check (CBC) is required (issued prior to six months or less).
7. Interview with the department to which the student is applying or the Graduate Program in Biomedical Sciences Admissions Committee.

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

Acceptance

1. To guarantee enrollment upon acceptance, the candidate must make a $100.00 non-refundable deposit.
2. The Technical Standard agreement with the official signature.
3. The student must submit a health certificate and a physical examination by a licensed physician with the laboratory and test required
4. CPR certification from an authorized American Red Cross vendor.
5. Students have to comply with all vaccination requirements.

STUDENT CATEGORIES

Auditing Students

Those students who wish to audit some courses may do so if they have the approval of the Chairperson of the Department offering the course(s) and if they register during the registration period. They must also pay corresponding fees. Auditing students are authorized to participate in all educational activities of the course; however, they will not take course exams or receive a grade. They can take non-graded quizzes, as an evaluation tool.

Special Students

If a candidate does not meet one of the general admissions requirements he/she may be admitted to the Program as a "special student" after a careful evaluation and recommendation of the department concerned and/or of the Graduate Program in Biomedical Sciences Admissions Committee. The student must comply with the conditions stipulated for admission to be reclassified as a regular student. The student will have an academic year to complete the minimum admission requirements.

Non-degree Students

A non-degree student is a student who attends classes at UCC, but who has not been admitted into the Graduate Programs in Biomedical Sciences. Anyone may take courses as a non-degree student.

Admission Requirements for non-degree students

Non-degree enrollment status does not require a formal admission process or formal entrance requirements. Students must complete an Application for Admission and pay the non-refundable application fee. Enrollment as a non-degree student does not guarantee regular admission to the University. Students wishing to apply for full admission should refer to the Graduate Programs in Biomedical Sciences admissions requirements.

Tuition and Fees for non-degree students

Non-degree students' enrollment requires tuition and fee assessment at the rate as a regularly enrolled, fully admitted student.

Financial Aid for non-degree students

Non-degree students are not eligible to receive financial aid.

Grade and Transcript Information for non-degree students

Non-degree students are given grades, reviewed according to the University standards of good academic progress, and provided with academic records.

Non-degree registration

Non-degree students must complete a Non-Degree Student Registration Form. This must be completed for each semester that you wish to enroll as a non-degree student. The Associate Dean for Research and Graduate Studies must approve the enrollment.

Transient Students

Students who are enrolled in a graduate program at another university and want to take coursework at UCC and transfer it to their home institution are considered transient students by UCC.

Admission Requirements for Transient Students

Transient enrollment status does not require a formal admission process or formal entrance requirements. Students must complete an Application for Admissions, pay the non-refundable application fee and submit a letter from their home institution stating that they are in good academic standing and that the home institution will accept the UCC coursework. The Associate Dean for Research and Graduate Studies must approve the enrollment.

TECHNICAL STANDARDS

The Universidad Central del Caribe is committed to full compliance with the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990.

Qualified applicants to the GPBS must be able to complete all requirements leading to the degree. Applicants/graduate students are expected to carry out procedures involved in learning biomedical sciences, including the ability to participate fully in activities dealing with curriculum requirements in the classroom and the laboratory.
In addition to proven academic ability and other relevant personal characteristics, UCC expects its students to possess and be able to demonstrate the skills, attributes, and qualities listed below, without undue dependence on technology or intermediaries to the degree that compromises independent judgment. The use of a trained intermediary is not acceptable in many situations in that it implies that a student's judgment must be mediated by someone else's power of selection and observation.

Degrees from the Graduate Program in Biomedical Sciences imply that the recipient has demonstrated knowledge in the field and the ability to independently apply that knowledge to solve a particular problem by forming hypotheses, designing and conducting experiments, interpreting the experimental results, and communicating the results and their interpretation to the scientific community. Thus, students must demonstrate competence in those intellectual and physical tasks that represent the fundamentals of biomedical research and must possess abilities and skills that allow for observation, intellectual and conceptual reasoning, motor coordination, communication and social interactions.

The Graduate Program in Biomedical Sciences has specified the following technical standards that all students must meet to participate in the graduate education program. Technical Standards are non-academic requirements essential for meeting the program's academic requirements.

The following technical standards will be applied to the selection of students and students enrolled in the Graduate Program in Biomedical Sciences.

Observation

Observation and information acquisition require functional visual, auditory and somatic sensation and it is enhanced by the functional use of the sense of smell. The applicant/graduate student must be able to acquire knowledge by direct observation of demonstrations, experiments, and experiences within the laboratory and instructional setting. Examples are physiological or pharmacological responses in animals, studies of microbiological cultures and organisms, identification of normal and abnormal cells or tissues through a microscope, and interpretation of results obtained on various instrumentation.

Acquire, assimilate, interpret, integrate, and apply information from direct observation and oral communication, written messages, films, slides, microscopes, imaging science, readouts, and other media.

Intellectual/Conceptual Abilities

The applicant/graduate student must be able to measure, calculate, analyze, reason, integrate, synthesize information to solve problems, and comprehend three-dimensional and spatial relationships.

Motor Skills

The applicant/graduate student must possess motor skills necessary to perform procedures required for experimentation and participate actively in all aspects of laboratory experimentation. These skills may include but are not limited to, surgery in animals, handling of animals, transfer of microorganisms to various mediums, preparing chemical and often toxic materials and solutions, preparation of anatomical specimens for microscopic examination, and manipulating electronic and other complex equipment. Such actions require coordination of both gross and fine muscular movements, equilibrium and functional use of the senses of touch and vision.

Communication

Required communication skills include verbal communication, reading, writing, and the use of electronic communication devices. The applicant/graduate student must be able to communicate in settings where the time span available for communication is limited. The applicant/graduate student must be able to communicate and discuss his or her experimental hypotheses and results to the scientific community, both in scientific journals or directly at scientific meetings, seminars, or in the laboratory to the research team

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Behavioral and Social Attributes

The applicant/graduate student must possess the emotional and mental health required for full utilization of his or her intellectual abilities, the exercise of good judgment, the prompt completion of responsibilities inherent in managing a scientific laboratory, the ability to function under stress, and the ability to understand and comply with ethical standards for the conduct of research.

The applicant/graduate student must be able to tolerate physically taxing workloads. They must be able to adapt to changing environments, to display flexibility, and must be able to perform problem-solving tasks quickly and efficiently in an environment that may change rapidly, without warning, and/or in unpredictable ways.

The applicant/graduate student must be capable of developing mature, professional and effective relationships with others. Integrity, interpersonal skills, interest and motivation are all personal qualities that are assessed during the admissions and education processes.

UCC is committed to making its programs accessible to qualified individuals with disabilities. Reasonable accommodations may be provided to qualified individuals with disabilities to provide equal educational opportunity. In all circumstances, candidates must be able to meet the academic and technical standards requisite for admission and participation in the GPBS.

STUDENT SERVICES

Please refer to the Institutional Catalog 2025-2030.
https://www.uccaribe.edu/wp-content/uploads/2024/12/CATALOGO_INSTITUCIONAL_-2025-2030.pdf.

FINANCIAL AID

Please refer to the Institutional Catalog 2025-2030.
https://www.uccaribe.edu/wp-content/uploads/2024/12/CATALOGO_INSTITUCIONAL_-2025-2030.pdf

Financial Support from the Graduate Program in Biomedical Sciences

The following only applies for tuition and fee waivers and financial assistance from UCC. Faculty members are encouraged to use this guide if compatible with their source of funding. UCC offers different financial assistance mechanisms to qualified graduate students, as funds allow. The awards may be in the form of fellowships and/or tuition waivers. In addition to the above, graduate students may qualify and apply for other forms of financial aid (loans, etc.) through the University's Financial Aid Office, private foundations, and government agencies.

Graduate Fellowships

Graduate fellows support faculty in classrooms, research or administrative endeavors. Fellowships are awarded on the basis of a student's demonstrated academic achievement and promise. Recipients are required to maintain strong academic records and a good academic standing status. The good academic standing status will be evaluated every semester.

Financial assistance is generally available from the Office of the Associate Dean for Research and Graduate Studies (OADRGS) and those departments/faculty that have government, foundation, business, and industrial research grants and contracts. Institutional funds available to departments and faculty members can be used to support domestic or international students.

Tuition and Fee Waiver

Tuition and fee waivers are awarded on the basis of a student's demonstrated academic achievement and promise.

Recipients are required to maintain strong academic records and a good academic standing status. The good academic standing status will be evaluated every semester.

Students are responsible for the following fees/expenses:

- Software Fee
- Endowment Fee
- Accident Insurance
- Parking permit
- CPR course, when applicable
- Student ID, when applicable
- Graduation Fee, when applicable
- Dissertation/Thesis printing fee, when applicable
- Medical insurance, when applicable
- Disability Insurance

Eligibility

Eligibility requirements vary and are established by the funding source.

To be eligible a graduate student must remain in good academic standing. Students are awarded support on the basis of academic potential.

To be eligible for UCC financial support a student must:

- Be enrolled in a Ph.D. program without any restrictions.
- Be enrolled as a full-time student.
- Has completed all first-year courses of the Graduate Program in Biomedical Sciences.
- May not have been in the GPBS for more than 60 months.
- Make satisfactory academic progress towards the degree, as described below and in the Graduate Program in Biomedical Sciences Catalog.
- Must comply with all rules and regulations of the GPBS and as stipulated by the Academic Director of the Graduate Program including but not limited to consistent participation in extra-curricular academic activities, submission of yearly progress reports and mentoring agreements.
- Have a minimum cumulative grade point average (GPA) of 3.25 at the end of every semester.
- Complete a minimum of eighteen (18) credit hours each academic year.
- Cannot have any other employment, stipends or non-compensated work in detriment of full-time pursuit of the degree if receiving a full stipend ($20,976). UCC funding can be used to complement other financial assistance being received by the student, if the amount does not surpass $20,976.
- Must keep appointments with the advisors and provide written reports as requested of any academic plans, activities, and status.
- Consistently attend seminars and workshops related to their academic or professional training and organized by the Graduate Program in Biomedical Sciences and/or other institutional Programs.

International students must provide evidence of a current and valid visa before receiving payment. The Registrar's Office will be provided with a GPBSF 20 Notification of Stipend/ Tuition & Fees Payment to evidence that the student will be financially supported as part of the I-20 issuance process.

Selection Process

The Office of the Associate Dean for Research and Graduate Studies will make offers to the most outstanding candidates. Each candidate will be evaluated on his/her academic excellence as well as on the other requirements established by the Program.
Awards are granted on a competitive basis for one semester, renewable up to the point that the student reaches 60 months (5 years) in the GPBS. Automatic renewal within the academic year (from one semester to the other) will be granted as long as the student is enrolled and is in good academic standing.

Appointment and Notification

Each academic year, the Graduate Program in Biomedical Sciences will notify graduate students with award letters that state the amount, term of appointment and conditions of the award. Graduate students will sign an award contract to indicate acceptance of the award and its conditions.

Minimum Course Load

All graduate students receiving support must enroll in at least eighteen (18) credit hours each year.

Courses taken for audit are not counted toward the enrollment requirement.

All students are subject to the continuous enrollment rules published in the Graduate Catalog.

Loss of Eligibility

Academic standing (credit hours earned, etc.) of all students who have received financial awards will be reviewed annually. Students who are not in good academic standing will lose their eligibility for financial assistance from UCC.

Students will lose their eligibility if any of the following occur:

- Cumulative GPA drops below 3.25 at the end of the semester.
- Fails to earn the eighteen (18) minimum credit hours required per year.
- Transfer from a doctoral program to a master's program.
- Fails to register as a full-time student.
- Fails to satisfactorily perform or complete all their responsibilities as graduate students as stipulated in this Manual and/or by the Academic Director of the Graduate Program.
- Fail to submit their yearly Progress Report and Mentoring Agreements.
- Do not attend 3 seminars in a semester.

The Graduate Program in Biomedical Sciences will notify graduate students in writing of a determination to suspend the award contingent to any of the previous situations.

Termination of Appointments

Graduate fellowships normally end when the term of appointment is concluded, and the term of the assistantship agreement is fulfilled. An appointment may also end when the grant or contract supporting the student expires, even if that occurs before the end of the student's current appointment. Otherwise, a graduate fellowship may be terminated for the following reasons:

- Resignation by the student. Such resignation will be in writing and addressed to the Associate Dean of Research and Graduate Studies and the Academic Director of the Graduate Program.
- Failure of the graduate student to perform assigned duties adequately. Such termination is to be recommended by the mentor to the Academic Director Graduate Program in Biomedical Sciences.

- Failure of the graduate student to remain in good academic standing or to adhere to enrollment policies.
- Failure to comply with the conditions stipulated above.

Any funds remaining after termination of a graduate fellowship revert to UCC and may be reallocated to another graduate student.

A graduate student who believes that his or her graduate fellowship has been terminated unjustly may appeal the decision in writing to the Associate Dean of Research and Graduate Studies.

Appeals

All appeals must be submitted to the Associate Dean of Research and Graduate Studies. Students may appeal financial assistance rejections based on unsatisfactory academic standing. Appeals will be considered if one of the following has a bearing on their academic standing, for the term in which good academic standing requirements were not met and can be documented in writing.

- Change of grades.
- Death or serious illness of an immediate family member (parent, legal guardian, sibling, spouse, or a family member residing at the student's home). A copy of a death certificate and a notarized statement proving relative lived with the deceased are required.
- Serious illness or injury to the student or a dependent child (a physician's affidavit signed by the attending physician is required).
- Other causes that may be determined (natural disaster, public health emergency, etc.)

An appeal must be submitted in writing within 30 days after notification of assistance termination. The decision of the Appeals Committee is final. The Appeals Committee will be composed of the Dean of Academic Affairs, the Dean of Student Affairs and the Associate Dean for Research and Graduate Studies.

All supporting documents (physician's affidavit, copy of death certificate, etc.) must accompany the student's written appeal that outlines his/her reasons for making an appeal.

The Associate Dean for Research and Graduate Studies will reconsider any student who is denied financial assistance at such time that their academic record improves to the minimum requirement.

Administrative Procedures

- Students will be paid through fellowships.
- The Graduate Programs in Biomedical Science Form 20 will be completed not a PAAP.
- Students will be paid monthly, at the end of the month.

Exceptions

The President of the University must approve any exceptions to the stipulated procedures.

REGISTRAR'S OFFICE

Please refer to the Institutional Catalog 2025-2030.
https://www.uccaribe.edu/wp-content/uploads/2024/12/CATALOGO_INSTITUCIONAL_-2025-2030.pdf.

TUITION AND FEES

Payments of tuition and other fees are due at the time of registration,unless otherwise indicated pursuant to the Rules and Regulations of the University dealing with postponement of payment of tuition and other fees.

Tuition

Regular students, per credit	$ 345.00

Non-refundable fees

Application for Admission	$ 50.00 non-refundable
Late Admission	$ 150.00 non-refundable
Readmission, with application	$ 50.00 non-refundable
Deposit to hold place	$ 100.00 non-refundable
Technology Resources	$ 600.00 annual
Construction and maintenance of facilities	$ 850.00 annual
General Fee	$ 400.00 annual
Laboratory Fee	$ 500.00 annual
Graduation Fee	$ 250.00
Endowment Fee	$1,000.00
Software Fee	$ 60.00 annual
Comprehensive Test	$ 50.00
Thesis printing and binding (3 copies)	$ 200.00
Reclassification	$ 50.00

General Fees

ID Card	$ 15.00
ID replacement	$ 15.00
Parking per year	$ 40.00 annual
Activity fee	$ 50.00 annual
CPR course	$ 50.00 per course
Accident insurance	$ 12.00 annual
Disability insurance	$ 180.00 annual
Health Insurance Plan	Cost Vary*

Fees for other services

Transcripts	$ 6.00 each
Certificate certification	$ 11.00
Grade Certification	$ 11.00
Diploma Certification	$ 11.00
Duplicate of Diploma	$ 50.00
Student File Copy (per sheet)	$ 2.00/per sheet

*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.

Reimbursement of Tuition fees
Please refer to the Institutional Catalog 2025-2030.
https://www.uccaribe.edu/wp-content/uploads/2024/12/CATALOGO_INSTITUCIONAL_-2025-2030.pdf.

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

Grade	Points	
A	4	Excellent
B	3	Good
C	2	Satisfactory
F	0	Failure
P	--	Passed*
IP	--	In Progress
I	--	Incomplete coursework
W	--	Authorized withdrawal
NR	--	Non-reported
NC	--	Noncredit course

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.

Academic Honors
Academic honor will be given to those students who have obtained the following cumulative averages, after completing the Program’s requirements.

HONOR	CQPI
Summa Cum Laude	3.75 to 4.00
Magna Cum Laude	3.50 to 3.74
Cum Laude	3.25 to 3.49

Formal Grade Appeal Procedure

If a student suspects that an error was made in calculating his/her grade, this should be immediately brought to the attention of the course instructor. Normally, any differences of opinion between an instructor and a student concerning a grade should be resolved between the individuals involved. If the instructor is unavailable, the course director shall resolve the issue. The course director may change a grade if an error is found, no later than seven (7) days after the student has brought the issue to the instructor's attention. Except for changes made by the course director, grades shall not be changed except through the appeal process as stated in the Graduate Program in Biomedical Sciences Catalog.

If the course director and student cannot resolve their differences of opinion, the student must initiate the formal grade appeal process no later than five working days after receiving the grade. The student must present a written brief outlining the problem and the area of disagreement to the Chair of the Department for master students or the Graduate Program Director for doctoral students. Student must notify the course director that a grade appeal brief has been filed. After notification, the course director must respond in writing to the Chair of the department or the Graduate Program Director within five working days. The Chair of the Department or the Graduate Program Director will attempt to serve as a mediator between the student and the course director to resolve the dispute. If this mediation proves unsuccessful, the department chair or Graduate Program Director shall forward the student's brief to the Office of Associate Dean for Research and Graduate Studies (OADRGS).

The Associate Dean of Research and Graduate Studies will meet with the student to explain the appeal process to be followed and will attempt to act as a mediator in resolving the dispute. If mediation does not lead to a resolution, then the Associate Dean of Research and Graduate Studies shall appoint a Grade Appeal Committee within ten working days. This Committee shall include three faculty members: one selected by the instructor, one by the student appealing the grade, and one by the Dean of Academic Affairs. The Committee shall elect a chair. A simple majority shall prevail in the Committee.

All pertinent data, papers, records, etc., together with written briefs, will be submitted to this Committee for their analysis. The student, instructor and course director will have permission to view, but not copy, all materials used by the Committee. The Committee may meet individually or collectively with those involved in its quest for determination, and the Committee may choose to continue mediation efforts. Each party may bring another person with them as support or spokesperson at any stage in the process. The student, instructor, and course director have the option of meeting with the Committee without the other parties being present.

The function of the Grade Appeal Committee shall be to evaluate the grading procedures as well as to, if necessary, re-evaluate the student's assignments for the course in terms of criteria established by the instructor or course director and the execution by the student. This evaluation must be made considering all rules, regulations, and responsibilities of both the student and the instructor or course director. The Committee's decision may be to keep the assigned grade, or to raise the assigned grade but never to lower the grade.

The Committee shall provide a written report to the Associate Dean of Research and Graduate Studies explaining its decision and a recommendation on whether to change or keep the assigned grade. The Associate Dean of Research and Graduate Studies will evaluate this report and will render a final decision. The Associate Dean will also inform the student, instructor, and course director of the Committee's final ruling and provide parties with copies of the Committee report.

In the case of a change of grade, the Associate Dean of Research and Graduate Studies shall implement the change of grade on the student's official transcript through the ordinary change of grade procedure. If the awarded grade is maintained, and this affects the academic standing of student, the student's status in the program should be re-evaluated following the program criteria. This shall be the last step in the deliberation of the formal grade appeal.

The final decision may be appealed in case the student has additional evidence not submitted/evaluated during the official appeal process. The student has five working days to request a revision of the final decision to the Dean of Medicine.

STUDENT STATUS IN THE PROGRAM

The Graduate Program in Biomedical Sciences Committee will review students' records at the end of each academic semester by the time all grades are submitted in order to determine the student status in the program. At the end of each academic year, at the end of the spring term, this evaluation must include a decision of whether the student complied with all academic requirements and responsibilities and is eligible for promotion to the next year 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. 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. Students will be referred to the Student Affairs Deanship for support.

3. Students attaining a GPA below 2.5 will be dismissed from the Program.

4. 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 pass the course during his/her second attempt the student will be dismissed from the program.

5. Students that obtain a grade of C may repeat the course once. The student must retake the course the next time that is offered. The higher of the two grades obtained will be used to calculate the GPA. Students may not repeat more than three total courses.

6. Student has only one opportunity to retake a failed (F) or withdrawn (W) course to achieve a grade of C or better. If a student obtains a C on the second attempt, they cannot retake the course again. Failure to pass the BMS 899: Graduate Research course on the first attempt and any other course on the second attempt will result in dismissal from the program

For grade appeal procedures refer to section **Formal Grades Appeal Procedure.**

Once dismissed from the program a student will not enroll in graduate courses under any student classification, for example non-degree student. A certified letter is mailed to each student placed on probation or dismissed.

All grades on courses not offered at the institution but approved by the Curriculum 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.

WITHDRAWAL PROCEDURES

1. The withdrawal application must be filed at the Registrar's Office.

2. Withdrawal is allowed before the course final exam, but not after the final exam.
   Not following the withdrawal procedures constitute grounds for dismissal from the Program.

READMISSIONS

Students who have previously been enrolled in the Program and withdrawal without authorization, withdrawal with authorization or have not maintained their active status in the Program and desire to continue or complete the degree requirements must apply for readmission to the Program through the Office of Admissions. All readmission applications must be received by the Program's admission deadline for the academic session in which the student wants to continue his/her studies. Interested candidates must submit transcripts of any other coursework taken outside UCC during the time of absence from the Program.

The maximum interruption allowed in the program of study is two years and only one readmission will be granted to the student.

TRANSFERS

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's academic record and will recommend to the Registrar's office the transfer of coursework as applicable.

Transfer of Courses (Credits)

Transfer of graduate credit hours will be accepted for the Ph.D. degree provided the grades in those courses transferred are B or higher and the courses are equivalent in content and depth to those offered by the UCC Graduate Program in Biomedical Sciences. The number of credits/courses transferred/convalidated will never exceed 50% the total courses/credits required for the degree.

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.

Transfer of graduate credit hours will be accepted for the Ph.D. degree provided the grades in those courses transferred are B or higher and the courses are equivalent in content and depth to those offered by the UCC Graduate Program in Biomedical Sciences. Courses must have been taken in the last five years and no more than 18 credits will be allowed to be transferred.

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.

All transfer credits must be verified by an official transcript from the institution at which the work was completed.

All credits transferred to UCC must have been completed at an accredited institution.

Acceptance of graduate credit for work done at another graduate institutions must be approved by the student's advisory committee and the Associate Dean of Graduate Studies. The courses to be considered for transfer credit must have been completed within five years.
Valid transfer credits will appear on the student's transcript as credits earned.

Under no circumstances will transfer credit be awarded for courses in which a grade lower than B, or its equivalent, has been received or for courses graded on a pass/fail basis, for continuing education units, courses completed outside the five-year time limit, correspondence, extension, or in-service courses.

Procedure for Transfer of Courses (Credits)
To have courses considered for transfer, students must discuss their plan to use specific courses from other institutions with their major advisor and/or advisory committee. Students will complete GPBSF 18 to request approval.

Within the guidelines established by the Graduate Program in Biomedical Sciences, the advisory committee will identify courses acceptable for transfer and will record these courses on the student's Program of Study, GPBSF 1.

The student must have an official transcript sent from the institution(s) where credit was earned to the UCC Registrar's Office. Only when courses have been verified by the OADRGS will they be approved for application toward the degree.

Under no circumstances will transfer credit be awarded for research, internships, master's thesis or doctoral dissertation work performed outside of UCC. While, at the discretion of a program faculty, a student's research project from another institution might be accepted for continuation once enrolled at UCC, the required number of credit hours must be enrolled in and successfully completed to meet the requirements for graduation with a master's or a doctorate degree, respectively.

Transfer Between Programs
Ph.D. students may transfer to MS or MA programs. Master students may transfer between Master programs or to Ph.D. program. The student must complete the reclassification document in the Registrar's Office and pay the reclassification fee. The student must also complete Graduate Programs in Biomedical Sciences Form 8. The signature of approval of the Chair of the department of origin is not required but is recommended. In cases where the Chair of the department of origin does not agree with the transfer, the Associate Dean for Research and Graduate Studies may approve the transfer of the student.

Students transferring from the MS to the MA may transfer up to 3 credits of research. For the credits to be transferred the student must have presented the research at a scientific meeting, written a report about the research performed and have the approval of the research mentor.

For a Master student to transfer to a PhD program, the student must be in good academic standing. Once a student has transferred from a PhD program to a MS/MA program, the MS/MA must be completed before the student is allowed to request admission into a PhD program.

LEAVES OF ABSENCE

Universidad Central del Caribe (UCC) processes and reports changes in student enrollment status in a manner consistent with the requirements of Title IV of the Higher Education Act of 1965, as amended ("Title IV"). The UCC must comply with Title IV when reporting changes in student enrollment status and returning unearned Title IV funds, where necessary, to avoid enhanced oversight and monitoring requirements by the U.S. Department of Education, loss or repayment of funds, or ability to participate in federal student aid programs.

Students who wish or need to interrupt their study temporarily may request a leave of absence (LOA). There are three types of leave: personal, medical, and parental. Students will complete the request form at the Registrar's Office. The general policies that apply to all types of leave are:

All leaves of absence must be approved by the Associate Dean for Research and Graduate Studies. Medical leaves also require the recommendation of a physician, as described below; see Medical Leave of Absence.

Students in the Program may be granted a leave for a maximum of 180 days in a 12-month period. An excess of this maximum will be considered a withdrawal for Title IV purposes (Policy: Processing and Reporting Changes in Student Enrollment Status Under Title IV, 2019.

Students may be granted more than one leave of absence as long as the total amount of time does not exceed 180 days in a 12-month period.

The time limit for completing the degree will not be extended as a result of an approved Leave of Absence.

Students on leave may complete, by the appropriate deadline for the term in which the course was taken, outstanding work in courses for which they have been granted approved incompletes. They may not, however, fulfill any other degree requirements during the time on leave. Students who intend to work toward the degree while away from the University must request registration in absentia. Students who in fact make progress toward the degree while on leave will have their registration changed retroactively to in absentia for the period of the leave.

Students on leave of absence do not have to file a formal application for readmission. However, they must notify the Graduate Program in Biomedical Sciences Office in writing of their intention to return. Such notification should be given at least six weeks prior to the end of the approved leave.

Personal Leave of Absence

A student who is current with his or her degree requirements and who wishes to interrupt study temporarily may request a personal leave of absence. The general policies governing leaves of absence are described above. Students are eligible for personal leaves after satisfactory completion of at least one year of study.

To request a personal leave of absence, the student must write to the Associate Dean for Research and Graduate Studies explaining the reasons for the proposed leave and stating both the proposed start and end dates of the leave and the address at which the student can be reached during the period of the leave. If the Associate Dean finds the student to be eligible, the leave will be granted. In any

case the student will be informed in writing of the action taken. Students who do not apply for a leave of absence, or who apply for a leave but are not granted one, and who do not register for any term, will be considered to have withdrawn from the Graduate Program in Biomedical Sciences.

Students on a personal leave of absence are not eligible for financial aid, including loans, or for the use of University facilities normally available to registered students. Students granted a personal leave may continue to be enrolled in the UCC health plan by purchasing coverage.

Medical Leave of Absence

A student who must interrupt study temporarily because of illness or injury may be granted a medical leave of absence with the approval of the Associate Dean for Research and Graduate Studies, on the written recommendation of a physician. Final decisions concerning requests for medical leaves will be communicated to students in writing.

The Graduate Program in Biomedical Sciences (GPBS) reserves the right to place a student on a medical leave of absence when, on the recommendation of the Dean of Student Affairs, the GPBS determines that the student is a danger to self or others because of a serious medical problem. A student who is making satisfactory progress toward his/her degree requirements is eligible for a medical leave any time after matriculation. Before re-registering, a student on medical leave must secure written permission to return from a physician.

Students on medical leave of absence are not eligible for financial aid, including loans, or for the use of University facilities normally available to registered students.

Family Leave of Absence

A student who is making satisfactory progress toward his/her degree requirements and wishes to, or must, interrupt study temporarily for reasons of pregnancy, maternity or paternity care, or care for a family member, may be granted a family leave of absence. Any student planning to have or care for a child is encouraged to meet with the Associate Dean for Research and Graduate Studies to discuss leaves and other short-term arrangements. For many students short-term arrangements, rather than a leave of absence, are possible. A student who is making satisfactory progress toward his/her degree requirements is eligible for a leave of absence for parental responsibilities any time after matriculation.

Students on leave of absence for parental responsibilities are not eligible for financial aid, including loans, or for the use of University facilities normally available to registered students.

STUDY PROGRAMS IN THE BIOMEDICAL SCIENCES

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
    - Anatomy and Cell Biology*
    - Biochemistry
    - Microbiology and Immunology*
    - Pharmacology
    - Physiology
4. Master of Science in Neuroscience
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*

*These programs will not be accepting applications for the 2024-2025 academic years due to an active curricular revision process.

GRADUATE STUDENT COMPETENCIES

PhD in Cell and Molecular Biology and PhD in Neurosciences graduates will be able to:

1. Integrate knowledge of concepts, sub-specialties, research techniques, and other specific aspects of cellular and molecular biology and neuroscience.

2. Design and implement original, rigorous, and reproducible scientific research.

3. Develop, implement, and conduct a scientific protocol.

4. Demonstrate proficiency in quantitative, analytical, and technical skills for successful execution of reproducible research and problem solving.

5. Comply with rigorous ethical standards, regulatory and legal principles when conducting research and interacting within the diverse constituents from the scientific fields and the community.

6. Demonstrate effective professional skills necessary for: career management, team working, collaboration, network building, solving complex problems in unpredictable situations, and pursuing learning and development.

7. Demonstrate effective skills in active listening, verbal communication, public speaking, and written communication focused towards scientific and general audiences.

8. Plan, deliver and evaluate academic and mentoring activities.

M.A./M.S. Program in Biomedical Sciences
Specialization in Anatomy and Cell Biology

Graduates will be able to:

1. Demonstrate a general knowledge of the principal areas of anatomy: macroscopic anatomy, histology, embryology, and neuroanatomy.

2. Demonstrate a general knowledge of biochemistry and cell biology.

3. Apply knowledge in anatomy and cell biology to the development of scientific projects (M.S.).

4. Interpret scientific literature to support hypothesis and project development (M.S.).

5. Apply the contemporary techniques used within the area of research (M.S.).

6. Apply current technology and scientific methodologies for problem solving (M.S.).

7. Conduct an experiment to test a hypothesis (M.S.).

8. Demonstrate the necessary written and oral skills to effectively articulate an idea or thought.

9. Demonstrate the use of scientific literature required to continue their professional development throughout their career.

10. Demonstrate the required professional skills to collect, organize, and analyze scientific data.

11. Use scientific information including primary research articles, mass media sources, and World Wide Web information.

12. Apply professional standards related to the publication and dissemination of research results.

13. Demonstrate a professional attitude when interacting with all individuals.

14. Demonstrate a professional attitude and manners in the behavior towards their peers, institutional staff, and faculty.

M.S. Program in Biomedical Sciences
Specialization in Biochemistry

Graduates will be able to:

1. Demonstrate a general knowledge of biochemistry and cell and molecular biology.
2. Apply knowledge in biochemistry to the development of scientific projects.
3. Interpret the scientific literature to support hypothesis and project development.
4. Apply the contemporary techniques used within the area of research.
5. Apply current technology and scientific methodologies for problem solving.
6. Conduct an experiment to test a hypothesis.
7. Demonstrate the necessary written and oral skills to effectively articulate an idea or thought.
8. Demonstrate the use of scientific literature required to continue their professional development throughout their career.
9. Demonstrate the required professional skills to collect, organize, and analyze scientific data.
10. Use scientific information including primary research articles, mass media sources, and World Wide Web information.
11. Apply professional standards related to the publication and dissemination of research results.
12. Demonstrate a professional attitude when interacting with all individuals.
13. Demonstrate a professional attitude and manners in the behavior towards their peers, institutional staff, and faculty.

M.S. Program in Biomedical Sciences
Specialization in Microbiology and Immunology

Graduates will be able to:

1. Demonstrate a general knowledge of the principal areas of microbiology and immunology: bacteriology, mycology, parasitology, virology and immunology.

2. Demonstrate a general knowledge of biochemistry and cell biology.

3. Apply knowledge in microbiology and immunology to the development of scientific projects.

4. Interpret the scientific literature to support hypothesis and project development.

5. Apply the contemporary techniques used within the area of research.

6. Apply current technology and scientific methodologies for problem solving.

7. Conduct an experiment to test a hypothesis.

8. Demonstrate the necessary written and oral skills to effectively articulate an idea or thought.

9. Demonstrate the use of scientific literature required to continue their professional development throughout their career.

10. Demonstrate the required professional skills to collect, organize, and analyze scientific data.

11. Use scientific information including primary research articles, mass media sources, and World Wide Web information.

12. Apply professional standards related to the publication and dissemination of research results.

13. Demonstrate a professional attitude when interacting with all individuals.

14. Demonstrate a professional attitude and manners in the behavior towards their peers, institutional staff, and faculty.

M.S. in Neurosciences

Graduates will be able to:

1. Demonstrate a general knowledge of the principal areas of Neuroscience
2. Demonstrate a general knowledge of biochemistry and cell and molecular biology.
3. Apply knowledge in neuroscience to the development of scientific projects.
4. Interpret scientific literature to support hypothesis and project development.
5. Apply the contemporary techniques used within the area of research.
6. Apply current technology and scientific methodologies for problem solving.
7. Conduct an experiment to test a hypothesis.
8. Demonstrate the necessary written and oral skills to effectively articulate an idea or thought.
9. Demonstrate the use of scientific literature required to continue their professional development throughout their career.
10. Demonstrate the required professional skills to collect, organize, and analyze scientific data.
11. Use scientific information including primary research articles, mass media sources, and World Wide Web information.
12. Apply professional standards related to the publication and dissemination of research results.
13. Demonstrate a professional attitude when interacting with all individuals.
14. Demonstrate a professional attitude and manners in the behavior towards their peers, institutional staff, and faculty.

M.S. Program in Biomedical Sciences
Specialization in Pharmacology

Graduates will be able to:

1. Demonstrate a general knowledge of pharmacology.
2. Demonstrate a general knowledge of biochemistry and cell biology.
3. Apply knowledge in pharmacology to the development of scientific projects.
4. Interpret scientific literature to support hypothesis and project development.
5. Apply the contemporary techniques used within the area of research.
6. Apply current technology and scientific methodologies for problem solving.
7. Conduct an experiment to test a hypothesis.
8. Demonstrate the necessary written and oral skills to effectively articulate an idea or thought.
9. Demonstrate the use of scientific literature required to continue their professional development throughout their career.
10. Demonstrate the required professional skills to collect, organize, and analyze scientific data.
11. Use scientific information including primary research articles, mass media sources, and World Wide Web information.
12. Apply professional standards related to the publication and dissemination of research results.
13. Demonstrate a professional attitude when interacting with all individuals.
14. Demonstrate a professional attitude and manners in the behavior towards their peers, institutional staff, and faculty.

M.S. Program in Biomedical Sciences
Specialization in Physiology

Graduates will be able to:

1. Demonstrate a general knowledge of the principal areas of Physiology: cardiopulmonary, endocrine, gastrointestinal, neuromuscular, renal reproductive and reticuloendothelial physiology.
2. Demonstrate a general knowledge of biochemistry and cell biology.
3. Apply knowledge in physiology to the development of scientific projects.
4. Interpret scientific literature to support hypothesis and project development.
5. Apply the contemporary techniques used within the area of research.
6. Apply current technology and scientific methodologies for problem solving.
7. Conduct an experiment to test a hypothesis.
8. Demonstrate the necessary written and oral skills to effectively articulate an idea or thought.
9. Demonstrate the use of scientific literature required to continue their professional development throughout their career.
10. Demonstrate the required professional skills to collect, organize, and analyze scientific data.
11. Use scientific information including primary research articles, mass media sources, and World Wide Web information.
12. Apply professional standards related to the publication and dissemination of research results.
13. Demonstrate a professional attitude when interacting with all individuals.
14. Demonstrate a professional attitude and manners in the behavior towards their peers, institutional staff, and faculty.

GRADUATION COMMENCEMENT CEREMONY PARTICIPATION REQUIREMENTS

Ph.D. Degree

Early in the doctoral work, a dissertation subject is chosen in the major field of study and approved by the dissertation committee. The dissertation must represent an original investigation that contributes new knowledge to the candidate's field. The student must comply with the following requirements to be granted the PhD Degree.

a. Grade index: 3.0 or above
b. Credits: As stipulated by the program of study, 72 credits minimum.
c. Residence (if applicable): A minimum of 36 credits must be completed at UCC.
d. Time limitation: A maximum of 7 years to satisfy all the requirements.
e. Pass the candidacy examination
f. Pass the dissertation defense: Required of all students
g. Authorship: First author in at least one (1) original research manuscript 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, reviews, systematic reviews and clinical cases do not meet this requirement.
h. Deliver the final version of his/her dissertation

Note: Students must comply with the requirements a to g to participate in the Commencement Ceremony and remain enrolled in the Program.

Participating in the graduation ceremony does not imply that UCC will confer the degree with the respective honors. The student is required to meet all academic and administrative graduation requirements mandated by the institution to be granted the corresponding degree.

MA Degree

a. Grade index: 3.0 or above
b. Credits: As stipulated by the program of study, 36 credits minimum.
c. Residence: A minimum of two years of full-time work must be completed at UCC
d. Time limitations: A maximum of 4 years to complete all the requirements. Refer to extension request procedure
e. Pass comprehensive examination

MS Degree

a. Grade index: 3.0 or above
b. Credits: As stipulated by the program of study, 36 credits minimum.
c. Residence: A minimum of two years of full-time work must be completed at UCC
d. Time limitations: A maximum of 4 years to complete all the requirements Refer to extension request procedure
e. Pass comprehensive examination
f. Thesis defense

PhD and MS: Students must deliver the approved dissertation/thesis electronically according to the Dissertation/Thesis Formatting section to complete the graduation requirements and receive his/her diploma. The Graduate Program in Biomedical Sciences will print and bind three (3) copies of the thesis or dissertation: one for the student, one for the department (MS) or Mentor (PhD), and one for the library.

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

UNIVERSIDAD CENTRAL DEL CARIBE
Graduate Program in Biomedical Sciences Office
GPBSF 24

Graduation Requirements Check List

Name: _____

Student ID: _____

Program: _____

To be completed before signing the “Autorización de Entrega Diploma” document of Registrar’s Office.

PhD □	MS □	MA □	Requirements
□	□	□	Grade Index: 3.0 or above
□			Credits: As stipulated by the program of study, 72 credits minimum.
	□	□	Credits: As stipulated by the program of study, 36 credits minimum.
□			Residence: A minimum of 36 credits must be completed at UCC.
	□	□	Residence: A minimum of two years of full-time work must be completed at UCC
□			Time limitations: A maximum of 7 years to satisfy all the requirements.
	□	□	Time limitations: A maximum of 4 years to complete all the requirements
□			Candidacy examination.
	□	□	Comprehensive examination.
□	□		Dissertation or thesis defense.
□			First author in at least one (1) original research manuscript accepted for publication in a peer-reviewed journal
□	□	□	Pay graduation fees to Cashier's Office
□	□		Pay printing and binding (3 copies) fees to Cashier’s Office
□	□		Deliver the approved dissertation/thesis electronically
□	□	□	Graduate Program forms completed.
□	□	□	Complete Alumni Contact Information (GPBSF11)
□	□	□	Complete Exit Survey

Time Limitations

Ph.D. Degree

Doctoral students must complete the degree requirements in a minimum of four years and in a maximum of seven. Refer to the “Extension Request Procedure” section.

MS and MA Degree

Master 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/her fourth year, the last day of the academic year.

Extension Request Procedure

Under exceptional circumstances, the Graduate Program in Biomedical Sciences Committee may extend the specific program time limits for a maximum of two semesters. The student must direct a letter to the Academic Director of Graduate Studies requesting the extension at most six months before the start of the extended time period. The letter must include 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 will submit a detailed plan for the student to complete the graduation requirements in the requested period. The proposed plan should be previously approved by the student’s thesis committee members. The Graduate Program in Biomedical Sciences Committee will examine the documents presented and render a decision.

The student can request a time extension under the following circumstances:

1. Student's studies or research were interrupted and/or delayed as a consequence of a natural disaster (hurricanes, earthquakes, pandemic, etc.).
2. Student's studies or research were interrupted and/or delayed due to unexpected events associated with student’s personal life such as disabling disease, accident, injury, and/or death of a close relative.
3. Student's studies or research were interrupted and/or delayed due to pregnancy, maternity or paternity care, or care for a family member,
4. Student's studies or research were interrupted and/or delayed due to mentor illness, separation from the institution or death.
5. Other exceptional circumstances.

In case the student does not finish the proposed plan during the extended period, the student's progress will be evaluated by the Evaluation and Promotion Committee.

PROGRAM ACADEMIC REQUIREMENTS

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 nonrefundable graduation fee to the Bursar's Office. Non-compliance with these requirements may postpone the conferring of the degree.

Student Course Load and Enrollment Status Policy (approved December 1, 2022)

Ph.D. Students

1. Full-Time Student: A full-time load consists of at least 9 credits of course registration in the fall and spring semesters, eighteen (18) per year. Students must register every term; failure to do so will automatically result in the student being withdrawn from the program. However, students may be certified full-time with less than nine credits of registration under the following condition:
    a. May be certified full-time with one credit of graduate research if they have completed all required courses and have passed the candidacy examination.

2. Part-Time Student: All students registering for 8 credit hours or fewer are defined as part-time with program director approval. They are required to register as such and to pay the corresponding tuition.

Master Students

1. Full-Time Student (semester calendar): Full-time master's students are enrolled in at least 9 credits per academic year (fall and spring) and two courses by semester. However, students may be certified full-time with less than nine credits of registration in the following cases:
    a. May be certified FT with one credit of thesis work or internship if they have completed all required courses.

2. Part-Time Student: All students registering for 8 credit hours or fewer are defined as part-time with program director approval. They are required to register as such and to pay the corresponding tuition.

Programs of Study

The program of study must be filed with the Graduate Program in Biomedical Sciences Office. Students may enroll in the courses they understand are relevant to their degree, with the approval of their mentor, within the time limit to complete the program. 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 to graduate.

Residency

PhD Student Residence: A minimum of 36 credits must be completed at UCC.

MS/MA Student Residence: A minimum of two years of full-time work must be completed at UCC

PhD/MS Research Mentor
Students must select a mentor by the end of the first academic 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 Ph.D. and M.S. students. The mentor will be responsible for direct supervision of the student's research and will coordinate the comprehensive / candidacy exam. The mentor must has an academic appointment at UCC.

It is the student's responsibility to find an advisor. If the student has not succeeded in doing so within three full semesters after being admitted, the student must leave the GPBS or change his/her status to that of a master's degree (non-thesis option) student.

MA Mentor
Students must select a mentor by the end of the first academic year. The mentor will be in charge of organizing evaluation committees for the student's biographical reports. The mentor will be selected by the student on 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.

Seminars
All faculty members present during the seminar may evaluate the student's seminar presentation. 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 Committee
After selecting their 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 must have doctoral degrees. The members of the committee will be UCC faculty members. Faculty from other institutions with similar programs can be part of the committee, but the majority of the committee must be UCC 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 all committee 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 Ph.D. / M.S. 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 dissertation committee will monitor the student's research progress on a regular basis, meeting at least once per academic semester. A week prior to each meeting, the student will present a written summary of research progress to the committee for review.

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 ten (10) weeks prior to the thesis defense date.

1. The members of the committee will revise the draft to propose in writing any changes, deletions, corrections and criticism to the draft.
2. The Committee and the student will meet to discuss the recommendations.
3. The candidate will prepare the final draft of the thesis based on the changes, corrections, etc. submitted by each member of the Committee.
4. The Committee will reexamine the thesis and determine the acceptability of the thesis and the date of the thesis defense. -

   Following the public defense, the student will have 10 days to make changes required by his committee.
5. The committee will have 2 weeks to reexamine the thesis and approve or disapprove It.
6. The student must deliver the approved thesis electronically, according to the Thesis/ Dissertation Manual, to complete the graduation requirements and receive his/her 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 mentor, 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

To qualify for the Dissertation/Thesis defense, the candidate should have fulfilled all graduation prerequisites (including authorship conditions for Ph.D. students) except for submitting the final version of their Dissertation/Thesis. Additionally, the candidate must have received confirmation from the Dissertation/Thesis Committee that their Dissertation/Thesis is ready for defense.

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 Associate Dean and will act as an evaluator of the process. This representative will be from outside the student's Thesis Committee. 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 Ph.D. Degree

Candidacy Examination

Ph.D. students in good standing are eligible to take the candidacy examination at the end of their required courses. All Ph.D. students must take a candidacy examination by the end of their third year. If the student does not comply, he or she must choose between the M.S., M.A. or leave the Graduate Program in Biomedical Sciences.

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 continue their doctoral research.

Successful completion of the candidacy examination is required for advancement to doctoral candidacy and must be accomplished at least twelve (12) 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 representative of the Graduate Program in Biomedical Sciences will be appointed by the Associate Dean to attend the candidacy examination, record the approval of the dissertation committee and assure all Program regulations are followed. This representative cannot be a member of the student's department (MS/MA) nor part of the student's committee.

Exam Format

The candidacy exam will consist of a written research proposal. The student presentation must be between 40 and 60 minutes. This will be followed by a closed question session between the dissertation committee and the student. The candidate will have to submit the proposal to the mentor and the members of the Committee at least two (2) weeks before the candidacy exam. The written research proposal has to follow the National Institutes of Health F31 guidelines.

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 two (2) months from the date of the first examination. In case of a second failure, the student will be awarded an M.A. degree. The student will not be allowed to reenter the Ph.D. Program.

In case of conditional approval, the student must meet the conditions no later than two (2) months from the date of the first examination.

Ph.D. students who successfully complete the candidacy examination and are not able to complete the Ph.D. graduation requirements will be awarded an M.S. degree.

Requirements for the Master 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). Any specific course requirements or minimum passing grades will be approved 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 before 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 (MA) Degree in the Biomedical Sciences

The Universidad Central del Caribe offers the MA degree in the 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 the Biomedical Sciences must complete the program with a minimum grade point average of 3.0 (scale of 4.0).

Enrollment

The following documents are required for student to enroll in:

Year 1 First Semester:

- GPBS Entry Survey

Year 1 Second Semester:

- GPBSF 21 Student Registration Form

Year 2 First Semester

- Individual Development Plan (IDP)
- IDP completion certificate
- GPBS Entry Survey
- GPBSF1 Program of Study
- GPBSF3A MA-MS Mentor Registration or GPBSF3B Ph.D. Mentor Registration
- GPBSF 21 Student Registration Form
- Mentoring Agreement
- Graduate Student Progress Report

Year 2 Second Semester:

- GPBSF3C MS/MA Advisory Committee or GPBSF3D PhD Advisory Committee
- GPBSF 21 Student Registration Form
- Graduate Student Progress Report

Year 3 First Semester:

- Updated Individual Development Plan (IDP)
- GPBS Entry Survey
- GPBSF5a Request Comprehensive Examination (MA/MS Students)
- GPBSF 21 Student Registration Form
- Mentoring Agreement
- Graduate Student Progress Report

Year 3 Second Semester:

- GPBSF 5c Candidacy Exam Request (PhD Students)
- GPBSF 21 Student Registration Form
- Graduate Student Progress Report

Year 4 First Semester:

- Updated Individual Development Plan (IDP)
- GPBS Entry Survey
- GPBSF 5d Results of Oral Candidacy Examination or 5e Results of Written Candidacy Exam Request (PhD Students)
- GPBSF 21 Student Registration Form
- Mentoring Agreement
- Graduate Student Progress Report

Year 4 Second Semester:

- GPBSF 21 Student Registration Form
- Graduate Student Progress Report

Year 5 First Semester

- Updated Individual Development Plan (IDP)
- GPBS Entry Survey
- GPBSF 21 Student Registration Form
- Mentoring Agreement
- Graduate Student Progress Report

Year 5 Second Semester:

- GPBSF7a Notification of Thesis / Dissertation Defense
- GPBSF 21 Student Registration Form
- Graduate Student Progress Report

Full-time Research Enrollment

Students will not enroll in full-time research without completing of the coursework required in their program of study.

Class Attendance

According to the Rules and Regulations of the UCC, attendance at classes and all other academic activities is mandatory. Students who do not attend class will be considered unauthorized withdrawals.

Coursework at other institutions

Students may enroll in courses offered at other institutions. They must complete GPBSF18 to request authorization and submit transcripts of the coursework taken to be included in their UCC transcript. These courses will be included in the GPA calculation and count towards the graduation requirements.

If the student has not selected a Dissertation/Thesis Committee, the Graduate Program Office may approve the course.

Use of online courses offered by other institutions

The student's mentor will submit the course description and syllabus to the GPBS Curriculum Committee for final approval. UCC faculty members will supervise the students in the course. Grades will be awarded or approved by a UCC faculty member.

Ownership of Unpublished Research Data
The student's research advisor owns all the unpublished research data generated in the laboratory. Students must meet with their advisor to discuss the possibility of using unpublished research data.

Students may include unpublished research data (owned by a former advisor) in their dissertation with the authorization of the Research Advisory Committee. This will proceed regardless the concurrence of the data owner. The unpublished data will be sequestered unless the owner authorizes its use. The student can only use the unpublished research data for his or her dissertation.

If the advisor has an obligation to an agency or other resource that is funding research involving a student, the nature of this obligation must be made clear to the student before the student beginning her/his work, for example restrictions on the publication of results. Such obligations must apply to the student as well.

The Research Advisory Committee will sign a confidentiality agreement if data is sequestered.

Recognition for Outstanding Research
Graduate students with two first-author publications will receive a certificate for their meritorious work and a medal at the commencement ceremony. This award is to recognize excellence in graduate student research.

COMPACT BETWEEN BIOMEDICAL GRADUATE STUDENTS AND THEIR RESEARCH ADVISORS

(Based on AAMC Group on Graduate Research, Education and Training (GREAT))

Guiding principles, known as the *Compact Between Biomedical Graduate Students and Their Research Advisors*, are intended to support the development of a positive mentoring relationship between the pre-doctoral student and their research advisor. A successful student-mentor relationship requires commitment from the student, mentor, graduate program, and institution. This document offers a set of broad guidelines that are meant to initiate discussions at the local and national levels about the student-mentor relationship.

Pre-doctoral training

Pre-doctoral training entails both formal education in a specific discipline and an apprenticeship in which the graduate student trains under the supervision of one or more investigators who are qualified to fulfill the responsibilities of a mentor. A positive mentoring relationship between the pre-doctoral student and the research advisor is a vital component of the student's preparation to become not only an independent and successful research scientist but also an effective mentor to future graduate students.

Individuals who pursue a biomedical graduate degree are expected to take responsibility for their own scientific and professional development. Faculty who advise students are expected to fulfill the responsibilities of a mentor, including the provision of scientific training, guidance, instruction in the responsible conduct of research and research ethics, and financial support. The faculty advisor also performs a critical function as a scientific role model for the graduate student.

Core Tenets of Pre-Doctoral Training

Institutional Commitment

Institutions that train biomedical graduate students must be committed to establishing and maintaining high-quality training programs with the highest scientific and ethical standards. Institutions should work to ensure that students who complete their programs are well-trained and possess the foundational skills and values that will allow them to mature into independent scientific professionals of integrity. Institutions should provide oversight for the length of study, program integrity, stipend levels, benefits, grievance procedures, and other matters relevant to the education of graduate students. Additionally, they should recognize and reward their graduate training faculty.

Program Commitment

Graduate programs should endeavor to establish graduate training programs that provide students with the skills necessary to function independently in a scientific setting by the time they graduate. Programs should strive to maintain scientifically relevant course offerings and research opportunities. Programs should establish clear parameters for outcomes assessment and closely monitor the progress of graduate students during their course of study.

Quality Mentoring

Effective mentoring is crucial for graduate school trainees as they begin their scientific careers. Faculty mentors must commit to dedicating substantial time to graduate students to ensure their scientific, professional and personal development. A relationship of mutual trust and respect should be established between mentors and graduate students to foster healthy interactions and encourage individual growth. Effective mentoring should include teaching the scientific method, providing regular feedback in the form of praise and constructive criticism to foster individual growth, teaching the "ways" of the scientific enterprise, and promoting students' careers by providing appropriate opportunities. Additionally, good graduate school mentors should be careful

listeners, actively promote and appreciate diversity, possess and consistently exemplify high ethical standards, recognize the contributions of students in publications and intellectual property, and have a strong record of research accomplishments and financial support.

Provide Skills Sets and Counseling that Support a Broad Range of Career Choices

The institution, training programs, and mentor should provide training relevant to academic, industrial, and research careers that will allow their graduate students to appreciate, navigate, discuss, and develop their career choices. Effective and regular career guidance activities should be provided, including exposure to academic and non-academic career options.

Commitments of Graduate Students

- I acknowledge that I have the primary responsibility for the successful completion of my degree. I will be committed to my graduate education and will demonstrate this by my efforts in the classroom and the research laboratory. I will maintain a high level of professionalism, self-motivation, engagement, scientific curiosity, and ethical standards.

- I will meet regularly with my research advisor and provide him/her with updates on the progress and results of my activities and experiments.

- I will work with my research advisor to develop a thesis/dissertation project. This will include establishing a timeline for each phase of my work. I will strive to meet the established deadlines.

- I will work with my research advisor to select a thesis/dissertation committee. I will commit to meeting with this committee at least annually (or more frequently, according to program guidelines). I will be responsive to the advice of and constructive criticism from my committee.

- I will be knowledgeable of the policies and requirements of my graduate program, graduate school, and institution. I will commit to meeting these requirements, including teaching responsibilities.

- I will attend and participate in laboratory meetings, seminars and journal clubs that are part of my educational program.

- I will comply with all institutional policies, including academic program milestones. I will comply with both the letter and spirit of all institutional safe laboratory practices and animal-use and human research policies at my institution.

- I will participate in my institution's Responsible Conduct of Research Training Program and practice those guidelines in conducting my thesis/dissertation research.

- I will be a good lab citizen. I will agree to take part in shared laboratory responsibilities and will use laboratory resources carefully and frugally. I will maintain a safe and clean laboratory space. I will be respectful of, tolerant of, and work collegially with all laboratory personnel.

- I will maintain a detailed, organized, and accurate laboratory notebook. I am aware that my original notebooks and all tangible research data are the property of my institution but that I am able to take a copy of my notebooks with me after I complete my thesis/dissertation.

- I will discuss policies on work hours, sick leave and vacation with my research advisor. I will consult with my advisor and notify fellow lab members in advance of any planned absences.

- I will discuss policies on authorship and attendance at professional meetings with my research advisor. I will work with my advisor to submit all relevant research results that are ready for publication in a timely manner before my graduation.

- I acknowledge that it is primarily my responsibility to develop my career following the completion of my doctoral degree. I will seek guidance from my research advisor, career counseling services, thesis/dissertation committee, other mentors, and any other resources available for advice on career plans.

Commitments of Research Advisors

- I will be committed to the life-long mentoring of the graduate student. I will be committed to the education and training of the graduate student as a future member of the scientific community.

- I will be committed to the research project of the graduate student. I will help to plan and direct the graduate student's project, set reasonable and attainable goals, and establish a timeline for completion of the project. I recognize the possibility of conflicts between the interests of externally funded research programs and those of the graduate student, and will not let these interfere with the student's pursuit of his/her thesis/dissertation research.

- I will be committed to meeting one-on-one with the student regularly.

- I will be committed to providing financial resources for the graduate student as appropriate or according to my institution's guidelines, for him/her to conduct thesis/dissertation research.

- I will be knowledgeable of, and guide the graduate student through, the requirements and deadlines of his/her graduate program as well as those of the institution, including teaching requirements and human resources guidelines.

- I will help the graduate student select a thesis/dissertation committee. I will assure that this committee meets at least annually (or more frequently, according to program guidelines) to review the graduate student's progress.

- I will lead by example and facilitate the training of the graduate student in complementary skills needed to be a successful scientist, such as oral and written communication skills, grant writing, lab management, animal and human research policies, the ethical conduct of research, and scientific professionalism. I will encourage the student to seek opportunities in teaching, if not required by the student's program.

- I will expect the graduate student to share common laboratory responsibilities and utilize resources carefully and frugally.

- I will not require the graduate student to perform tasks that are unrelated to his/her training program and professional development.

- I will discuss authorship policies regarding papers with the graduate student. I will acknowledge the graduate student's scientific contributions to the work in my laboratory, and I will work with the graduate student to publish his/her work in a timely manner prior to the student's graduation.

- I will discuss intellectual policy issues with the student with regard to disclosure, patent rights and publishing research discoveries.

- I will encourage the graduate student to attend scientific/professional meetings and make an effort to secure and facilitate funding for such activities.

- I will provide career advice and assist in finding a position for the graduate student following his/her graduation. I will provide honest letters of recommendation for his/her next phase of professional development. I will also be accessible to give advice and feedback on career goals.

- I will provide for every graduate student under my supervision an environment that is intellectually stimulating, emotionally supportive, safe, and free of harassment.

- Throughout the graduate student's time in my laboratory, I will be supportive, accessible, encouraging, and respectful. I will foster the graduate student's professional confidence and encourage critical thinking, skepticism and creativity.

TERMINATION OF THE STUDENT-MENTOR RELATIONSHIP

Student Voluntarily Resignation from a Laboratory

Graduate students are not obligated to remain under the direction of the advisor who accepted them. A student who leaves an advisor shall be allowed one full semester to relocate to another advisor. It is the student's responsibility to find a new advisor. If the student has not succeeded in doing so within one full semester (i.e., the full semester immediately following the student's departure from the advisor's directorship), must leave the GPBS or change his/her status to that of a master degree (non-thesis option) student. Students may only change mentor once.

Students who elect to leave an advisor's directorship must notify the advisor, the Department GPBS Coordinator and the GPBS Office in writing.

Dismissal of a Student by his/her mentor

A graduate student is expected to carry out research as part of his/her degree requirements. Research duties and research progress will be determined by the faculty/research advisor. Unsatisfactory performance in research could lead to loss of research supervision. This applies even if the student's GPA meets or exceeds the minimum set by the School.

A student whose research performance is determined to be unsatisfactory will receive a letter from his/her research advisor listing all deficiencies and/or outlining the level of performance required to continue working with the advisor. This will be communicated to the student at least one month before the end of the semester, and a copy will be provided to the Associate Dean for Research and Graduate Studies for inclusion in the student's file. The deficiencies must be remedied before the end of the semester to prevent dismissal from the advisor's research group.

A student who no longer has an advisor may seek another advisor with help from the Associate Dean for Research and Graduate Studies. A student who cannot find a new advisor after one semester must change his/her status to that of a master degree (non-thesis option) or leave the School. A graduate student who is dismissed by the UCC for academic or disciplinary reasons will not be readmitted to the School.

EXAM QUESTIONS

Students will have 10 working days to request points from questions in exams that they believe they have answered correctly. The student must request the revision from the faculty member who prepared the question.

GRIEVANCES

The Associate Dean for Research and Graduate Studies is ultimately responsible for grievances regarding policies and procedures related to graduate education. A grievance properly begins within the student's department by an appeal to the graduate program coordinator or department chair. If this does not resolve the grievance, the student can present the grievance in writing to the Associate Dean for Research and Graduate Studies. Grievances must state clearly and precisely the basis for appeal and provide supporting evidence that a student's rights have been jeopardized.

For all policies, if there are extenuating circumstances, the Associate Dean for Research and Graduate Studies may extend periods, for one additional term, or make reasonable accommodation at his/her discretion. The Associate Dean may recommend that the grievance be reviewed by the Graduate Program in Biomedical Sciences Committee. The Associate Dean is the final arbiter of Graduate School regulations. Students retain the right to appeal the Associate Dean's decision to the Dean of Medicine.

DEFINITIONS

Course Credits

The value used to calculate the total credit hours for each course is equal to the assigned period of contact hours allotted to a course and defined as lecture, laboratory, discussion, research, or supervised independent study.

Please refer to the Equivalency of Contact Hours to Credit Hours Policy and Procedural Compliance current version.

Semester

One semester will consist of 15 working weeks (5 days/week) of academic work.

Academic Year

1 July to June 30

GRADUATE PROGRAM IN BIOMEDICAL SCIENCES FORMS

1	GPBSF1	Program of Study
2	GPBSF2	Modification to the Program Study
3	GPBSF3A	MA/MS Mentor Registration
4	GPBSF3B	PhD Mentor Registration
5	GPBSF3C	MA/MS Advisory Committee Registration
6	GPBSF3D	PhD Advisory Committee Registration
7	GPBSF4	Advisory Committee Modification
8	GPBSF5A	Request of the Comprehensive Examination
9	GPBSF5B	Results Comprehensive Examination
10	GPBSF5C	Request of the Candidacy Examination
11	GPBSF5D	Results of Oral Candidacy Examination
12	GPBSF5E	Results of Written Candidacy Examination
13	GPBSF6A	Notification of Research Proposal
14	GPBSF6B	Results Research Proposal Defense
15	GPBSF7A	Notification of Thesis Defense
16	GPBSF7B	Results Thesis/Dissertation Defense
17	GPBSF8	Application for Transfer
18	GPBSF11	Alumni Contact Information
19	GPBSF12	Graduate Program in Biomedical Sciences Exit Survey
20	GPBSF13	Graduate Program in Biomedical Sciences Manual Receipt
21	GPBSF14	Seminar Presentation Evaluation
22	GPBSF15	Laboratory Rotation Agreement
23	GPBSF16	Laboratory Rotation Evaluation
24	GPBSF17A	MS/MA Graduate Student Annual Progress Report
25	GPBSF17B	PhD Graduate Student Annual Progress Report
26	GPBSF18	Request to Take a Course at Another Institution
27	GPBSF19	Evaluation of Bibliographic Report
28	GPBSF21	Student Registration Form
30	GPBSF24	Graduation Requirements Check List

BIBLIOGRAPHIC REPORT FORMATTING

The bibliographic report should be based on information provided and synthesized from primary contemporary literature. The report is meant to provide an overview of a topic. It should be 15-25 pages in length with at least 25 references.

Font/Spacing/Formatting

Must be printed on 8.5" x 11" paper on one side of the page only. They should be printed double spaced, in standard Arial 11-point font size.

Paragraphs must be indented.

Numbering Pages

The title page might not be numbered. Beginning with the Introduction, every page of the text must be numbered consecutively in Arabic numerals (1, 2, 3, etc.). Page numbers should appear at the center bottom of each page and should lie within the margin requirements.

Margins

Margins must be 1.0 inch on all sides.

References

References should be cited parenthetically in the text by author and year of publication, example of citation format: (Catalucci et al., 2009). Five major references should be dated within the last two years.

The references will be in single space. References will be listed alphabetically by the first author's last name. The authors must be cited in the order in which they appear in PubMed, even in cases where more than one author contributed equally to the work. Include all authors' names (do not use "et al.").

Use the format: Boschi D, Cena C, Di Stilo A, Rolando B, Manzini P, Fruttero R, Gasco A. Nitrooxymethyl-Substituted Analogues of Rofecoxib: Synthesis and Pharmacological Characterization. Chem Biodivers. 2010 May 20;7(5):1173-1182.

Abbreviate the names of journals according to PubMed. Spell out the names of unlisted journals.

The number of the reference will be on the left margin and not indented.

DISSERTATION / THESIS FORMATTING

Final Copies

The student must deliver an approved dissertation/thesis electronically, according to the Dissertation/ Thesis Manual, to complete the graduation requirements and receive his/her 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).

Information on Dissertation / Thesis

A thesis should be sufficiently complete to allow an independent investigator or scholar to repeat or verify the work leading to the author's results and conclusions. In certain cases, when manuscripts prepared for publication are to be used, the terseness required by the page restrictions of professional journals may prevent authors from meeting this condition with their publishable manuscripts alone. In such cases, the thesis or report must include additional materials (in appendices, if desired) that will ensure independent reproducibility; e.g., tables, descriptions of methods of unproductive or unsuccessful explorations, derivations, and so forth.

Abstract

An abstract is a summary of the thesis or report to inform prospective readers about its contents. As a brief summary of the candidate's principal research findings, the abstract should state the problem being investigated and outline the method of investigation, the results obtained, and the conclusions reached. In writing the abstract, candidates should keep in mind that it functions chiefly as a guide to students and scholars surveying research in their field. As such, it should provide a concise guide to the entire study it represents. The abstract should not include internal headings or parenthetical citations of items listed in the bibliography/list of references. Figures and tables should not appear in the abstract.

Style and Content

A thesis should be written in a style appropriate to the discipline represented. The faculties of individual departments may establish policies regarding style for their students. In the absence of detailed specifications, the student's committee is responsible for defining the style used. Form, organization, and bibliographical style may be that of pertinent professional publications.

Manuscript Formatting

Each thesis must have a title page, an abstract, and a table of contents, in addition to the text. Manuscripts should contain the following, unless noted as optional, in the order listed:

All headings must be centered and in uppercase lettering font size 12.

Title Page
ADVISORY COMMITTEE
ABSTRACT
TABLE OF CONTENTS
ACKNOWLEDGMENTS (Optional)
DEDICATION (Optional)
PREFACE (Optional)
LIST OF ABBREVIATIONS
LIST OF SYMBOLS
LIST OF FIGURES
LIST OF TABLES
INTRODUCTION
CHAPTERS
CONCLUSION
REFERENCES
APPENDICES (Optional)

Title Page
The title must be in uppercase letters and meet margin requirements.

Advisory Committee Approval Page
Follow the format illustrated on page 61.

Copyright page
A copyright page may be added after the Advisory Committee Approval Page. The copyright statement will be centralized vertically and horizontally.

Chapter Titles
Will be centered and in upper case lettering.
Format:
CHAPTER 1
TITLE OF CHAPTER 1

Abstract
An abstract is a required part of the graduate degree manuscript. The abstract should not contain a page number and should be no more than 350 words.

Physical Requirements
Submission of the original manuscript is not required, but photocopying should be done with care to ensure that margins on all copies are accurate and consistent and the reproduction service provides clean, spot-free copies. Typographical or other errors must be corrected before making copies.

Formatting
Copies must be printed on one side of the page only and must be distinct and of uniform quality throughout the document. They should be printed on high-quality, 50% - 100% white cotton bond paper and 8.5" x 11" in size.

Font
Prepare using 11-point font size Arial, Helvetica, Palatino Linotype, or Georgia typeface.

The font and size should be consistent throughout the document. All the text will be in black color including tables and graphics.

A Symbol font may be used to insert Greek letters or special characters; the font size requirement still applies.

Do not bold whole pages.

Spacing
Use standard double spacing for the text. Long quotations, footnotes, multi-line captions, and bibliographic entries may be single-spaced. Double spacing should be used between footnotes and bibliographic entries.

Paragraphs must be indented.

Abbreviations
Abbreviations must be spelled out the first time they are used. All Abbreviations and their meaning must be included in the list of abbreviations and must be listed in alphabetical order.

Numbering Pages
The title pages and abstract pages are not to be numbered. Beginning with the Table of Contents, the List of Figures, the List of Tables, Acknowledgments (optional), Dedication (optional) and Preface (optional), use lowercase Roman numerals (i, ii, iii, etc.). Beginning with the Introduction or Chapter I, ***every page*** of the text must be numbered consecutively in Arabic numerals (1, 2, 3, etc.). Page numbers should appear at the center bottom of each page and should lie within the margin requirements.

Margins
Margins on all pages must allow for binding and trimming. Margins must be 1.5 inches on the left and 1 inch at the top, right side, and bottom. Tables and figures should be reduced photographically to meet margin requirements. Illustrations/maps that cannot be reduced to fit within these margins may be expanded to the right using a foldout sheet. In such instances, margins must be 1" inch on the left side and the fold placed 1" inch from the right side of the page.

Footnotes and Endnotes
Use Arabic numerals to indicate a note in the text. Notes may be numbered in one of two ways: either consecutively throughout the entire manuscript or consecutively within each chapter and must be consistent throughout the document. Notes can be placed at the bottom of the page (footnotes), at the end of a chapter, or at the end of the document (endnotes). Once chosen, the notation style must be consistent throughout the document. Notes to information within tables should be placed directly below the table to which they apply, not at the bottom of the page along with notes to the text.

Figures (Photographs/Tables/Graphs)
Pictures, tables, and graphs may be done in color if approved by the committee. There must be a page number on each page containing photographs.

Legends will be in single space. The figure and the legend will be on the same page.

The list of tables and figures will include only titles and not descriptions.

The references for any figures obtained from any source must be included.

References
References should be cited parenthetically in the text by author and year of publication, example of citation format: (Catalucci et al., 2009). Five major references should be dated within the last two years. The number of the reference will be on the left margin and not indented.

The references will be in single space. References will be listed alphabetically by first author's last name. The authors must be cited in the order in which they appear in PubMed, even in cases where more than one author contributed equally to the work. Include all authors' names (do not use "et al.").

Use the format: Boschi D, Cena C, Di Stilo A, Rolando B, Manzini P, Fruttero R, Gasco A. Nitrooxymethyl-Substituted Analogues of Rofecoxib: Synthesis and Pharmacological Characterization. Chem Biodivers. 2010 May 20;7(5):1173-1182.

Abbreviate the names of journals according to PubMed. Spell out the names of unlisted journals.

Web references: Author or sponsor. Title. Year published. Retrieved Date, from web address.

Author's Published Manuscripts
If approved by the student's committee, previously published manuscripts in the author's name may be incorporated. Published manuscripts will be added as appendices. The information in the manuscript will be complemented with the information in the chapters of the dissertation.

The manuscripts must be paginated consistently with the rest of the document. Only one-page number may appear on each page and that is the page number within the final document. Documents must not include material restricted from publication.

Sequestration

In unusual circumstances, a student may request the university act to protect the author's rights in the dissertation by temporarily sequestering the work. If a dissertation or thesis contains material believed to be patentable, the student or major professor should send a letter to the Graduate Programs in Biomedical Sciences, requesting sequestration and offering a brief justification for the delay in publication. If the request is approved, all required copies of the manuscript will be kept in the Graduate Programs in Biomedical Sciences until the sequestration period has ended.

Where the guidelines in this publication are not sufficient, students should contact the Graduate Programs in Biomedical Sciences staff for more detailed information.

Thesis Title Page Example

CEMBRANOID-INDUCED CALCIUM SIGNALING

by

Juan del Pueblo

B.S., Universidad de Puerto Rico, 2000

A THESIS

Submitted in partial fulfillment of the

requirements for the degree

MASTER OF SCIENCE IN BIOMEDICAL SCIENCES
IN
(indicate specialty)

Graduate Programs in Biomedical Sciences

Universidad Central del Caribe
Bayamón, PR

2002

Approved by:

Major Professor
Juan Rodríguez
Department of Pharmacology

Dissertation Title Page Example

CEMBRANOID-INDUCED CALCIUM SIGNALING

by

Juan del Pueblo

B.S., Universidad de Puerto Rico, 2000

A DISSERTATION

Submitted in partial fulfillment of the

requirements for the degree

DOCTOR OF PHILOSOPHY
IN
(indicate) CELLULAR AND MOLECULAR BIOLOGY
(or) NEUROSCIENCE

Graduate Programs in Biomedical Sciences

Universidad Central del Caribe
Bayamón, PR

2002

Approved by:

Major Professor
Juan Rodríguez
Department of Biochemistry

Advisory Committee Page Example

ADVISORY COMMITTEE

Signature
Mentor's Name
Department

Signature
Committee Member 1 Name
Department

Signature
Committee Member 2 Name
Department

Signature
Committee Member 3 Name
Department

Signature
Committee Member 4 Name
Department

Month day, year
Date of Final Approval