DEPARTMENT OF PHARMACOLOGY AND TOXICOLOGY
DIVISION OF BIOMEDICAL SCIENCES
UNIVERSITY OF PUERTO RICO
MEDICAL SCIENCES CAMPUS

Graduate Program Policies and Procedures

MASTER OF SCIENCE AND DOCTOR OF PHILOSOPHY DEGREES

The Department of Pharmacology has issued this Manual, containing policies that cover all graduate students. Graduate students are also governed by policies at the University of Puerto Rico School of Medicine, Division of Biomedical Sciences and Graduate Studies.

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ADMISSION REQUIREMENTS

1. The most recent admission requirements for the Graduate School are posted on the web site Biomedical Sciences Graduate Program – School of Medicine (upr.edu)

2. Applicants must fulfill all admission requirements of the Graduate School of Biomedical Sciences at the Medical Sciences Campus in addition to the requirements for admission to the Graduate Programs of the Department of Pharmacology and Toxicology.

3. Applicants must have a general point average of not less than 3.00 on a scale of 4.00, and a grade point average in science and math of not less than 3.0. Each applicant will be evaluated according to her/his merits.

4. Applicants should have completed a B.S. or B.A. degree with an undergraduate major in Biology, Chemistry or Pharmacy. Applicants with other undergraduate majors, for example, a BS in Engineering may also be considered.

5. The following courses are required for all incoming students. Students with deficiencies in any of these courses will be required to remove the deficiency before being accepted as a full-time student. If program requirements have changed and the course is no longer available, a similar course may be substituted. In case of doubt, please contact the Program Coordinator.

    Mathematics: General principles of Calculus
    General Chemistry
    Organic Chemistry
    General Physics and laboratory
    General Biology
    Computer literacy/proficiency

6. The following courses are strongly recommended:

    Animal Physiology
    Cell and Molecular Biology
    Biochemistry
    Human Biology

PROGRAM'S POLICIES AND RULES

1. The student must comply with the general requirements established by the Manual for the Master of Science and Doctor of Philosophy degrees from the Graduate School of Biomedical Sciences of the University of Puerto Rico Medical Sciences Campus, School of Medicine.

2. The doctoral thesis project must be an independent and original piece of scientific investigation that will contribute to the scientific literature.

3. The Master's thesis project should be smaller in scope than the Ph.D. work. Ideally, it is a contribution to the scientific literature. It is expected that the thesis advisor will provide more direct guidance for the Master's thesis than for the doctoral thesis.

4. If the student wishes to change from the Master of Science program to the Doctoral program, she/he must submit a written request to the Department of Pharmacology and Toxicology and obtain the written approval of the Graduate Program Coordinator and the Department Chair. The process for changing programs is administered by the Graduate School.

5. All Students, independently of whether they are registered for seminar course, are expected to attend and participate in all departmental academic activities, including but not limited to regular seminars, presentations by visiting professors, and departmental retreats. Such participation may be considered for distribution of departmental funds for travel and research supplies, as well as for letters of recommendation.

I. PROGRAM REQUIREMENTS FOR THE M.S. DEGREE IN PHARMACOLOGY
(Minimum ~~33~~ credits)

The following courses or their equivalents are required. Substitutions must be approved by the Department Chairperson and the Graduate Program Coordinator.

In case of any discrepancy, the official version of required courses is that in the Catalog of the Medical Sciences Campus for the year in which the student enters in the program.

A. The student must fulfill the general requirements for the M.S. established by the Graduate School of Biomedical Sciences. In case of discrepancy, the rules of the Graduate School have precedence.

1. Minimum of 31 credits:
   - 24 in course work
   - 6 in thesis research
   - 1 credit of electives
2. Minimum grade point average of 3.0 at the completion of every academic year
3. Presentation of thesis proposal using the format required by the Graduate School
4. Presentation of thesis defense
4. Approval of thesis by the thesis committee

B. Courses or their equivalents in the following areas are requirements for the M.S. degree in Pharmacology:

1. Biochemistry	6 credits
2. Vertebrate Physiology	3 credits
3. Biostatistics	3 credits
4. Rotation	2 credits
5. Pharmacology General Principles	3 credits
5. Pharmacology	5 credits
6. Seminar in Pharmacology	1 credit x 2
7. Journal Club in Pharmacology	1 credit x 2
7. Master's thesis	6 credits
8. Elective	1 credit

Attendance at the weekly seminar is obligatory. The student should excuse his/herself if unable to attend. (See Rule #5, Page 3 of this document)

In addition to the above requirements the student must comply with all requirements of the Graduate School

C. Publication: The Department expects presentation(s) of the student's research work at national and/or international meetings, and strongly encourages submission of a manuscript based on the thesis work.

D. The above requirements may be revised periodically and modified when the faculty of the Department of Pharmacology and Toxicology considers that the modifications will benefit the training of the graduate students. The modifications may consist of the addition of other courses or deletion of the listed requirements.

E. The Registrar specifies that the time to graduation for the Master of Science is three years, which may be extended to a maximum of 6 years.

II. TYPICAL MS PROGRAM

Specialty in Pharmacology (see curriculum sequence in Appendix I)

First year: Biochemistry
Physiology
Biostatistics
General Principles of Pharmacology:
Seminar

Summer: Rotation

It is strongly suggested that if the student has not chosen a thesis advisor, s/he should make additional rotations at various laboratories of the Department. Ideally, the research mentor should be selected by the first semester of the second year.

Second year:
Pharmacology
Electives
Seminar
Presentation of the Thesis Proposal

Third year: Completion of Thesis Research
Writing and Defense of Thesis

III. PROGRAM REQUIREMENTS FOR THE PH.D. DEGREE IN PHARMACOLOGY

(Minimum of 60 credits)

The following courses or their equivalents are required. The Department's Chairman and the Graduate Program Coordinator must approve substitutions. Any change in course requirement or sequence must be approved by the Graduate Committee of the Graduate School.

A. The student must fulfill the general requirements established by the Graduate School of Biomedical Sciences:

1. Minimum of 45 credits:
   - 45 in course work
   - 15 in thesis research
2. Minimum grade point average of 3.0 at the completion of every academic year
3. Approval of candidacy requirements
4. Presentation of the dissertation proposal
5. Approval of dissertation thesis by the thesis committee

B. Courses Required by the Department: (See current catalog available at the main portal of the Medical Sciences Campus)n

1. Biochemistry (6 credits)
2. Physiology (3 credits)
3. Statistics (3 credits)
4. General Principles of Pharmacology (3 credits)
5. Pharmacology (5 credits)
6. Seminar (2 credits)
7. Rotation (2 credits)
8. Dissertation proposal(1 credit)
9. Preparation for the Qualifying Exam (3 credits) and Seminar (1 credit)
10. Dissertation research (15 credits)

In addition to the above requirements the student must comply with the following:

1. Approval of the comprehensive examination in Pharmacology and Toxicology.
2. Approval of thesis proposal.
3. Evaluation of research progress by the thesis committee at least once per academic year.
4. Approval of thesis defense by the thesis committee.
5. The Department strongly encourages presentation of the thesis work at national and international meetings.
6. It is expected that at least one manuscript will be submitted for publication in a peer-reviewed journal prior to graduation.

C. The above requirements may be revised periodically and modified when the faculty of the Department of Pharmacology and Toxicology considers that the modifications will benefit the training of the graduate students. The modifications may consist of the addition of courses or deletion of the listed requirements. The official requirements for each student is that described in the UPR-Medical Sciences Campus Catalog for the year in which the student was admitted to the program.

A minimum of 45 credit hours in courses is required. The student should complete the 45 credit hours from among the courses listed in the curriculum sequence of the Department of Pharmacology and Toxicology (Appendix I). At least 40 credit hours should be completed before the students requests the Comprehensive (qualifying) exam.

Electives: The electives to be taken are established by the student's research mentor in consultation with the student. It is strongly suggested that the student take the following courses outside the Department:

Cellular and Molecular Biology	3 credits
Instrumentation and Research Techniques	3 credits

Other graduate courses available at the Río Piedras Campus or Medical Sciences Campus require the recommendation of the student's research mentor and the Program Coordinator.

D. The above requirements may be revised periodically and modified when the faculty of the Department of Pharmacology and Toxicology considers that the modifications will benefit the training of the graduate students. The modifications may consist of the addition of other courses or deletion of the listed requirements.

E. The Registrar specifies that the time to graduation for the Doctor of Philosophy is five (5) years, which may be extended to a maximum of six (6) years with a previous MS and to eight (8) years without a prior MS.

IV. TYPICAL DOCTORAL PROGRAM

Specialty in Pharmacology

First year

Biochemistry
Physiology
Biostatistics
General Principles in Pharmacology
Pharmacology elective
Seminar

First summer: Rotation and Selection of Research Mentor

If the student has not chosen a thesis mentor, s/he should make additional rotations through the various laboratories of the Department. Department and external laboratories approved by the Graduate Program Coordinator and/or Department Chair. The research mentor must be selected no later than the end of the third year, but preferably by the beginning of the second year.

Second year:

Pharmacology
Basic Toxicology, if available
Pharmacology electives
Seminar

Third year:

Study for Qualifying exam
Seminar
Qualifying Exam for Candidature: The Graduate School has established that the qualifying exam must be taken in the third year.

Approval of the dissertation proposal

Fourth year:

Thesis research
Seminar
Thesis defense

V. Requirements to request reclassification from the M.S. to the Ph.D. program

Students enrolled in the M.S. program may request reclassification to the Ph.D. program. at the end of the first year according to rules established by the Graduate School. Reclassification requires the recommendation of the Department Chair.

VI. Student Responsibilities and Rules

1. The students will exhibit professional conduct during their graduate studies. Divergence from this conduct may result in dismissal from the graduate program.

2. Students are expected to maintain a 3.0 average or better at the completion of every academic year. If the student fails to fulfill this requirement, the Pharmacology and Toxicology Department will place the student on probation for a period up to one year. If during this one-year period the student does not correct the situation, the faculty may recommend the student to leave the program. **Students lose all access to financial aid while on Probation.**

3. Attendance is mandatory for all courses. Three unexcused absences may lead to dismissal from the course.

4. The Graduate School of Biomedical Sciences provides formats evaluations of courses. Students must complete all evaluation of the courses offered in the Pharmacology and Toxicology department and of each faculty member that participates in the courses.

5. All Students, independently of whether they are registered for seminar course, are expected to attend and participate in all departmental academic activities, including but not limited to regular seminars, presentations by visiting professors, and departmental retreats. Such participation will be considered for distribution of departmental funds for travel and research supplies, as well as for letters of recommendation.

6. The Graduate Program Coordinator or Chair must approve of any courses taken outside the Department prior to the student's registration.

7. Students must be aware of prevailing dress codes.

VII. Faculty Responsibilities

1. Review and evaluation procedures

a. The faculty will notify the Departmental Chairperson if any student does not fulfill their responsibilities.

b. If a student does not meet the requirements for the M.S. or Ph.D. in Pharmacology, the Coordinator of the Graduate Students will inform the Associate Deanship of Graduate Studies of the decision to dismiss the student from the program.

c. Successful completion of the M.S. Degree does not guarantee acceptance in the Ph.D. program.

d. The Graduate Program Coordinator must approve of any courses taken outside the Department prior to the student's registration.

2. Faculty mentor, co-mentor and research committee

a. From the time of admission until selection of a research mentor, the Graduate Program Coordinator is responsible for ensuring that the student complies with all program requirements.

b. The student must select a research mentor within time limits specified by the Graduate School.

c. The research mentor is responsible for supporting, guiding, and training the student in the process of selecting the Thesis/Dissertation Committee members, be available for meeting with the graduate student on a regular basis, and to encourage independent, creative and critical thinking.

Usually the student will select a member of the faculty of the Department of Pharmacology and Toxicology as her/his research mentor.

If the student wishes to select a research mentor outside the Department with the purpose of adding expertise in a specific area of research not available in the Department, the student must submit a well-justified inquiry to the Department's Chairperson and the faculty. For details, please refer to the next section.

3. Requirements for a research mentor from outside the Department of Pharmacology and Toxicology

a. The student may choose a research mentor from outside the Department only if there is no expertise available in the student's area of interest within the Department of Pharmacology and Toxicology. The student must choose a member from the Department of Pharmacology and Toxicology as a co-mentor.

b. The candidate mentor must be properly qualified to serve as an advisor, according to the rules of the Graduate School. The potential advisor must submit a *Curriculum Vitae* for evaluation by the Department's Chairperson and the faculty. The Department's Chairperson must approve the mentor.

4. Thesis or Dissertation Committee: A thesis or dissertation committee also must be identified. Members of this committee are selected with expertise that will be useful to the student during the research. The Graduate Committee must be informed of the committee formation. For the MS, the committee members must include at least two members from the department and one external member. For the PhD, the committee must include five members, including the mentor and co-mentor if applicable; the committee must include at least three members from the student's department and at least one external member.

c. Committee meetings: The committee is composed of the mentor, co-mentor if applicable, and members. The student must inform the mentor, co-mentor, and thesis or dissertation committee of his/her research progress by means of regular meetings, presentations or progress reports. Annual research committee meetings must be reported to the Graduate School (Anejo E).

4. Grading system

a. The students will be evaluated by the professor(s) teaching the courses using the method they consider most appropriate, which must be specified in the syllabus.

b. Courses offered by the Department must be passed with a grade of B (3.0 average) or better.

c. If the student fails to maintain a grade of B (3.0 average) at the completion of the departmental course (PHAR 8500) she/he will be required to take a remedial course to compensate for the deficiency in the specific area. Remedial courses may be from the Department of Pharmacology and Toxicology, may include specialized courses at Cold Spring Harbor Laboratory and/or at The Marine Biological Laboratory, Woods Hole or other universities.

d. If the remedial course is from outside our Institution, the student must submit a detailed description of the potential remedial course(s) to be evaluated and approved by the Graduate Program Coordinator. The remedial course may serve as an elective.

Failure to maintain a B average will result in the student being placed on Probation by the Graduate School, and loss of all financial aid.

VIII. Qualifying Exam

All Ph.D. students are required to take the Qualifying Exam that consists of a written examination given over three days followed by an oral presentation. The exam should be designed to examine the student's capacity for critical thinking, research design and rigor, and the fundamental body of knowledge in the discipline. The examination will be offered a maximum of twice per academic year.

A. Preparation

1. The student should visit all faculty members for specific guidance before starting his/her preparation, and then should set aside 2-3 months for intensive review. The Graduate School requires that the students take this exam during (no later than) the first semester of his/her third year.

2. The examination will be prepared by a rotating Examination Committee of three faculty members, who will include the Graduate Program Coordinator.

Committee members will be elected by the Faculty. The duties of the Examination Committee will include: Identifying a closed room for administering the exam, providing a computer verified to have no access to the internet, providing proctors, receiving written questions and verifying that the content to be examined has been presented in core courses, distributing written answers to two readers for each question, ensuring that exams are corrected within two weeks, and compiling the scores.

It is recommended that Faculty members who have a student who is taking the exam, s/he should retire from the committee for that exam.

B. Requirements

Prior to requesting the qualifying exam doctoral students must have satisfactorily completed a minimum of 40 credits, including all departmental requirements and electives. An "Incomplete" grade in any course will NOT be considered a satisfactory status to take the qualifying exam. The student must submit an application form[1] to the Graduate Coordinator requesting the qualifying exam with an official transcript evidencing the approved credits. Once the request for examination is received, the Department will assign the final examination date. The student must arrive 15 minutes prior to the beginning of the examination at the announced location.

All faculty members of the Department of Pharmacology and Toxicology will participate in the examination, *except those who express a conflict of interest in writing to the department.* Students are encouraged to contact each faculty member to obtain a list of suggested readings/topics to assist in his/her preparation for the examination.

B. Exam Format

The exam consists of two parts:

1. Part 1-Written exam: A written examination testing knowledge in general principles of Pharmacology including the areas of absorption, distribution, metabolism and excretion (ADME), pharmacodynamics, and receptor theory. Questions related to Systems Pharmacology will examine the areas of Cardiovascular, Renal, Autonomic and Peripheral Nervous System, Central Nervous System (CNS), Anti-cancer drugs and Antibiotics, Endocrine, Inflammation and Immune Suppression, Gastrointestinal and Toxicology. The written examination will integrate questions related to the basic principles of Physiology and Biochemistry.

2. Part 2-Oral exam: The oral exam will be focused on clarification and in-depth questioning related to the written exam. Students shall have the opportunity to raise their exam score by demonstrating adequate knowledge upon oral questioning.

C. The Written Examination of Pharmacology (Part 1):

1. General Principles: The examination will include two obligatory questions, one (1) on Pharmacokinetics and one (1) on Pharmacodynamics/Receptor Theory. At least two alternative questions will be available for each topic. The student must pass each of these questions with a minimum score of 70%.

[1] The application form is available at the Pharmacology and Toxicology Department and in the Appendix section below.

2. Toxicology: The examination will include one obligatory question on Toxicology. At least two alternative questions will be available. The student must pass the question with a minimum score of 70%.

3. Systems Pharmacology: The student must answer five questions in the areas of Systems Pharmacology. The student must pass each question with a minimum score of 70%. Limited choice will be permitted in answering questions related to Systems Pharmacology. The question to be answered will be selected randomly before the exam from a pool of questions previously screened by the exam committee.

The student must answer one question in each of the following system groups: Cardiovascular ***or*** Renal, Autonomic and Peripheral Nervous System ***or*** Central Nervous System, Anti-cancer drugs ***or*** Antibiotics. The student will answer two questions in each of the following system groups: Respiratory, Endocrine, Inflammation and Immune Suppression and Gastrointestinal System. See **Table 1** for a sample time table.

The exam will include at least one (1) question formulated by a faculty member with expertise in the particular area. The student must pass each of these questions with a minimum score of 70%.

4. Area of Specialization :
The proposed thesis advisor will submit a single question in the student's area of specialization. If the student has not yet selected an advisor or if that person is unable to prepare the question, it will be submitted by a faculty member designated by the Chair of the Department in consultation with the student and the Graduate Coordinator. The questions will examine both theory and hypothesis testing. The student must pass the question with a minimum score of 70%.

5. **Administration of the written exam**: The written examination is allotted three days distributed within a maximum of two weeks. Approximately 2 hours should be allotted to answer each question.

The student must pass all questions. After the initial administration of the exam, the student must obtain a minimum score of 70% on six (6) of the eight (8) written questions to be eligible for the Oral Exam (Part 2), and a minimum score of 65% on the failed questions.

Part 2 (Oral Exam) must be scheduled within 4 weeks of having completed Part 1.

Table 1: Sample timetable for the written examination (Part 1)

	Day 1	**Day 2**	**Day 3**
Morning questions	* ADME question * Receptor theory	* Specialty question * Toxicology question	Anticancer drugs ***AND*** Antibiotics

Afternoon questions	Cardiovascular ***Or*** Renal	Autonomic and peripheral nervous system drugs ***Or*** Central Nervous System drugs	Must answer questions for two of the following: • Endocrine drugs • Inflammation • Respiratory system drugs • Gastrointestinal System

Notes:
* Required question

D. Oral Examination (Part 2):

1. The purpose of the oral exam is to clarify answers to the written exam and to offer the student an opportunity to improve his/her score by demonstrating an adequate command of the material previously failed on the Written Exam.

2. The student must obtain a minimum score of 70% on six (6) of the eight (8) written questions to be eligible for the Oral Exam (Part 2), and a minimum score of 65% on the failed questions. Part 2 must be scheduled within 4 weeks of having completed Part 1.

3. All members of the faculty without conflicts of interest will administer the oral examination. The Examination Committee may invite the Student Procurator or the Associate Dean of Biomedical Sciences as an observer. Each faculty member will be allotted a certain amount of time to question the student. There may be more than one round of questioning.

4. Remediation: The examination committee will consider remedial work for a maximum of two questions in which the student failed to obtain a score of 65% on the written exam or failed to pass in the Oral Exam. Remedial work may include a reposition question or a course, if available. Remediation must be completed no later than one year from the first administration of the exam. If the remediation is not successfully completed, the student will be considered to have failed the Qualifying Exam and must repeat it.

5. The Examination Committee may recommend elimination of the Oral Examination if the student passed all 8 written questions. The recommendation will be approved by vote of the department faculty.

E. Evaluation

a. It is expected that the student will be able to demonstrate critical thinking, a depth of knowledge suitable to a Ph.D. candidate, appropriate communication skills and to be able to defend the scientific ideas within the research design. These criteria will be used to evaluate the performance of the student.

b. The written exam:

Faculty members must submit their written questions and rubric to the Examination Committee at least two weeks prior to the examination. To make the qualifying examination uniform for all students, the rubric must include specific discussion points and expected correct answers together with the questions.

All written questions will be graded by at least two faculty members and the student will be evaluated using a 0-100% scale. In the case of a significant difference between two readers, a third reader may be asked to evaluate the student's answer. A written summary including the student's strengths and deficiencies will be prepared and provided to the student. Areas that need to be strengthened but do not require re-examination will also be included in the written summary.

The final grade for each independent area of the written exam will be based on the scores from all faculty members involved in the evaluation. A written evaluation will be sent to the student two weeks after finishing the written exam. To pass, the student must obtain a minimum of 70% on each question.

c. Evaluation of the Oral Exam

1. The purpose of the oral exam is to clarify answers to the written exam and to give the student an opportunity to improve his/her score.

2. A special rubric will be prepared to evaluate the oral presentation.

3. At the end of the oral exam, the Examination Committee will lead the faculty in deciding the overall score on the Oral Exam and whether the student has succeeded to pass any written question that was previously failed. The Examination Committee will inform the result of the exam to the Graduate Committee.

3. Students who do not successfully raise their scores to passing in the Oral Exam will be assigned remedial work by the Examination Committee.

c. Students who fail the Qualifying Exam

If the student fails more than two (2) areas of the written examination, or fails to raise his/her score after the Oral Exam and Remedial Work, the entire examination must be repeated.

The student will receive written notification of instructions on how to proceed. The student may request re-examination only once. Re-examination must take place within a year after receiving the written evaluation.

A final report informing that the student has satisfactorily approved the qualifying exam

will be sent to the Graduate School only after the student passes the re-examination.

If the student fails the second examination, his/her record will be evaluated and a terminal Master of Science degree will be awarded, if all requirements are met. The student will not be able continue in the doctoral program if he/she fails both attempts to pass the Qualifying Examination.

Table 2. Expected time frame for the written examination and its evaluation.

Time	Day 1	Day 3	Day 5	Day 19	Days 26-33
	Written Exam	Written Exam	Written Exam	A written evaluation will be provided to the student	Oral Exam

IX. Thesis Committee Selection, Thesis Proposal, Thesis Research, and Thesis Defense

For a detailed description on these subjects please refer to current version of the Manual for the Master of Science and Doctor in Philosophy Requirements and Regulations for the Associate Deanship for Biomedical Sciences and Graduate Studies, University of Puerto Rico Medical Sciences Campus. (available at the Graduate Program webpage).

The policies and procedures of the Department of Pharmacology and Toxicology are not in conflict with those stated in the following document: "Manual for the Master of Science and Doctor in Philosophy Requirements and Regulations for the Associate Deanship for Biomedical Sciences and Graduate Studies".

Persons to contact for further information:

Chairperson:
Graduate Coordinator

Graduate Program in Pharmacology and Toxicology
Room A-323
Department of Pharmacology and Toxicology
School of Medicine
PO Box 365067
San Juan, PR 00936-5067

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UNIVERSITY OF PUERTO RICO, UNIVERSIDAD DE PUERTO RICO
MEDICAL SCIENCES CAMPUS, RECINTO DE CIENCIAS MÉDICAS
SCHOOL OF MEDICINE, ESCUELA DE MEDICINA

PHARMACOLOGY AND TOXICOLOGY DEPARTMENT
DEPARTAMENTO DE FARMACOLOGIA Y TOXICOLOGIA

APPLICATION FORM FOR COMPREHENSIVE EXAMINATION

The application form should be completed by the student and submitted to the Graduate Coordinator by the end of the semester preceding the administration of the test.

Student's Name _____
First Initial Last (paternal and maternal)

Student's ID Number _____

Email Address _____

Mailing Address _____

_____

_____

Proposed dates of examination

_____

I have attached my transcript YES ☐ NO ☐

Student's signature _____ Date _____

Approval of
Graduate
Coordinator _____ Date _____

APPENDIX 2: MILESTONES AND TIME LIMITS

THE FOLLOWING MILESTONES ARE DESCRIBED IN THE "MANUAL FOR THE MASTER OF SCIENCE AND DOCTOR OF PHILOSOPHY DEGREES"

Milestone	PhD Degree time limit	MS degree time limit
Selection of Research Advisor and Thesis/Dissertation Committee	Selection of the Research Advisor and Dissertation Committee no later than the **third (3rd) year** for doctoral students (p 6 of 44)	Selection of the Research Advisor and Thesis Committee no later than the **first (1st) semester of the second year** for master students (p 6 of 44)
Qualifying exam	Doctoral students should take the qualifying examination for Candidacy **before entering their 4th year** in the graduate program, as regular students. Any exception to this rule must be approved by the Graduate Committee of the Division of Biomedical Sciences. (p 7, p 25 of 44).	N/A
Approval of research proposal	The doctoral thesis proposal should be presented **within one year of the qualifying examination** for Candidacy approval (p 25 of 44). (*ie, during the 5th year*)	As a general rule, students in the Master's program should present their thesis proposal **no later than their 3rd year** in the program. (page 25 of 44)
Annual evaluation of satisfactory progress	The Departmental Graduate Studies Coordinator is responsible for evaluating the satisfactory progress of each student at least once each year (using Appendix G), up until the time that a Dissertation Committee is certified for the student. Then the Dissertation Advisor is responsible for the evaluation (using Appendix E). **Due July 1 of each academic year**. (p 13 of 44)	The Departmental Graduate Studies Coordinator is responsible for evaluating the satisfactory progress of each student at least once each year (using Appendix G), up until the time that a Thesis Committee is certified for the student. Then the Thesis Advisor is responsible for the evaluation (using Appendix E). **Due July 1 of each academic year**. (p 13 of 44)
Defend thesis/dissertation	The oral examination of the PhD dissertation must be held within **six (6) years** after the date of admission as a regular *student*	The oral examination of the Master's thesis must be held no later **than four (4) years** after the date of admission:

	(Registrar; p 23 of 34 in Toro Goyco)	(Registrar; *p 23 of 34 in Toro Goyco*)
Residence period	2 years	1 year
Publication	In addition, it is *expected* that the **student publishes at least one (1) research article** in a peer reviewed journal prior to the Final Oral Defense. (p 23 of 44)	
Responsible Conduct in Research program	Must complete (p 23 of 44)	Must complete

The authority for each milestone is in parentheses. Page numbers refer to the current Manual for Master of Science and Doctor of Philosophy degrees.