Universidad de Puerto Rico, Recinto de Ciencias Médicas
University of Puerto Rico, Medical Sciences Campus

Senado
Académico
Academic
Senate

2013-2014
Certificación 021

Yo, Raúl Rivera González, Secretario Ejecutivo del Senado Académico del Recinto de Ciencias Médicas de la Universidad de Puerto Rico, Certifico:

Que el Senado Académico en su reunión ordinaria del 3 de octubre de 2013, luego de recibir el Informe de su Comité de Asuntos Académicos, acordó:

Aprobar el Manual de Requisitos de los Programas Graduados de Ciencias Biomédicas de la Escuela de Medicina

Y, para que así conste, expido y remito la presente Certificación bajo el sello del Recinto de Ciencias Médicas de la Universidad de Puerto Rico, en San Juan, Puerto Rico, hoy 14 de octubre de 2013.

Raúl Rivera González, MT. MS.
Secretario Ejecutivo

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UNIVERSITY OF PUERTO RICO
MEDICAL SCIENCES CAMPUS

SCHOOL OF MEDICINE

DIVISION OF BIOMEDICAL SCIENCES
& GRADUATE STUDIES

MANUAL FOR THE

MASTER OF SCIENCE

AND

DOCTOR OF PHILOSOPHY DEGREES

R E Q U I R E M E N T S and R E G U L A T I O N S

Approved: October 2013

TABLE OF CONTENTS

I. GUIDELINES FOR THE GRADUATE PROGRAM

The regulations herein contained are written solely for the academic graduate programs of the Division of Biomedical Sciences of the School of Medicine, Medical Sciences Campus (MSC), University of Puerto Rico (UPR). The objective is to provide all biomedical academic graduate programs with consistent minimum requirements. Additional information regarding student academic development can be found within the "Manual de Normas y Procedimientos de la Oficina del Registrador".

Students within individual degree Programs are expected to satisfy the curriculum, preliminary examinations, qualifying examinations and dissertation requirements of their particular programs. These requirements are available from the individual Departmental Programs.

A. Admission Requirements:

At present, the Division of Biomedical Sciences (certification #48; 1975-1976) of the Medical Sciences Campus, University of Puerto Rico, offers various specialties in two advanced degrees: the Master of Science and the Doctor of Philosophy in the following departments:

1. Anatomy & Neurobiology
2. Biochemistry
3. Microbiology & Medical Zoology
4. Pharmacology & Toxicology
5. Physiology

The minimum requirements for admission are:

1. Bachelor's degree or its equivalent from an accredited institution.
2. Minimum general grade point average (GPA) of 3.0 in a scale of 4.0
3. Minimum grade point average in science courses (GPS) of 3.0 in a scale of 4.0

   *Courses taken as a "Special Student" in the MSC, UPR system or another accredited institution of higher education, cannot be used to calculate the GPS for admission to the program. "Special Student", as defined by the "Manual del Registrador", is a student that is not active in the UPR System or any other higher education institution, has not been admitted to any graduate program, be it at the UPR system or another accredited institution of higher education, and has been authorized by the Director of one of the five departments indicated above, and the Director of the Graduate Program of the Division for Biomedical Sciences to take courses of the Graduate Program prior to seeking admission in any of its programs or for other particular reasons (e.g. updating knowledge in a particular field of expertise needed for the person´s present job)[1]. However, if the courses taken as a special student are approved with a minimum grade of "B" or higher, and the student is eventually admitted to one of the Division´s Graduate Programs, some of these courses could be transferred to the student's graduate academic record, if recommended by the Departmental Graduate Committee and the Graduate Program, up to a maximum of 10 credits for a MS program, or 20 credits for a PhD

[1] As defined in the "*Manual del Registrador" of the UPR-MSC*.

program. For students who have a MS degree or are in a MS program and want to apply for admission or transfer to a PhD program, the procedures in Appendix H need to be followed.

4. Complete Graduate Record Examination (GRE) general test. The subject/advanced test in a science related area is required by some departments and is highly recommended by others. Candidates are encouraged to visit or consult with the departments of interest to learn about their expectations regarding the subject/advanced test. If a student takes the GRE subject test and the department does not require it, the score of the test will be used for extra bonus points.
5. Three (3) letters of recommendation, using the official forms provided in our website. At least two (2) of these must be from professors in the field of study.
6. An interview with faculty members of the Department to which the student is applying.
7. A working knowledge of English and Spanish.
8. Submission of the application form and other required documents on time.
9. If the students lists previous research experience, they should provide evidence, such as abstracts, manuscripts, etc.
10. Submission of an essay in English (250 maximum word count) describing the student interest in the field, is highly recommended.

Note: The basic science courses required by all the departments are: General Biology, General Chemistry, General Physics, Organic Chemistry and Calculus. Candidates are encouraged to visit the departments of interest to learn of additional requirements.

At the present, these requirements will be evaluated using the following Admission Formula:

[(GPA/4.0)*20] + [(GPS/4.0)*25] + (%GREs*10)† + (%GREq*15) + (%GREa*15) + [(LR/66)*5] + [(I/20)*10]+ (RE Bonus/40)*10] = Final Score

GPA: grade point average GPS: Grade point in Science and Mathematics Courses
GREs: graduate record examination score (percent) in Subject Area (highly recommended)
GREq: graduate record examination score (percent) in quantitative area (GRE general test)
GREa: graduate record examination score (percent) in analytical area (GRE general test)
LR: Letters of Recommendation I: Interview RE: Research Experience

†The score obtained in the subject test of the GRE will be used as bonus points in the case of students that complete the subject GRE test and the department does not require it.

Each Department generates a list of candidates. This list is sorted by the score obtained, with the student that obtained the highest score as first on the list. The department sets the maximum number of students that can be admitted according to ranking scores, merit and availability of positions in the department. Traditionally, students with scores of 60 or higher are recommended for admission to the PhD program. Students with scores between 50 and 59 are recommended for admission to the MS program. The Admission Formula may be modified by the Graduate Committee of the Division of Biomedical Sciences following careful consideration, as established in the certification 76-9 (Academic Senate of the Medical Sciences Campus, July 21, 1976). The Division of Biomedical Sciences evaluate all students on equal terms and do not discriminate against them because of sex, color, place of birth, age, physical or mental handicap, origin or

social condition, political or religious believes. Information regarding the application process, as well as the application and recommendation forms are available at: www.md.rcm.upr.edu/biomed/qualifications.php (as of September 1, 2013).

B. Study Program:

A student that fully satisfies the admission requirements and is admitted to the program, becomes a regular student (a full time load is 9 or more credits per semester, unless registered in special courses). The admitted student should become familiar with the departmental guidelines and must comply with all the requirements, regulations, and responsibilities according to departmental bylaws. Each department has a Graduate Studies Coordinator that oversees the academic progress of graduate students registered in the department's program.

All students pursuing an M.S. or Ph.D. degree are required to be committed full time to his/her program of study. The following is an outline of the sequence of steps expected from each graduate student regarding their academic program. Details are found in the main body of these Regulations as indicated by the cross-reference in parentheses following each guideline.

1. Admission as a regular student.
2. Course work under the guidance of the departmental Graduate Studies Coordinator, in accordance with the listings and the established regulations at the time of admission, as described in the applicable "Catalog of Courses" of the Medical Sciences Campus, and the guidelines of each individual program.
3. Yearly evaluation of satisfactory progress by faculty of the Department (see Appendix A).
4. Selection of the Research Advisor and Thesis/Dissertation Committee no later than the first semester of the second year for master students and no later than the third year for doctoral students (see III A and B).
5. Complete and approve all required courses that are necessary for the Qualifying Examination (see II B), in accordance with the listings and the established regulations at the time of admission, as described in the applicable "Catalog of Courses" of the Medical Sciences Campus, and the guidelines of each individual program.
6. Approval of degree candidacy after following all Departmental and Graduate Program requirements including the Qualifying Examination for Ph.D. students (see II A and B).
7. Submission of a research proposal for approval by the Thesis/Dissertation Committee (see III C).
8. Evaluation of satisfactory research progress by the Thesis/Dissertation Committee, once every year (see Appendix A and E). The student must demonstrate his/her full-time commitment to his/her graduate studies and research project, and this should be stated in the Appendix E.
9. Completion of research and writing of the thesis/dissertation. The student should consult frequently with the Thesis/Dissertation Committee members, so that major revisions of the final copy are incorporated and other unusual delays are avoided (see IV, V and VIII C).
10. Approve the final oral examination. The student must defend the quality of his research, the quality of the written thesis/dissertation, and his/her competence in other matters that the thesis/dissertation Committee considers important (see VI).

11. Granting of the degree when all requirements have been met and certified by the Office of the Associate Dean for Biomedical Sciences.

II. THE QUALIFYING EXAMINATION

The Qualifying Examination is required for all doctoral students.

A. Definition

The Qualifying Examination tests the student's overall knowledge of his/her chosen field of study. The Departmental Faculty, or the members of the student's thesis Committee, will determine the areas to be covered in qualifying examinations.

B. Requirements

Doctoral students must complete and approve a minimum number of credits established by the Department (in accordance with the listings and requirements established in the applicable "Catalog of Courses" of the Medical Sciences Campus, and the guidelines of each individual program) prior to taking the qualifying exams. All students must take the qualifying exams before entering the fourth year of study. Any exception to this rule must be approved by the Graduate Committee of the Division of Biomedical Sciences.

C. Successful Completion

The Chair of the Department, the Graduate Studies Coordinator or the student's dissertation Advisor, determines the examination procedure. The evaluation process should be uniform, consistent in the material to be evaluated and with the appropriate depth to assess the student's knowledge of the field. The Department Chairperson, or Graduate Studies Coordinator, will notify the Associate Dean of Biomedical Sciences, if the student has passed or failed the examination. This notification must be in writing and sent within three (3) calendar weeks after completion of the Examination.

Qualifying Examinations must be offered by each Department at least once a year. They may be repeated only once, within one calendar year from the first unsuccessful attempt. Failure to pass the Qualifying Examination the second time will lead to academic dismissal of the student from the doctoral program. The student will have the option to complete a Master degree. Students academically dismissed from a particular program will not be considered for readmission to the same Program.

III. THE CANDIDACY

Candidacy in the graduate programs is a requirement for all masters and doctoral degree students.

A. Definition

A candidate for a degree is a student who has demonstrated to the Faculty of his/her department that he/she meets the academic requirements to start an independent research project. Candidacy

is certified by the Chairperson of the Department and/or the Graduate Studies Coordinator and informed to the Graduate Committee of the Division of Biomedical Sciences.

B. Requirements

1. *Candidacy for the Master's Degree:*
    a) Satisfactory approval of at least twenty four (24) credits of course work, including all required courses in his/her Department (in accordance with the listings and requirements established in the applicable "Catalog of Courses" of the Medical Sciences Campus, and the guidelines of each individual program).
    b) Overall grade point average (GPA) of 3.00, and at least a 3.00 average in the required courses of his/her major Department.
    c) Satisfactory completion of the requirements set by his/her Department.

2. *Candidacy for the Ph.D. Degree:*
    a) Satisfactory completion of approximately 40-45 credits, depending on the department, and approval of all required/core courses in his/her Department (in accordance with the listings and requirements established in the applicable "Catalog of Courses" of the Medical Sciences Campus, and the guidelines of each individual program).
    b) An overall GPA of 3.00, and at least a 3.00 average in the required courses of his/her major Department must be maintained.
    c) Satisfactory completion of the Qualifying Examination.
    d) Satisfactory completion of the requirements set by his/her Department.

C. Certification Procedure

1. The Chairperson of the Department and/or the Department's Graduate Studies Coordinator, will be responsible to certify that the student has met all requirements for Candidacy.
2. The Graduate Studies Coordinator thru the office of the Chair, will send a letter to the Associate Dean and the Graduate Program Committee of the Division of Biomedical Sciences that the doctoral student has satisfied all the requirements for Candidacy.

IV. THE THESIS/DISSERTATION PROPOSAL

A. Selection of Thesis/Dissertation Advisor

The student is responsible for nominating a properly qualified Thesis/Dissertation Advisor, as described in Appendix B. The prospective Advisor's name, with his/her written consent to accept the student, must be submitted to the Departmental Graduate Committee by the Graduate Studies Coordinator.

The Departmental Graduate Committee is empowered to approve or reject the nomination of the student's Advisor. The Departmental Chairperson and/or the Graduate Studies Coordinator will

notify the Associate Dean of Biomedical Sciences, in writing, of the selection of the student's Thesis/Dissertation Advisor (even if the advisor is also the Departmental Chairperson) and the members of the Thesis/Dissertation Committee (see below).

B. Thesis/Dissertation Committee Selection

The student, in agreement with his/her Advisor, will select the Thesis/Dissertation Committee members. The Advisor, through his/her Departmental Chairperson or Graduate Studies Coordinator, will notify the Associate Dean for Biomedical Sciences of the composition of the thesis/Dissertation Committee. The qualifications for serving as a Thesis/Dissertation Committee member are listed in Appendix B.

1. Requirements for master's degree candidates

Master's Degree Candidates are required to have a minimum of three (3) Thesis Committee members. Two (2) members must be from the student's Department (the Advisor is one of the Departmental members) and one (1) member must be from outside of the student's Department. Adjunct or Joint faculty within the student's department are considered as departmental members.

2. Requirements for doctoral degree candidates

Ph.D. Candidates are required to have a minimum of five (5) members on their Thesis/Dissertation Committee. Three (3) of the members must be from the student's Department (the Advisor is one of the Departmental Members), and at least one (1) member must be from outside of the Department of the Candidate and Advisor. Adjunct or Joint faculty within the student's department are considered as departmental members.

3. Acceptance

The Advisor, through his/her Department Chairperson or Graduate Studies Coordinator must inform the Graduate Program, in writing, of the composition of the student's thesis/dissertation committee. This thesis/dissertation committee becomes official once it is approved by the Graduate Program Committee. The curriculum vitae (CV) of the external member(s) of the thesis/dissertation committee should be submitted to the Graduate Program Committee for approval.

4. Substitutions of the Thesis/Dissertation Committee Members

a) <u>The Thesis/Dissertation Advisor:</u>
   (1) To change the Thesis/Dissertation Advisor, the student must request and obtain written permission from the Departmental Chairperson after providing a written explanation of the reasons for the change. The Graduate Program must be notified, in writing, of any changes in Thesis/Dissertation Advisor. If the Advisor is also the Departmental Chairperson, the Graduate Studies Coordinator should notify the Graduate Program (in writing) about the change, and provide the name of the prospective Advisor.
   (2) Any proposed Thesis/Dissertation Advisor must meet the qualifications specified in Appendix B.

(3) Any change of Thesis/Dissertation Advisor must obtain the approval of the Graduate Program Committee. The Graduate Program Committee acts as the final authority concerning Thesis/Dissertation Advisor changes.

b) Committee Member Changes:

(1) The student and the Thesis/Dissertation Advisor may recommend changes in Committee members. Such changes must obtain written approval from the Departmental Chairperson or Thesis/Dissertation Advisor, after providing a written explanation of the reasons for the change.

(2) Any proposed Thesis/Dissertation Committee member must meet the qualifications specified in Appendix B.

(3) Proposed changes in Thesis/Dissertation Committee composition must meet with the approval of the Graduate Program Committee. The Graduate Program Committee acts as the final authority concerning changes in the Thesis/Dissertation Committee.

C. Content of the Thesis/Dissertation Proposal

1. Definition

The Thesis/Dissertation Proposal is a statement of the subject and intent of the research program that the student wishes to undertake. The proposal must be based on scientific principles and is intended as a preliminary outline of the research leading to an original contribution to the scientific field. The Graduate Program of Biomedical Sciences strongly suggests the use of the RO1 style (PHS 398) format (as of September 1, 2013, http://grants.nih.gov/grants/guide/pa-files/PA-07-070.html, http://grants.nih.gov/grants/funding/phs398/phs398.html, or any other site established by the NIH for this purpose). This application contains the following: Page #1- Cover page with title, name of student & his/her department, and Committee members; Page #2- Abstract of approximately 400 words that summarize the proposed project; Page #3- Specific aims: long-term objectives, the goal of the proposed research, and the hypothesis to be tested (hypothesis, rationale and strategy for each aim); Page #4 (until page #15)- Research Plan: Significance, Approach, Innovation. These three sections should be completed in 12 pages (single-spaced), using the appropriate forms from the NIH. The proposal should include the background leading to the proposed research, the significance of the research, the research approach (design and methods) for achieving the Specific Aims, the rationale, and expected outcome and alternative approaches of the proposed studies. It should also include the skills and techniques that will be used during the training period and any preliminary data the student has obtained in the current laboratory. A recent bibliography, consisting of articles relevant to the proposed studies, must be included. There are no page limitations for this latter section. The proposal should also include a biographical sketch, and a vertebrate animal section, or human subject section if applicable as additional pages (not within the 12 pages of the research plan). The proposal must be written in English and be revised by the student´s advisor.

If the NIH changes or revises the format of the RO1 in the future, the Graduate Committee of the Associate Deanship of Biomedical Sciences will evaluate these changes and will accordingly update its recommendation on the format that should be used by the graduate students. Students and Advisors that decide to use a different format for the proposal must first obtain approval of the selected style by the Graduate Committee of the Associate Deanship of Biomedical Sciences.

Students with an approved thesis proposal are strongly encouraged to submit it as an independent pre-doctoral fellowship to external funding agencies, such as NIH, NSF, Ford Foundation, among others.

2. *Registration for Thesis/Dissertation Proposal*
   Students must have completed all required credits in course work and PhD students must approved their qualifying exam.

3. *Preparation of the Thesis/Dissertation Proposal*
   In order to avoid extensive revisions and unnecessary delays, the student should consult his/her Advisor and the Thesis/Dissertation Committee on how to prepare the Thesis/Dissertation Proposal.

4. *Approval of the Thesis/Dissertation Proposal*
   a) The student's Advisor must approve the proposal before it is submitted to the otther members of the committee.
   b) The proposal is then submitted and presented to the Thesis/Dissertation Committee for approval.
   c) The proposal is approved once it is signed by a majority vote of all committee members.
   d) Once approved, the Thesis/Dissertation Proposal is sent to the Associate Dean of Biomedical Sciences. The Thesis/Dissertation Advisor is the person responsible of sending the signed copy to the Graduate Program through the Departmental Chairperson or Graduate Studies Coordinator. The graduate student must verify that this step was performed and that the signed copy was received by the Graduate Program Office.
   e) Then, the student must register in the 6 or 15 credit course of the Thesis/Dissertation Research Project for MS or PhD, respectively. ***All students must submit and receive approval*** from their Thesis/Dissertation Committee prior to enrolling for thesis/dissertation research project.

D. Request of Research Funds

The student and student's Advisor, through the Departmental Chairperson, may request research funds from the Division of Biomedical Sciences once the student has been admitted to Candidacy and the Thesis/Dissertation Proposal has been approved and received in the office of the Associate Dean for Biomedical Sciences. If funds are available, the Associate Dean of Biomedical Sciences may assign a determined amount of money each academic year to help the student with his/her research. Graduate students that qualify for research funds from the Graduate Program must be in compliance with all the requirements established in the program. Among these are:

satisfactory evaluations in graduate courses with a minimum grade point average of 3.0 in the scale of 4, no courses with Incompletes, satisfactory completion of the qualifying examination, approval of the thesis proposal, periodic meetings with the thesis committee to report on the progress of the project, and compliance with the expected timeline for completion of the writing and oral defense of the thesis/dissertation. Moreover, the students must also be in compliance with the educational requirements on the "Responsible Conduct in Research Compliance Program" as described in the following website: (as of September 1, 2013, http://www.md.rcm.upr.edu/ biomed/pdf/ nuevo%20 ingreso/3_RC2P_2011-12_v1.pdf). The appropriate procedures to follow are outlined in the "Procedimientos para la Reglamentación de la Asignación y Utilización de Fondos de Investigación para los Estudiantes del Programa de Estudios Graduados", approved by the "Consejo de Educación Superior", which can be obtained at the Division of Biomedical Sciences Office. A copy of the Certification may be obtained from the Division Biomedical Sciences Office.

V. THESIS/DISSERTATION RESEARCH

A. Candidate Responsibilities

Candidates should follow the guidelines described in the document entitled "Compact Between Biomedical Graduate Students and Their Research Advisors" approved by the Graduate Program Committee of the Division of Biomedical Sciences in November 2009. The document is available at the following website: http://www.md.rcm.upr.edu/biomed/pdf/compact.pdf (as of September 1, 2013). A copy is included at the end of this document.

1. ***Candidates are responsible for*** their thesis/dissertation research, maintenance of adequate research notes and the security of such notes. The laboratory notebooks cannot be removed from the work area (laboratory) at any time, they become property of the institution.

2. ***Candidates should discuss*** their ongoing research with the Thesis/Dissertation Committee members, at least once a year. After the annual meeting, Appendix E must be signed by all the members of the thesis/dissertation committee and the signed document sent to the Associate Dean of Biomedical Sciences by the Graduate Studies Coordinator, Thesis/Dissertation Advisor or student.

3. ***Candidates should avail*** themselves of all opportunities provided to them, such as facilities, instruments and personnel.

4. ***It is expected that candidates will conduct*** themselves in an **ethical and professional manner**, as defined by the Office of Research Integrity (ORI) at NIH (PHS Policy on Instruction in Responsible Conduct of Research (RCR): http://ori.hhs.gov/policies/RCR_Policy_shtml, as of September 1, 2013). To this avail, candidates will provide evidence of completion of the Research Compliance Program that can be found at the following website: (http://www.md.rcm.upr.edu/biomed/pdf/ nuevo%20ingreso/3_RC2P_2011-12_v1.pdf, as of September 1, 2013). A copy of the Certificate must be sent to the Graduate Studies Coordinator.

B. Advisor Responsibilities

Advisors should follow the guidelines listed in the document entitled "Compact Between Biomedical Graduate Students and Their Research Advisors" approved in the Graduate Program Committee of the Division of Biomedical Sciences in November 2009. The document is available at the following website: http://www.md.rcm.upr.edu/biomed/pdf/compact.pdf (as of September 1, 2013) and a copy included at the end of this document.

1. ***The Advisor's principal responsibility*** is to create an environment of academic excellence for his/her students and to encourage independent thought from the students.

2. ***The Advisor should*** be directly involved in the candidates training and be available for consultation.

3. ***The Advisor is responsible to support and stimulate the graduate student in the arrangement of a Thesis/Dissertation Committee meeting at least once a year*** to evaluate the student's progress. The student and the Advisor will prepare, in consultation with the Thesis/Dissertation Committee, a brief written progress report (Appendix E). The report is sent to the office of the Associate Dean for Biomedical Sciences, through the student, Chairperson or Department Graduate Studies Coordinator and will become part of the student's permanent record. This report is due July 1 of each academic year.

4. ***The Advisors should conduct*** themselves in an **ethical and professional manner**, as defined by the Office of Research Integrity (ORI) at NIH (PHS Policy on Instruction in Responsible Conduct of Research (RCR): http://ori.hhs.gov/policies/RCR_Policy_ shtml, as of September 1, 2013), and be acquainted with the deanship's Responsible Conduct in Research Compliance Program (http://www.md.rcm.upr.edu/biomed/pdf/ nuevo%20ingreso/3_RC2P_2011-12_v1.pdf, as of September 1, 2013). Advisors will also complete this program and send a copy of the certification to the Division of Biomedical Sciences.

C. Thesis/Dissertation Committee Members Responsibilities

1. ***Members are responsible for identifying*** difficulties in the student's thesis research project and in advising the students.

2. ***Members must attend*** Thesis/Dissertation Committee meetings and be active participants (evidenced by signing the Appendix E).

3. ***Members must promptly respond*** to their obligations in order to avoid unnecessary delays in the student's progress.

D. Credit for Thesis/Dissertation Research

1. ***Six (6) credits in Master's Thesis Research*** are required for the Master's Degree. Master's Thesis Research credits are not transferable to Ph.D., and only up to 24 course credits may be transferred to the Ph.D. Program (without grade- see the "Manual de Normas y Procedimientos de la Oficina del Registrador" (approved through Medical Sciences Campus Academic Senate Certification #70, 2010-2011, 16 de mayo de 2011), Section L "Normas Aplicables a la Exención de Cursos", point #2 [page 44]) after Departmental revision and approval.

2. ***Fifteen (15) credits in Ph.D. Dissertation Research*** are required for the Ph.D. Degree.

3. ***A student who is enrolled full-time*** in the Thesis/Dissertation must be actively engaged in research work a minimum of forty (40) clock hours per week (including the summer period).

4. ***Students are required to comply with the minimum of 40 hours per week*** when enrolled for thesis/dissertation credits for a residence period of one year for master students and two years for doctoral students. A grade of pass or fail will be given by the Advisor upon completion of the Thesis/Dissertation Research, but the degree will not be granted until the revised, signed and bounded thesis/dissertation manuscript is delivered to the office of the Associate Dean of Biomedical Sciences. If electronic Thesis/Dissertation documents are accepted by the UPR-Medical Sciences Campus Library, then the student may submit the dissertation as a PDF document. However, the student should ask his/her Advisor, Departmental Chair and Associate Dean if they prefer the document in an electronic and/or paper format.

VI. PREPARATION OF THE THESIS/DISSERTATION

Prior to writing the initial draft, the student must meet with the Thesis/Dissertation Committee to verify that the experimental work is adequately completed and to decide which style should be used.

A. Style

The student and the Advisor must agree on one of two possibilities:

1. Traditional

The style of the thesis/dissertation will follow the guidelines set-forth in the latest edition of the "Publication Manual of the American Psychological Association", available at the Office of the Associate Dean for Biomedical Sciences. The thesis/dissertation must be neat, written in English, free from typographical errors and compliant with accepted scientific standards. The major responsibility to see that the thesis/dissertation conforms to these criteria will be delegated to the Thesis/Dissertation Advisor.

2. Subdivided in article format (each article a chapter)

The thesis style can be a compilation of chapters containing the published, in press or

submitted articles of the student (written in English). This format must include a general introduction and a general discussion with conclusions, as individual chapters at the beginning and end of the document.

B. General Format

1. Traditional Style

The thesis/dissertation must be organized according to the following format as outlined in the latest edition of the "Publication Manual of the American Psychological Association".

a) Title Page. The title of the thesis/dissertation will be in capital letters, centered one-third of the way down on the page. Following the title will be the author's full name. Following the author's name, the following STATEMENT must be included: "A thesis/dissertation submitted in partial fulfillment of the requirements for the degree of Master's (M.S.) or Doctor in Philosophy (Ph.D.) (Department Name) at the University of Puerto Rico, Medical Sciences Campus (month & year)".

b) The Approval of Thesis/Dissertation Page (see Appendix F).

c) Dedication. (Optional)

d) Abstract. The abstract may contain up to **750** words, printed double space. The abstract must conform to the requirements of "Thesis/Dissertation Abstracts", found in the latest edition of the "Publication Manual of the American Psychological Association" available in the Graduate Program Office.

e) Table of contents. Should be organized as follows:

*Note about the Acknowledgements section: The acknowledgements must be written on a single page immediately following the title page.

2. Article style

Each published in press or submitted article is enclosed as an individual chapter after a general introduction, and a general conclusion placed at the beginning and end, respectively. The article style will use the following format:

a) Title Page.

b) Approval of Thesis/Dissertation Page (see Appendix F).

c) Dedication. (Optional)

d) Abstract (maximum of 750 words).

e) Table of contents. Should be organized as follows:

C. Specific Thesis/Dissertation Requirements

1. ***Paper***. For the final copy, the original must be printed on 8½ x 11 inch opaque white bond paper of 100% rag content and a weight of at least 16 pounds. Erasable paper cannot be used.

2. ***Margins***. The left hand margin of each page must be at least 1.5 inches wide. All other margins must be at least 1 inch wide.

3. ***Spacing***. The written text must be typed in double-space. Exceptions are the bibliography and quotations, which should be typed in single space.

4. ***Paging***.

a) The title, abstract, thesis/dissertation approval and dedication pages will not be numbered.

b) All other pages preceding the Introduction will be sequentially numbered with roman numerals.

c) Pages should be numbered with Arabic numerals beginning with the Introduction.

d) The location of the page number will be centered at the bottom of every page.

5. ***Footnotes*** should be avoided in the thesis/dissertation.

6. ***Quotations*** must be properly cited, as indicated in the Publication Manual of the American Psychological Association.

7. ***Plagiarism or close paraphrasing*** of another author's material without proper attribution is not permitted.

8. ***Reference citation***: All citations must be listed in the bibliography and all references must be cited in the text. The references must be placed in alphabetical order or numbered sequentially.

9. ***All illustrations*** (figures and photographs) must be numbered in the sequence in which they first appear in the text. Arabic numbers must be used, beginning with numeral 1.

10. ***Tables must be*** numbered in the sequence in which they first appear in the text, beginning with Arabic numeral 1.

11. ***Manuscripts where the student is the first author*** may be used as chapters in his/her thesis. However, if more than one student (also including, technician or postdoctoral fellow) contributed to the article (published, in press or submitted) ONLY the articles where the student contributed with at least 50% of the documented work may be added as a chapter. The Advisor and/or the thesis/dissertation committee will determine which manuscripts may be included into the thesis/dissertation document, according to the contribution or effort of the student. Manuscripts submitted for publication by graduate students working in their thesis/dissertation project, should include the following sentence in the acknowledgement section of the paper: "This research project is in partial fulfilment of (name of the student) doctoral or master (select one) thesis dissertation".

D. Responsibilities

1. ***The Candidate***. The Candidate is responsible for writing the thesis/dissertation according to the above criteria. The Thesis/Dissertation Advisor and the Committee Members should be frequently consulted concerning details of the thesis/dissertation. The Candidate has the ultimate responsibility to guarantee that the thesis/dissertation is a properly written scientific document. The Candidate assumes the responsibility for circulating and collecting copies of the thesis/dissertation among the other Committee Members. Once approved in final form (including all minor corrections following the oral defense), the bound originals and copies of the thesis/dissertation must be submitted by the Candidate to the Office of the Graduate School within 3 weeks of the oral presentation (see section VI-D). If a student fails to return the bound originals and copies of his/her

thesis/dissertation within 6 months of his/her (approved) oral presentation, the Department may dismiss the student from the Program (unless a valid excuse justifies the delay, and this must be presented in writing to the Department Chair for his/her consideration).

2. ***The Thesis/Dissertation Advisor***. The Advisor as well as the Candidate are responsible for the written quality of the thesis/dissertation. The Thesis/Dissertation Advisor must proof-read and approve the document before it is circulated among the other Committee members. The Thesis/Dissertation Advisor will act also as a mediator between the Candidate and Committee Members in thesis/dissertation related issues. The Advisor will verify that the final version of the thesis/dissertation incorporates all the changes required by the Committee.

3. ***The Thesis/Dissertation Committee Members***. The Committee members are responsible for reading and critiquing the thesis/dissertation, and assuring that the thesis/dissertation is of adequate scientific and literary quality.

VII. THE THESIS/ DISSERTATION DEFENSE

A. Preliminary Requirements

1. ***Prior to the Dissertation presentation***, the office of the Associate Dean of Biomedical Sciences will submit to the Departmental Graduate Studies Coordinator the list of courses (with grades) taken by the Candidate (Appendix G). This document is revised by the Advisor, the Department Graduate Studies Coordinator, and the graduate student to verify that all graduation requirements (courses and grades) are met before the thesis/dissertation oral presentation. The document (Appendix G) must be returned to the Associate Dean of Biomedical Sciences with a letter (co-signed by the Department Chair) confirming that the student completed all the required courses for his/her degree.

2. ***Documentation required by the Office*** of the Associate Dean for Biomedical Sciences and submitted by the thesis/dissertation Advisor, ***at least two weeks before*** the thesis/dissertation defense:

a) Title of thesis/dissertation (in English and Spanish)
b) Candidate's thesis/dissertation committee composition (to prepare the formal approval of thesis document-Appendix F by the Office of the Associate Dean and announcement).
c) Date, time and place of oral defense.
d) Status of the residence requirements as certified by the student's Advisor or Graduate Studies Coordinator. Residency is defined as full-time (40 hours/week) dedication to the research component of their graduate studies (Master student: 1 year residency and Doctoral student: 2 years residence).
e) TIME SCHEDULE FOR PROCESSING THESIS/ DISSERTATION FORM (see Appendix D).

3. ***The departmental Graduate Studies Coordinator***, through the office of the Departmental Chairperson, will be responsible to:

a) Certify that all requirements for the degree have been completed, except for the thesis/dissertation and its defense.
b) Indicate the admission date of the Candidate into the Graduate Program.

Students that started their graduate training as "special students" are not considered graduate students until they are accepted in to the graduate program. Courses approved as a "special student" will be transferred to the graduate student academic record, as established in the "Manual de Normas y Procedimientos de la Oficina del Registrador" section IV, subsection A-5 (pag. 4).

4. ***Prior to writing the initial dissertation draft***, the student must meet with the Thesis/Dissertation Committee to verify that the experimental work is adequately completed (see Appendix D, line #1 and Appendix E, written under recommendations or observations by the committee).

5. ***The student and advisor*** have six month to prepare the thesis/dissertation draft following the committee's recommendation (last appendix E submitted to the Associate Dean for Biomedical Sciences). The Advisor is responsible that the quality of the thesis/dissertation meets all standards.

6. ***For the Master's Candidate***. Three (3) printed copies of the thesis are required at least two (2) weeks prior to the scheduled defense. The Candidate should distribute these to the Thesis Committee. An electronic version should also be available for those who request it.

7. ***For the Ph.D. Candidate***. Five (5) printed copies of the dissertation are required at least three (3) weeks prior to the scheduled defense of dissertation. The Candidate should distribute these to the Thesis Committee. An electronic version should also be available for those who request it.

8. ***The members of the Thesis/Dissertation Committee*** may refuse to read a thesis that does not conform to the highest ethical and scientific standards and quality of presentation. The members must inform the Candidate and the Advisor, in writing, of the specific objections prior to the scheduled defense.

9. ***The Candidate has a maximum of three (3) calendar weeks*** after the thesis defense to incorporate the suggestions from the committee members.

B. Preparation for the Thesis/ Dissertation Defense

1. Candidate

The Candidate's oral defense of the thesis/dissertation may cover knowledge of both the thesis/dissertation itself and knowledge related to the field of study. Accordingly, the Candidate should prepare himself/herself for such questions.

2. Advisor of the Candidate's Thesis/Dissertation Defense.

The Thesis/Dissertation Advisor automatically becomes the Chairperson of the Thesis/Dissertation Committee for the oral defense of thesis/dissertation. He/she will preside the thesis presentation and discussion. The Chairperson may ask questions.

3. Thesis/Dissertation Committee:

The ***Thesis/Dissertation*** Committee will ascertain whether or not the Candidate is qualified to receive a graduate degree from the University of Puerto Rico Medical Sciences Campus. The ***Thesis/Dissertation*** Committee must attend the oral defense of the thesis/dissertation and examine the Candidate. Attendance of all ***Thesis/Dissertation*** Committee Members is required. Under extreme circumstances, one member may be absent from the defense. A written justification of the absence must be submitted to the Associate Dean for Biomedical Sciences for prior approval. Sometimes a member of the committee may not be physically present during the examination, however may participate via video conference, such as "Skype".

4. The office of the Associate Dean for Biomedical Sciences

The office of the Associate Dean for Biomedical Sciences will send notices of the thesis/dissertation defense to:

a) each Department in the School of Medicine.
b) the faculty of the Division of Biomedical Sciences (by email).
c) to the Candidate's Departmental Chairperson.

In addition, the Office of the Associate Dean for Biomedical Sciences will announce the thesis/dissertation defense by regular mail and/or email, and will send a representative to attend the oral defense as a member of the audience.

C. Conduct of the Final Oral Defense of Thesis/ Dissertation

1. The Chairperson (Advisor) will present the Candidate and the committee members to the guests, and will describe the procedures (as stated below [#3 to #6]).

2. The oral presentation of the student Thesis/Dissertation project should be approximately 50 minutes.

3. Following the presentation, the Chairperson will ask if any member of the audience has questions.

4. Following the general question and answer period, the Chairperson will request that the general audience leave the room. At this time, the Candidate will be examined by the Thesis/Dissertation Committee.

5. Following the oral examination, the Chairperson will ask the Candidate to leave the room.

6. The Thesis/Dissertation Committee Members will discuss the outcome of the oral defense. Each member has one vote, including the Chairperson. A majority of votes will decide if the candidate approves the oral defense or not.

7. If the defense and the thesis/dissertation are approved, the Thesis/Dissertation Committee will sign and submit the Approval of Thesis/dissertation form (Appendix F) to the office of the Associate Dean of Biomedical Sciences. If minor corrections are required, then the signature of the Chairperson will be withheld from the Approval form until such minor corrections have been completed by the Candidate within 3 weeks following the oral presentation (the Candidate must be informed of such corrections immediately following the oral presentation). By signing the approval form, the Chairperson certifies that all corrections to the thesis/dissertation have been completed satisfactorily. If a student fails to return the bound originals and copies of his/her thesis/dissertation within 6 months of his/her approved oral presentation, the Department may dismiss the student from the Program unless a valid excuse justifies the delay. The excuse must be presented in writing to the student's Advisor, Graduate Studies Coordinator, and Department Chair for his/her consideration.

8. If the Candidate fails the final oral defense of the thesis/dissertation, the Chairperson will prepare a written report to the office of the Associate Dean for Biomedical Sciences explaining the reasons for this failure. Each member of the Committee must sign this report.

9. A Candidate who fails the final oral defense of thesis/dissertation may be re-examined within six (6) months.

10. Under special circumstances, the Thesis/Dissertation Committee may recommend a third examination. However, no student may take the oral thesis/dissertation examination more than three times.

D. Final Thesis/Dissertation Requirements.

Two (2) original bound thesis/dissertation and three (3) bound copies must be submitted to the office of the Associate Dean of Biomedical Sciences once the oral defense of the thesis/dissertation has been successfully passed and all minor corrections made (within 3 weeks of the oral presentation).

The thesis/dissertation documents will be distributed as follows:

Original:	Retained by the office of Associate Deanship for Biomedical Sciences
Original:	Sent to the UPR-Medical Sciences Campus Library.
Copy:	Given to the Student
Copy:	Given to the Thesis/Dissertation Advisor
Copy:	Given to the student's Department

If the student was a participant of the RISE Program, another bound copy is submitted to this office. Additional bound or digital copies may be distributed among the thesis/dissertation Committee Members according to their requirements. If electronic Thesis/Dissertation documents are accepted by the UPR-Medical Sciences Campus Library, then the student may submit the dissertation as a PDF document. However, the student should ask his/her Advisor, Departmental Chair and Associate Dean if they would like the document in an electronic or paper format.

If the bound copies are not submitted to the office of the Associate Dean of Biomedical Sciences, the student will not be certified by the School of Medicine as an M.S. or Ph.D. graduate. Moreover, the certification will have as the completed day of graduation the academic session when the bound thesis was submitted to the office of the Associate Dean of Biomedical Sciences (May, as date of graduation: if submitted between January to May; Summer, as date of graduation: if submitted by June-July; December, as date of graduation: if submitted between August to December). If a student fails to submit the bound originals and copies of his/her thesis/dissertation within 6 months of his/her (approved) oral presentation, the Department may dismiss the student from the Program (unless a valid excuse justifies the delay, and this must be presented in writing to the student Department Chair for his/her consideration).

VIII. GRADUATION REQUIREMENTS

A. Master in Science Degree

1. ***Complete Candidacy Requirements*** (see section IIIA. 2a).

2. ***The student must be in residency*** for at least one calendar year at the University of Puerto Rico, Medical Sciences Campus. Residency is defined as full-time commitment (at least 40 hours per week) to the research component of the graduate studies.

3. ***A satisfactory completion*** of the master thesis requirements (6 credits) (see section II to VII). Including the completion of the Division Responsible Conduct in Research Compliance Program.

B. Doctor in Philosophy Degree

1. ***Complete Candidacy Requirements*** (see section IIIA. 2b).

2. ***The student must be in residency*** for at least two calendar years at the University of Puerto Rico, Medical Sciences Campus. Residency is defined as full-time commitment (at least 40 hours per week) to the research component of the graduate studies.

3. ***A satisfactory completion*** of the doctoral dissertation requirements (15 credits) (see section II to VII), including the completion of the Division Responsible Conduct in Research Compliance Program.

In addition, it is expected that the student publish at least one (1) research article in a peer reviewed journal prior to the Final Oral Defense.

Changes can be made to this document following a careful evaluation and by recommendation of the Basic Sciences Departments and the Graduate Committee of the Division of Biomedical Sciences

APPENDICES

APPENDIX A
EVALUATION OF SATISFACTORY PROGRESS

I. Grade Point Average

A. If the cumulative grade point average drops below 3.00, the student is automatically placed on probation by the Graduate Program (and will not be able to participate in the "Ayudantía" Program). If the grades of the probationary semester do not bring the cumulative grade point average to 3.00 or higher, the student is automatically dismissed from the corresponding Graduate Program.

1. The probationary period may be extended one semester by petition of the Department Chairperson or Graduate Studies Coordinator to the Office of the Associate Dean for Biomedical Sciences.

2. The student may petition the Graduate Program Committee of the Division of Biomedical Sciences for a hearing, to provide an explanation (see Appendix C).

B. The faculty of the graduate programs must cooperate with the Registrar in the collection of course grades, so that all grades will be available to the Student, Advisor, and the Graduate Programs before the beginning of each semester. The Associate Dean of Biomedical Sciences will consult with the Registrar to insure that the grades are collected and posted on time.

1. The Associate Dean of Biomedical Sciences will request a complete report of the grades (and of the cumulative average) of all Graduate Students active in the Program at the end of each academic year (approximately May).

2. The office of the Associate Dean of Biomedical Sciences will notify, all students who have been placed on probation for the next academic session. A copy of this notice will go to the Advisor (if one has been selected), to the Department Chairperson, and the Graduate Studies Coordinator.

II. Evaluation by the Departmental Faculty

A. 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/Dissertation Committee is certified for the student. Then the Thesis/Dissertation Advisor is responsible for the evaluation (using Appendix E).

B. The Departmental Graduate Studies Coordinator must verify that the grades of courses each semester are posted correctly on their records at the end of each academic year (using Appendix G). If any discrepancy is noted, a brief report should be submitted to the Associate Dean of Biomedical Sciences Office for the inclusion in the student's permanent record.

C. The Departmental Faculty may also take action, concerning a student's professionalism, according to their Departmental regulations. A report of these actions must be forwarded to the Advisor, Thesis/Dissertation Committee, and the Office of the Associate Dean of Biomedical Sciences for inclusion in the student's permanent record. Also, the student must be informed directly about these actions.

III. Evaluation by the Thesis/Dissertation Committee

A. When the Thesis/Dissertation Committee is approved by the Graduate Committee of the Division of Biomedical Sciences, it becomes responsible for evaluating the student's progress at least once each year (Appendix E).

B. The Advisor and the Thesis/Dissertation Committee must submit a brief written Annual report (Appendix E) to the Division of Biomedical Sciences, for inclusion in the student's permanent record, at the end of each academic year.

IV. Conduct Compromising the Integrity of the Graduate Student - All conduct regarded as unethical or inappropriate according to "Reglamento General de Estudiantes de la Universidad de Puerto Rico" will be subject to the rules and procedures as established in chapter VI of the "Reglamento General de Estudiantes de la Universidad de Puerto Rico" (Cert. 60, 2007-08), and "Normas y Procedimientos para la Evaluación de Profesionalismo de los Estudiantes de la Escuela de Medicina de la Universidad de Puerto Rico." (http://www.md.rcm.upr.edu/pdf/normas_procedimientos_profesionalismo.pdf, as of September 1, 2013).

V. Time Limits - The Graduate Committee of the Division of Biomedical Sciences may call for an investigation when inadequate progress or unsatisfactory performance of the student is acknowledged. As a general rule, students in the Master's program should present their thesis proposal no later than their 3rd year in the program. Doctoral students should take the qualifying examination for Candidacy before entering their 4th year in the graduate program, as regular students. The doctoral thesis proposal should be presented within one year of the qualifying examination for Candidacy approval. The Graduate Studies Coordinator will be responsible for keeping a list of the deadlines of all students, and checking to see if any have been exceeded without appropriate action. If any time limit has passed without the appropriate action, the Graduate Committee of the Division of Biomedical Sciences will schedule a hearing to discuss the reasons and take the appropriate action.

VI. Leave of absence from graduate students - A student may request a leave of absence (personal or sickness leave) from the Graduate Program during an academic year or before the beginning of the next academic year. The student must do so by submitting a written request to the Graduate Studies Coordinator, and the Department Chair, meeting and discussing with them the petition. The petition must include the reason(s) for requesting the leave of absence, the period of time involved, how the student expects to solve the problem, and the student's intention to continue or withdraw from the Graduate Program. If the student ask for a sick leave, the letter must be accompanied with the appropriate document from the medical doctor or health professional explaining the situation of the student. The Chair or Graduate Studies Coordinator will present the request, with all pertinent documents and information, to the Graduate Committee for their perusal. The Graduate Committee, through the office of the Deanship will inform the student of the decision. A lack of academic progress cannot be used as a justification to request a leave of absence. The maximum number of years in a leave of absence is two, these may be

consecutive or non-consecutive intervals. The period of time during a “leave of absence” is not considered as part of the total number of years in the graduate program. Reentry to the graduate program requires that the student provides a written request to the Departmental Chair (with copy to the Associate Dean of Biomedical Sciences and Graduate Studies Coordinator), with evidence that the initial problem was adequately managed and solved. When a leave of absence has been granted for health reasons, a letter of the medical doctor and/or health professional should be included, certifying that the student’s may continue with the graduate training. The graduate program will follow these steps, as adapted from the document “Procedimientos y normas para autorizar una separación temporera de los estudios y para readmisión de estudiantes en uso de una autorización de separación de estudios”.

APPENDIX B
OBLIGATIONS AND REQUIRED QUALIFICATIONS OF MEMBERS OF THESIS/DISSERTATION COMMITTEES

I. Qualifications

A. Purpose of Qualifications.

1. These qualifications set the minimum acceptable standards necessary to serve on thesis/dissertation committees.

2. The primary function of a thesis/dissertation committee member is to judge the quality of the thesis/dissertation and the ability of the student to defend it.

3. An auxiliary function is to provide guidance to the student during the thesis/dissertation research.

B. Certification of thesis/dissertation committee members:

1. The *Department Chair* or Graduate Studies Coordinator will be required to furnish documentation of the qualifications of any proposed thesis/dissertation committee member if the appointment is questioned by the Graduate Committee of the Division of Biomedical Sciences.

2. The Graduate Committee of the Division of Biomedical Sciences acts as final authority in certifying that the qualifications have been met.

C. Initial general qualifications of Thesis/Dissertation Committee members.

All Thesis/Dissertation Committee members must meet **ALL** of the following criteria at the time of initial appointment to the student's Thesis/Dissertation Committee:

1. Active involvement in scientific research for at least one (1) year prior to nomination.

2. Research experience for the equivalent of three (3) years. Two (2) of these three (3) years may have been devoted to research toward the Ph.D. degree, or their equivalent (D.Sc.).

3. Publication of at least three (3) papers in recognized scientific journals, with at least one (1) paper during the last three (3) years, at the time of acceptance to be a member of the thesis/dissertation Committee.

Exceptions to the general qualifications of Thesis/Dissertation Committee members can be approved or disapproved by the Graduate Committee of the Division of Biomedical Sciences, following careful consideration.

Committee Members with professional degrees: Thesis/Dissertation Committee members with professional degrees (Medical Doctor (MD), Doctor of Podiatric Medicine (DPM), Doctor of Osteopathic Medicine (DOM), Doctor in Dental School or Dental Medical Doctor (DDS/DMD), Doctor of Veterinary (DVM), Doctor in Pharmacy (PharmD) or equivalent) must meet all the following criteria:

1. Hold appropriate credentials and meet applicable licensing requirements.

2. Active full-time clinical practice or active full-time research or combined active part-time practice and active part-time research for at least one (1) year prior to nomination, and at the time of nomination.

3. Experience in full-time clinical practice or full-time research, or combined part-time practice and part-time research for the equivalent of five (5) years. Two (2) of these five (5) years may have been devoted to clinical practice or research during an internship or residency.

4. For full-time clinical practitioners, clinical experience with patient populations can be substituted for publications.

5. For individuals who combine part-time clinical practice with part-time research, at least three (3) papers in recognized basic or clinical scientific journals, with at least (1) paper in the last three (3) years.

Committee Members with academic degrees (PhD): Thesis committee members that hold academic degrees and are full-time researchers must have at least five (5) publications in recognized basic or clinical peer reviewed journals, with at least one (1) of these during the last three (3) years.

D. Qualifications necessary to serve on Masters Committee

1. In addition to satisfying the criteria listed in (C) above, the prospective member of a Masters Committee must:

   a) Have a valid Ph.D., D.Sc., MD, DOM, DPM, DVM, DDS/DMD, Psych.D., or Pharm.D degree. Prospective committee members with a degree other than the above must be approved by the Graduate Committee of the Division of Biomedical Sciences.

   b) Be a member of the faculty of an accredited institution of higher education, or an acknowledged expert in the Candidate's thesis area.

2. Thesis Advisor Requirements for Masters Committees.

   a) In addition to the general committee requirements listed above, the thesis Advisor must also meet the additional criterion of having a doctoral degree as described in D1a and of holding a regular faculty position (from the rank of Instructor to Professor)

in the student's department at the School of Medicine of the University of Puerto Rico, Medical Sciences Campus (this includes joint or adjunct appointments).

b) In certain cases, a Co-advisor, may be appointed that meets the above requirements (a).

c) The Advisor(s)/Co-Advisor(s) should be actively engaged in research. Individuals with professional degrees who do not have an additional academic degree (Ph.D.) or ten (10) years of experience as a Principal Investigator (PI), may not serve as the primary advisor for an M.S. thesis of biomedical research projects.

E. Qualifications necessary to serve on Ph.D. Committees.

1. In addition to satisfying the criteria listed in (C) above, the prospective Ph.D. Committee member must:

a) Have a valid Ph.D., D.Sc., MD, DOM, DDS/DMD, DPM, DVM PsychD, or PharmD degree. Prospective committee members with a degree other than the above, must be approved by the Graduate Committee of the Division of Biomedical Sciences.

b) Be a member of the faculty of an accredited institution of higher education, or an acknowledged expert in the Candidate's Dissertation area.

2. Dissertation Advisor requirements for Ph.D. Committees.

a) In addition to the general Committee requirements listed above, the Dissertation Advisor must also meet the additional criterion of holding a regular faculty appointment (of the rank of Instructor or above) in the student's Department at the School of Medicine of the University of Puerto Rico, Medical Sciences Campus (this includes a joint or adjunct appointments).

b) In certain cases, a Co-advisor, may be appointed that meet the above requirements (a).

c) The Advisor (s)/Co-advisor (s) should be actively engaged in research with at least three (3) articles published. Individuals with professional degrees who do not have an additional academic degree (Ph.D.) or ten (10) years of experience as a PI on basic science research, may not serve as the primary advisor for a Ph.D. dissertation.

Exceptions to the requirements and regulations or individual cases not explicitly stated in or covered by the Manual, can be approved or disapproved by the Graduate Committee of the Division of Biomedical Sciences, following careful consideration.

II. Obligations

A. Committee Members

Every member must have personal knowledge of the thesis/dissertation research of the Candidate on whose Committee the member serves. Each member must be able to attend at least two (2) Thesis/Dissertation Committee meetings during the course of the student's research. In addition, each member must be able to attend the oral defense of thesis/dissertation unless extraordinary circumstances mediate, as determined by the Graduate Committee of the Division of Biomedical Sciences (VI.B.3). If a member of the committee cannot be physically present during the examination he/she can participate via video conference, such as “Skype”.

B. ***The members (including the Advisor) assume the added responsibility*** of complying with Graduate Program and Departmental time limits, when they accept an appointment to a Thesis/Dissertation Committee.

APPENDIX C
THE GRADUATE PROGRAM COMMITTEE HEARING

Any problem involving the student and their performance in the Graduate Program should be referred first to the student's Advisor, then to the Departmental Graduate Studies Coordinator, and the Chair to seek their assistance to resolve the situation in an amicable fashion. If no satisfactory progress is made in the resolution of the problem, the student, faculty or departmental chairperson may request a hearing from the Departmental Graduate Committee. If no resolution is achieved at the departmental level, a hearing of the Graduate Program Committee of the Biomedical Sciences may be called by any of the parts involved.

I. Graduate Committee Hearing

A. Request for a Hearing

1. A student may request a departmental Graduate Committee hearing to appeal any decision involving the student's performance in the Graduate Program. This request should normally be transmitted through the Advisor and Department Chairperson or Coordinator. Failure of the Advisor, Departmental Chairperson or Coordinator to act upon a written request by the student within a time limit of five (5) working days, automatically enables the student to appeal directly to the Graduate Program Committee of the Division of Biomedical Sciences.

2. If a Departmental Graduate Committee deadline has been exceeded without appropriate action, the Associate Dean of Biomedical Sciences will automatically schedule a hearing with the student.

B. Date

1. The Associate Dean of the Division of Biomedical Sciences will set a date for the hearing.

2. This date must be within one month after the receipt of a written request.

C. Invitations

1. The Graduate Committee Chairperson will summons persons that, in his/her opinion, may provide useful information in the hearing. The Graduate Committee Chairperson may receive and consider the suggestions by the Advisor, Departmental Chairperson, and student.

2. The student, his/her Department Chairperson, and his/her Advisor (if one has been approved) must be summoned.

3. The summons must be sent, by email and/or regular mail, at least two (2) weeks before the date of the hearing.

D. Procedures

1. The purpose of the hearing is for the Graduate Committee of the Division of Biomedical Sciences to gather sufficient information to enable them to reach a decision and take appropriate action.

2. The Graduate Committee Chairperson will request that each of the summoned persons provide all known information that would assist to clarify the situation. The exact procedure to be followed will be determined by the Graduate Committee. The student will be allowed an opportunity to express his/her opinions.

3. After all the information of the case has been presented, all persons (including any member of the Graduate Committee) directly involved in the case will be asked to leave the hearing. The Graduate Committee of the Division of Biomedical Sciences (minus members that may be directly involved) will meet in a closed session. Persons that are directly involved in the case cannot participate in the closed deliberations and decisions.

4. The Graduate Committee of the Division of Biomedical Sciences, will deliberate and vote to take one of the following actions:*.

a) Ratify the administrative decision of the designated member of the Graduate Program.

b) Reverse any such decision.

c) Assume responsibility for any disciplinary / administrative actions.

d) Dismiss the student from the Graduate Program.

5. The Graduate Committee of the Division of Biomedical Sciences may proceed with one of the following actions by a majority vote of those members present*.

a) Make written suggestions and send them to the persons involved in the case.

b) Refer the problem to the appropriate person for his/her decision, in consultation with and with prior approval by the Dean of the School of Medicine.

6. The Associate Dean of the Division of Biomedical Sciences must send a written report of any decisions or suggestions to the student, the departmental chairperson, the Graduate Studies Coordinator, and to the Advisor (if one has been approved) within one (1) week after the hearing.

*In case of a tied vote, the situation will be presented to the Dean of the School of Medicine for his(her) deciding vote.

II. **If the result of the Graduate Committee Hearing is unsatisfactory to the student, then the student may appeal the decision through the appropriate channels (Ex: Student's Ombudsperson [Procurador (a) Estudiantil]).**

APPENDIX D
TIME SCHEDULE FOR PROCESSING THESIS/DISSERTATION

Name of the Candidate: _____

Date of Entrance into the Program: _____

Name of the Department: _____

Title of the Thesis/Dissertation: _____

Name of Advisor: _____

Members of the Committee and Members Department or Affiliation:

_____

_____

_____

_____

SCHEDULE

1. Date _____ The Thesis/Dissertation committee certifies that the student completed the experiments and is ready to write (use Appendix E to certified this permission).

2. Date _____ Thesis/Dissertation Committee members receive the preliminary thesis/dissertation (2 weeks for Master students and 3 weeks for Doctoral students before the oral presentation).

3. Date _____ Final oral examination. Committee members return the Thesis/Dissertation document with their critiques and/or recommendations to the student. The Advisor is the person in charge to assure that the student completes the final form of the Thesis/Dissertation document with all the changes suggested by the readers during the oral presentation as well as their written critiques.

4. Date _____ Students submit the Thesis/Dissertation in final form to the Associate Dean of Biomedical Sciences (at least five [5] bound copies).

APPENDIX E
ANNUAL THESIS/DISSERTATION COMMITTEE MEETING

Name of Student:_____ Name of Advisor: _____

Date of Meeting: _____

Title of Thesis/Dissertation: _____

Committee Members (Name and Signature):

Member: _____

Member: _____

Member: _____

Member: _____

Member: _____

Member: _____

Recommendations or observations by the committee:

_____

_____

_____

_____

_____

_____

Signed by: _____ _____
Graduate Student Date

_____ _____
Advisor Date

APPENDIX F

UNIVERSITY OF PUERTO RICO
MEDICAL SCIENCES CAMPUS
SCHOOL OF MEDICINE
DIVISION OF BIOMEDICAL SCIENCES AND GRADUATE PROGRAM

APPROVAL OF THESIS

NAME OF STUDENT: _____

DEPARTMENT: _____

TITLE OF THESIS: _____

DIRECTOR OF THESIS: _____

ACCEPTED BY THE GRADUATE SCHOOL COMMITTEE, MEDICAL SCIENCES CAMPUS, GRADUATE SCHOOL, UNIVERSITY OF PUERTO RICO.

THESIS COMMITTEE

_____
Mentor

_____
Thesis Committee member

_____
Thesis Committee member

_____
Thesis Committee member

_____
Thesis Committee member

DATE: _____

APPENDIX G
EXAMPLE OF COURSE EVALUATIONS PRIOR TO GRADUATION

EVALUACIÓN PARA CONFERIR GRADO ____*(M.S. o Ph.D.)*____ *EN* ___*(departamento)*_____
Nombre: _____ Núm. Estudiante: _____
Facultad: ____*Medicina-Ciencias Biomédicas*_____
Programa: ____*(Maestría en Ciencias o Doctorado en Filosofía y el área de especialidad – Ej. Doctorado en Filosofía Microbiología)*___ (Cert. CES #97-143)
Fecha Ingreso al Programa: _____ Fecha Graduación: _____

A. CURSOS REQUERIDOS (____ CRÉDITOS)				**D. CURSOS ELECTIVOS DE OTROS DEPTOS. RCM**			
CURSO	CRÉDITOS	NOTA	PH	*CURSO*	*CRÉDITOS*	*NOTA*	*PH*
B. CURSOS ELECTIVOS DEPARTAMENTALES REQUERIDOS (MÍNIMO _____ CRÉDITOS.) ****				**E. CURSOS ELECTIVOS DE PROGRAMA GRADUADO DE BIOLOGÍA DE LA UPR EN RIO PIEDRAS**			
CURSO	*CRÉDITOS*	*NOTA*	*PH*	*CURSO*	*CRÉDITOS*	*NOTA*	*PH*
				F. TRANSFERENCIA (Cursos Graduados Sistema UPR tomados antes entrar Programa Doctoral RCM)			
				CURSO TOMADO	*CURSO CONVALIDADO*	*CRÉDITOS*	*NOTA*	*PH*
C. CURSOS ELECTIVOS DE TOPICOS AVANZADOS EN OTRAS ÁREAS EN EL DEPARTAMENTO				**G. CONVALIDACIONES (Cursos Graduados Universidades que no son del Sistema UPR tomados antes entrar Programa Doctoral RCM)**				
CURSO	*CRÉDITOS*	*NOTA*	*PH*	*CURSO TOMADO*	*CURSO CONVALIDADO*	*CRÉDITOS*	*NOTA*	*PH*

Exámenes de grado: Fecha: _____ Resultado: _____

Créditos: _____ (___ crs. mín. requeridos) Puntos de Honor _____Promedio de Grado

APPENDIX H
PROCEDURES FOR TRANSFERRING COURSES FROM MS TO PHD PROGRAMS

I. Graduate Students in the MS Program in the Division of Biomedical Sciences

A. Students that have been admitted in the Master Program in the UPR School of Medicine Division of Biomedical Sciences may be considered eligible for transfer to the PhD Program, on the basis of a rigorous consideration by the department, which includes an evaluation of the student´s academic profile, research interests, progress in specific research projects, as well as professionalism. If the department determines that the student´s progress and academic/professional profile is meritorious and thus recommends the transfer to the PhD Program, the Graduate Program will proceed to evaluate this recommendation. If the Graduate Program concurs with the recommendation of the department and approves the transfer, it will then follow the guidelines established in the "Manual del Registrador" for the transfer/validation of credits from the MS to the PhD program. Only the graduate courses that as a group do not lower the student´s GPA below the minimum required of 3.0 will be considered for transfer.

B. Students that are admitted and in good standing in a Master Program outside of the UPR School of Medicine Division of Biomedical Sciences (in an accredited public or private institution, in Puerto Rico or in the United States) that would like to apply for transfer to a UPR School of Medicine Division of Biomedical Sciences PhD Program will need to submit all the admissions application documentation described in this Manual and follow the regular admission´s procedure. In the event the department of interest and the Graduate Program decide the student qualifies for admission to the PhD Program of interest, the department will review the academic record of the student and the course syllabi (descriptions) to determine which Masters´ courses already completed at the other institution may be validated. The maximum number of credits that will be validated from other institutions is 24, but each department will decide the specific courses/credits to be approved, based on the careful evaluation of the course syllabi and other relevant information regarding the content and level of specialization. Only graduate courses completed during a period of no more than 4 natural years at the time of approval, and for which grades of "B" or higher (or their equivalent, as determined by the Division of Biomedical Sciences) have been obtained will be considered for validation.

II. Graduate Students that have completed a Master Degree

A. Students that have completed a MS degree in the Graduate Program of the UPR School of Medicine Division of Biomedical Sciences and would like to pursue a PhD need to apply to the program following the regular procedure for admission, as described in this Manual. In the event the student is admitted to the PhD program of interest, the corresponding department may substitute up to 24 credits of the courses approved for the MS degree, during a period of no more than 4-6 natural years at the time of approval.

B. Students that have completed a MS degree from outside of the UPR School of Medicine Division of Biomedical Sciences (in an accredited public or private institution, in Puerto Rico or in the United States) and would like to pursue a PhD need to apply to the program following the regular procedure for admission, as described in this Manual. In the event the department of interest and the Graduate Program decide the student qualifies for admission to the PhD Program of interest, the department will review the academic record of the student and the course syllabi (descriptions) to determine which Masters´ courses completed at the other institution may be validated. The maximum number of credits that will be validated from other institutions is 24, but each department will decide the specific courses/credits to be approved, based on the careful evaluation of the course syllabi and other relevant information regarding the content and level of specialization. Only graduate courses completed during a period of no more than 4-6 natural years at the time of approval, and for which grades of "B" or higher (or their equivalent, as determined by the Division of Biomedical Sciences) have been obtained will be considered for validation.

APPENDIX I
FACULTY INVOLVED IN THE REVISION OF THIS DOCUMENT

Revised, amended and approved by the Graduate Committee on April 2012:

Dr. Jorge D. Miranda, Associate Dean Biomedical Sciences
Dr. Walter I. Silva, Former Associate Dean Biomedical Sciences
Dr. Nivia Pérez, Coordinator of the Graduate Program
Dr. María Sosa, Chair and coordinator of the Anatomy & Neurobiology Department
Dr. José Rodríguez Medina, Chair of the Biochemistry Department
Dr. José Rodríguez Orengo, Coordinator of the graduate students in the Biochemistry Department
Dr. Guillermo Vázquez, Chair of the Microbiology Department
Dr. Ana Espino, Coordinator of the graduate students in the Microbiology Department
Dr. Sylvette Ayala-Torres, Coordinator of the graduate students in the Pharmacology Department
Dr. Nelson Escobales, Chair of the Physiology Department
Dr. Carlos Torres, Coordinator of the graduate students in the Physiology Department
Ms. Lisa Santos, Administrative Assistant in the Graduate Program
Ms. Julia Prado, Administrative Official in the Graduate Program

Other faculty involved in the revision: Dr. Annabell C. Segarra, Physiology Department
Dr. Donald Dunbar, Anatomy & Neurobiology Department
Dr. Alan Preston, Biochemistry Department
Dr. Idalí Martínez, Microbiology Department
Dr. Nuri Rodríguez, Microbiology Department
Dr. José Conde, Division of Biomedical Sciences

This manual was approved by the faculty of the School of Medicine in the annual meeting celebrated in May 30, 2012.

Initial document prepared in 1976 for the Graduate Committee by:
Dr. L. Kent Stitzer, Dr. Phillip Specht and Dr. Efrain Toro Goyco

Compact Between Biomedical Graduate Students and Their Research Advisors

These 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 advisors. A successful student-mentor relationship requires commitment from the student, mentor, graduate program, and institution. This document offers a set of broad guidelines which are meant to initiate discussions at the local and national levels about the student-mentor relationship.

Compact Between Biomedical Graduate Students and Their Research Advisors

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 for 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 commitment 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.

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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 offering 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 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 or research accomplishments and financial support.

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

The institutions, training programs, and mentor should provide training relevant to academic, industrial, and research careers that will allow their graduate students to appreciate, discuss, and develop their career choices. Effective and regular career guidance activities should be provide, 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.**

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- **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 in Research Compliance 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, 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 prior to my graduation.

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- **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 be 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 on a regular basic.**

- **I will be committed to providing financial resources for the graduated 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 9or more frequently, according to program guidelines0 to review the graduate 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 task 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.

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- **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, equitable, accessible, encouraging, and respectful.** I will foster the graduate student's professional confidence and encourage critical thinking, skepticism and creativity.

I hereby certify that both (the student and the advisor) read and discuss with each other the document above, and we are committed in benefit of the research and the developing of the student training in the Graduate Program.

_____	_____
Advisor's Name and Signature	Student's Name and Signature
_____	_____
Department	Program
_____	_____
Date	Date

Aprobado: Comité Graduado (4-nov-2009)

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