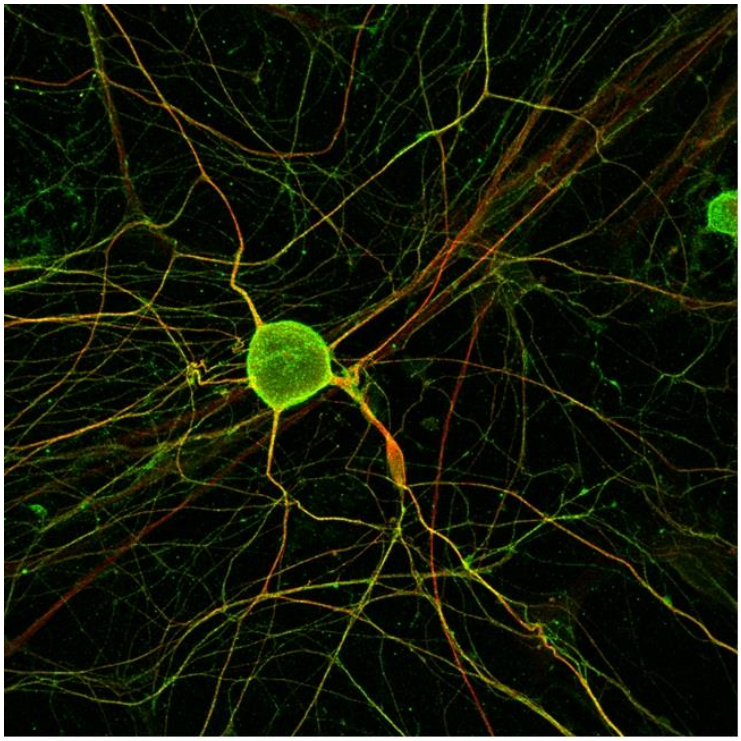
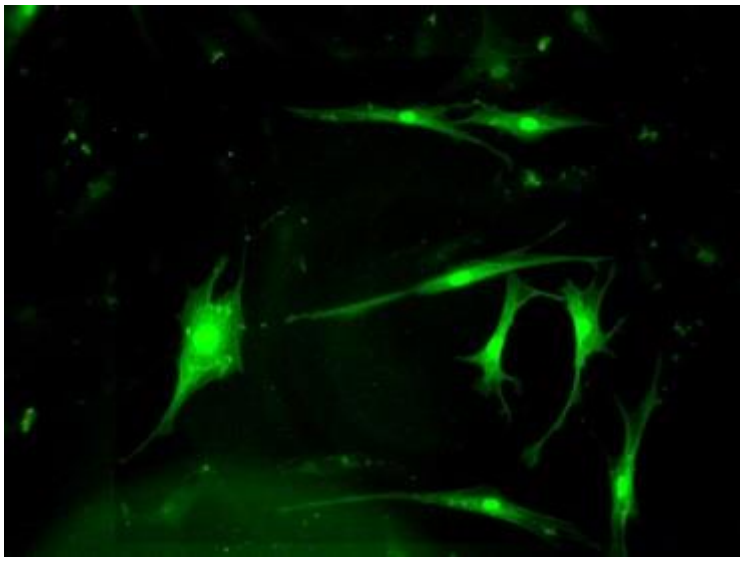
Molecular and Cellular Pharmacology

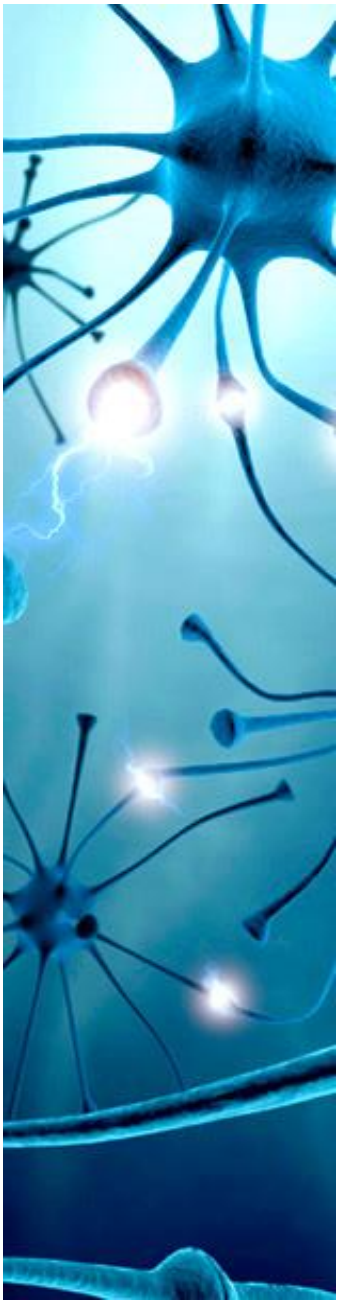
UNIVERSITY OF MIAMI
MILLER SCHOOL
of MEDICINE

GRADUATE STUDENT HANDBOOK

August 2016 – July 2017







GRADUATE STUDENT HANDBOOK:

2016-17

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UNIVERSITY OF MIAMI

Miller School of Medicine

Graduate Program in Molecular and Cellular Pharmacology
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CONTACT INFORMATION

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Chairman, Department of Molecular & Cellular Pharmacology: Dr. Charles W. Luetje (305) 243-4458

OVERVIEW

Scientists in the Molecular and Cellular Pharmacology Program make use of the knowledge and techniques of biology, chemistry and physics to study the action of drugs, hormones and neurotransmitters on living systems and, more generally, the mechanisms through which signals are recognized and transduced by cells. The goals of the research in this department are: 1) to identify new targets and pathways for development of pharmaceuticals; 2) to use drugs as tools in the study of basic biological processes; and 3) to develop and study agents that may be beneficial in the treatment of disease.

A variety of technical approaches is used, including genetics, molecular biology, protein biochemistry and biophysics, fluorescence microscopy, immunology, computer modeling, cell culture, imaging, gene expression profiling, proteomics and whole animal studies including transgenic and genetically engineered mouse models. The faculty are a mixture of senior scientists who are recognized leaders in their respective fields and more junior faculty with recent training in state-of-the-art approaches to important biomedical problems.

JOINING THE MCP PROGRAM

By joining the lab of a Mentor who is the member of the MCP program, the PIBS student becomes the student of MCP program. If the Mentor is a member of two or more Graduate Programs, the student can choose the Program, which is done with the approval of the Mentor and the Graduate Program Director of the chosen Program.

Upon the consultation with the student and the Mentor, the MCP Graduate Director makes final approval of the student's joining an MCP mentor laboratory. Students may also receive guidance from other members of Graduate Committee (currently, Drs. Szczesna, Buchwald, Zhai and Luetje, ex-officio).

Upon entering the program, students begin their dissertation research and continue formal course work required by the MCP Program (see Course Offerings below). Students must pass courses with grades of C or better, and achieve a minimum cumulative GPA of 3.0 or better.

Minimum credit requirements for the Ph.D. degree are set by the University at 36 course credits (including specific required courses) and 24 credit hours of research (800 level). The course credits must be earned in graduate level (600 and 700) courses. Students may elect to take any of the other graduate courses offered by this program, or choose from a large variety of advanced courses offered by other departments at the University of Miami.

MCP Time to Completion - Timeline

Enter PIBS Program (1st year):	Typically, students enter the PIBS program in the Fall (mid-August) of the new academic year
Join MCP (2nd year):	June 1st the student officially joins the Molecular & Cellular Pharmacology (MCP) graduate program – The following Fall (mid-August) is the beginning of the student's second [2nd] year of graduate school.
Qualifying Exam completed by:	The student will begin preparing for his/her Qualifying Exam (QE) immediately after joining the MCP program • By early October the specific aims of the qualifying exam proposal must be sent to Program Director and Program Coordinator. The Program Director will form the QE committee and notify the student. • Once the committee has been formed, the student will schedule a QE date. The goal is to schedule a meeting for mid-November. • In the event the student does not pass the first QE, a second exam may be scheduled for December or early January of the next calendar year. All QEs must be completed by January of the student's second year. Failure to pass this exam in a timely fashion may result in dismissal from the program.
Thesis Proposal completed by:	The thesis proposal is to be presented to the Dissertation Committee within 9 months of completion of the Qualifying Exam. • The student will suggest to the Program Director members for his/her Dissertation Committee. Upon approval by the Program Director, the student will proceed with scheduling a meeting of the Dissertation Committee to present his/her thesis proposal
Progress Meetings:	The student will meet with his/her committee at least every 9 months to provide written and oral progress reports
Sufficiency granted by:	Sufficiency is required prior to the student's thesis defense and graduation. – It is expected that the student's progress has been such that sufficiency may be granted by year 5 / 5.5 Sufficiency may be granted only when: • All required course work has been completed • Satisfactory completion of specific aims (to be determined by the Dissertation Committee) • Publication of first author paper/manuscript
Time from Sufficiency to Defense:	Once sufficiency has been granted, the student will have 4 months (from the date sufficiency was granted) in which to write and defend his/her dissertation.
Student Status Post-Defense:	After the student has successfully defended, he/she may remain in the lab as a student and receive a stipend for a period of 8 weeks OR until the end of the semester in which they defended, whichever period is less. After that timeframe, the stipend and student status ends and other arrangements must be made for support.

STUDENT RESPONSIBILITY

It is the students' responsibility to be informed of all regulations and procedures required to obtain his/her doctoral degree and ensure that they are completed. In no case will a regulation be waived or an exception be granted because a student asserts that he/she was not informed by the Molecular & Cellular Pharmacology Graduate Program or other authority. The student should become especially familiar with the ACADEMIC BULLETIN (http://www.miami.edu/index.php/academicbulletin/), including the section discussing the requirements for the PhD degree within the Molecular & Cellular Pharmacology Program.

PLAGIARISM

The MCP program has zero tolerance to plagiarism. Classes, journal clubs, the qualifying exam and the dissertation proposal will require the students to write documents based on published work of other researchers. The students must be able to recite the main points of such work in their own words, with addition of critical analysis. A "copy-paste" approach to writing such documents is plagiarism and the student might be a subject to **immediate dismissal from the Program**. If a student chooses to use an excerpt from a research article or book, the excerpt must be clearly denoted with the quotation marks and appropriately referenced.

MCP REQUIRED COURSES

Year 1

FALL SEMESTER

Journal Club/Seminar	PIBS 700	0 CR
Introduction to Biomedical Sciences	PIBS 701	5CR
Scientific Reasoning	PIBS 702	3 CR
Laboratory Research (lab rotations)	PIBS 731	1 CR
Research Ethics	PIBS 780	0 CR
Survival Skills I	PIBS 782	0 CR

SPRING SEMESTER

Journal Club/Seminar	PIBS 700	0 CR
Laboratory Research (lab rotations)	PIBS 731	2 CR
Survival Skills II	PIBS 783	0 CR
Medical Biostatistics	EPH 601	3 CR
Systems Biology and Approaches in Pharmacology	MCP 752 Spring A	3 CR
Computational Pharmacology and Fundamentals of Drug Design	MCP 753 Spring B	3 CR
Molecular Mechanisms of Drug Action	MCP 704 Spring B	3 CR

SUMMER SEMESTER

Doctoral Dissertation	PIBS 830	1-12 CR

Year 2

FALL SEMESTER

Seminar	MCP 701	2 CR
Cardiovascular Pharmacology *(offered every other year / taken in the Fall of 2nd or 3rd year)*	MCP 732	3 CR
Neuropharmacology *(offered every other year / taken in the Fall of 2nd or 3rd year)*	MCP 768	3 CR
Doctoral Dissertation	MDB 830	1-12 CR

SPRING SEMESTER

Seminar	MCP 701	2 CR
Doctoral Dissertation	MCP 830	1-12 CR

SUMMER SEMESTER

Doctoral Dissertation	MCP 830	1-12 CR

Year 3

FALL SEMESTER

Seminar	MCP 701	2 CR
Cardiovascular Pharmacology *(offered every other year / taken in the Fall of 2nd or 3rd year)*	MCP 732	3 CR
Neuropharmacology *(offered every other year / taken in the Fall of 2nd or 3rd year)*	MCP 768	3 CR
Doctoral Dissertation	MDB 830	1-12 CR

SPRING SEMESTER

Seminar	MCP 701	2 CR
Doctoral Dissertation	MCP 830 or 840	1-12 CR

SUMMER SEMESTER

Doctoral Dissertation	MCP 830 or 840	1-12 CR

Year 4 - 5

FALL SEMESTER

Doctoral Dissertation	MCP 830, 840 or 850	1-12 CR

SPRING SEMESTER

Doctoral Dissertation	MCP 830, 840 or 850	1-12 CR

SUMMER SEMESTER

Doctoral Dissertation	MCP 830, 840 or 850	1-12 CR

COURSE OFFERINGS AND DESCRIPTIONS

MCP 701 (sect. 01) - Seminar
(Fall and Spring, 2nd and 3rd years, 2 credits)
In this class, students acquire skills to (1) make a scientific presentation and (2) learn to understand a scientific presentation. Students must attend MCP seminars. Usually, the seminars take place on Tuesdays at 1 pm and/or Thursday at noon. Students are also required to attend all MCP dissertation defenses. MCP students are required to present one seminar per year. 2nd year students are required to present a 30-minute seminar (20-25 minutes talk with 5 minutes for Q&A) based on their research. Two junior students can present their seminars on one day (usually, Tuesday). Senior students (3rd year and above) present 1-hour research seminars based on their research. An important component of the Seminar Program consists of weekly meetings of the second- and third-year students with one or more members of the faculty to discuss both the scientific points made by the previous seminar speaker and his/her lecturing style. "Previews" of student seminars are also discussed at these meetings. ***Required***

MCP 704 (sect. 01) - Molecular Mechanisms of Drug Action
(Spring 1st year, 3 credits)
This course consists of a combination of lectures, problem sessions and student presentations. Students will be given in-depth exposure to the fundamental principles of Pharmacology. The mechanism of action of some specific drug classes will be examined in detail**.** ***Required*****.**

MCP 731 (sect. 01) – Special Topics
(1-6 credit)
Directed readings on subjects not ordinarily treated in depth in specific courses. Course may also consist of special laboratory problems.

MCP 732 (sect. 01) - Cardiovascular Pharmacology
(Fall 2nd or 3rd year, 3 credits)
The course covers cardiovascular pharmacology, necessary cardiovascular physiology and anatomy and the function and pharmacology of the autonomic nervous system. The students learn about the function and energetics of the heart and how it is changed in cardiac disease**.** ***Required.***

MCP 743 (Sect. 01) – Introductory Python Programming for Bioscientists
(3 credits)
The course is designed to teach the basics of the Python programming language. Students will learn to use code to solve problems related to biological datasets such as genomes, proteomes, and molecular structures.

MCP 752 (sect. 01) – Systems Biology and Approaches in Pharmacology
(Spring 1st year, 3 credits)
Most therapeutic drugs exert their action by influencing cellular signal transduction processes. This course provides an in-depth molecular level review of the fundamental signal transduction mechanisms that regulate cell growth, cell proliferation, checkpoint response to cell stressors, cell morphogenesis and differentiation, and their role in the onset of disease. ***Required***

MCP 753 (sect. 01) – Computational Pharmacology and Fundamentals of Drug Design
(Spring 1st year, 3 credits)
This course focuses on receptors and signaling pathways that govern cellular responses to extrinsic signals. It concentrates on specifics of signaling events in biological systems such as CNS, endocrine system, cardiac and hematopoetic stem cells. ***Required***

MD/PhD Students ONLY

- ***MCP 768 – Neuropharmacology and MCP 732 – Cardiopharmacology will be waived for MD/PhD students.***
- ***MDB 765 - Tumor Cell Biology is an elective.***

MCP 768 (sect. 01) - Neuropharmacology
(Fall 2nd or 3rd year, 3 credits)
An intensive course covering the regulation of neural processes by drugs that target neurotransmitter signaling at the level of GPCRs, G proteins, second-messengers and ion channels. ***Required***

MCP 830 – Dissertation Research-Pre-Candidacy
(Fall, Spring, and Summer, 1-12 credits)
Required for all PhD candidates. The student will enroll for credits as determined by the Office of Graduate and Postdoctoral Studies but not less than a total of 24. No more than 12 hours of research may be taken in a regular semester, and no more than six in a summer session. Grade will remain "In Progress" (IP) until the student dissertation is accepted by the Graduate school.

MCP 840 – Doctoral Dissertation-Post Candidacy
(Fall, Spring, and Summer, 1-12 credits)
Required for all PhD candidates. The student will enroll for credits as determined by the Office of Graduate and Postdoctoral Studies. Grade will remain "In Progress" (IP) until the student dissertation is accepted by the Graduate School.

MCP 850 – Research in Residence
(Fall, Spring, and Summer, 1 credit)
Student must be registered in the semester they plan to defend. Used to establish research in residence for the PhD after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit is not granted. Student may be regarded as full-time residence as determined by the Dean of the Graduate School.

Monthly Student Meeting

This informal meeting occurs the last Friday of each month at 12 noon in RMSB 6018 (unless otherwise specified). <u>All students are required to attend and participate</u>. Senior students (third year and up) present their research which is followed by scientific discussion in which all students participate. This meeting takes place in the absence of faculty members to encourage genuine criticisms and exchange of ideas.

This meeting typically begins with a 5-10 minute update of student affairs which is presented by the Program Director and/or Program Coordinator. The Program will provide pizza at these meetings.

QUALIFYING EXAMINATION

Prior to admission to the PhD candidacy, MCP students pass their Qualifying Exam (QE). This rigorous exam tests the student's overall aptitude for biomedical research and focuses on the ability of the student to design a viable independent research project.

The format of the QE. This rigorous exam is a pass/fail, with two attempts allowed. It consists of a written proposal and its oral defense, both of which are presented to a special committee (QE committee). The written document strictly adheres to the current format required by a granting agency, e.g., American Heart Association (AHA). The oral defense typically lasts for 2-3 hours.

The QE committee evaluates the student in the four major aspects.

1. Understanding of the chosen field of study, familiarity with the relevant literature and ability to identify knowledge gaps in the area.
2. Broad appreciation of biomedical science, including a good grasp of the principles of the methodologies applied in the proposed research.
3. Quality of the submitted document, which must be well thought out, clearly written to convey the student's ideas and strictly adherent to the required format.
4. Ability of the student to think as an independent investigator and to conduct a well-reasoned scientific discussion during the oral defense.

The exam can be failed if any of these components are deemed to be inadequate. If the exam is not passed on the first attempt, the student must submit a revised document within two weeks after the committee's decision, and if deemed necessary, the proposal is re-defended within six weeks from the original QE. The dates of the meetings are agreed upon by the Committee members and are approved by the Program Director. Failure to pass the QE on the second attempt results in the dismissal of the student.

Composition of the QE Committee

The MCP Program makes a clear distinction between the QE Committee and the Dissertation Committee.

The QE committee is appointed by the Program Director and consists of three voting members and an *ex officio* member (Program Director or another senior faculty member). The QE committee does not include the Mentor, and its only task is to judge the candidate, much like a grant review panel.

The Dissertation Committee includes the Mentor has an advisory role, follows the student's progress in a series of regular meetings and helps the student to achieve his/her research goals. Ultimately, this committee makes the decision about granting the PhD degree.

Members of the QE committee can later serve on the Dissertation Committee.

The subject of the QE proposal

The subject of the QE proposal is on student's dissertation research, and can represent a part of the overall research in the Mentor's laboratory.

The QE is an important part of the graduate training. The Mentor should facilitate the student's understanding of the chosen field and the goals of the proposal, explain the structure of the document, criticize writing and practice oral presentations. When challenged by the QE committee during the exam, the student should be able to defend the Mentor's research program using scientific reasoning and logic. A reference to the Mentor's authority (e.g., the Mentor's NIH funding) will not be a valid argument.

Specific Aims must be designed and written independently by the student and must not be represented in any funded or pending grants. The Mentor signs off the QE proposal to certify the originality of the Specific Aims.

The student is encouraged to use papers and grants from the laboratory as a source of information for the QE proposal. However, students must write their applications in their own words to demonstrate real understanding of the subject matter. Lack of such understanding is very apparent during the oral part of the exam. "Copy-paste" is considered to be **plagiarism**, and will result in dismissal from the Program.

Students are encouraged to discuss their QE proposal with other students and researchers in their lab. The student can also solicit criticism and seek advice from faculty members, particularly in the matters of format and structure of grant applications. However, neither MCP faculty nor other researchers are allowed to provide core ideas for the student's research design.

The Program Director and Program Coordinator will help students with any issues associated with the QE.

The QE and pre-doctoral grant application

The QE document serves as a blueprint for submission of a real pre-doctoral application. The rigorous feedback provided by the QE committee enhances quality of the application and its chance to be funded. Students are also expected to use the material produced for their QE (text, figures, references) in their dissertations and publications (original research and/or review articles).

The timing of the Exam is governed by the deadline for submission of student fellowships to the American Heart Association. This agency focuses on research in cardiovascular area, but also generously funds work in other areas (neuroscience, cancer biology, etc.). The majority of MCP students are eligible for AHA funding and many have been successful in the past. The QE exam is taken in November, accordingly with the AHA deadline, which is usually in the end of January of each calendar year. The written document is due two weeks before the scheduled date of the oral exam.

Students are also encouraged to apply to other agencies (e.g., NIH, NSF and private foundations) for which they might be eligible.

Admission to Candidacy:

To be admitted to candidacy students must have completed all of the following:

1. Maintain a grade point average of 3.0 or better in course work.
2. Be accepted by a program faculty member as a dissertation student.
3. Complete required course work (see pages 5-8).
4. Pass the qualifying exam.

It is the student's responsibility to file the form requesting admission to candidacy. It is recommended that students file for admission to candidacy within 3 months of a successful defense of the thesis proposal. – Students must be admitted to candidacy for the PhD in a semester prior to the one in which the degree will be awarded.

THE DISSERTATION RESEARCH

1. The dissertation proposal

The doctoral research proposal is to be presented to the Dissertation Committee within 9 months of completion of the Qualifying Exam. The specific project for doctoral research is developed on the basis of both advisor's and student's interests and is normally chosen by the student in consultation with the dissertation advisor. An important requirement is that the students propose an original investigation of a question whose answer will extend our understanding of biological function and its control or pharmacologic regulation.

While the proposal may originate from the ideas of the mentor, and criticisms may be freely obtained from any faculty member, the writing of the proposal is done entirely by the student. The format of the proposal may vary, but should include: 1) A precise statement of the proposal, 2) A summary and critical evaluation of previous work in the area, with literature citations, 3) Rationale for the proposed experiments and assessment of their significance, 4) Experimental approach, including a brief outline of the principle methods to be used (with rationale), 5) Predicted outcomes and their interpretations, including other possible outcomes, and potential problems with the proposed approach (with possible solutions), 6) Bibliography, using full citations. This includes all publications referred to, and therefore, the major publications in the field covered by the proposal.

When the student and the mentor decide that the written proposal is adequate, they suggest the Dissertation Committee, which must be approved by the Program Director (prior to approaching the faculty members). The student and/or mentor should consult with the program office for any potential conflicts and faculty eligibility.

The committee consists (at the time of the dissertation proposal) of at least 4 faculty members: the mentor, at least two other faculty members from within the MCP program and 1 member from outside the program. The chair of the Dissertation Committee may not be the mentor, must be a member of the Program and must be a member of the Graduate Faculty. The Program also requires an additional committee member (External Examiner), from outside the Program or the University, to attend the Dissertation Defense. Note that an investigator collaborating with the student or PI on this project cannot be a member of the Dissertation Committee.

The purpose of the proposal and its oral defense is to present the project to the Committee so that the Committee can provide the student with best advice and facilitate the student's progress most effectively. The student must understand the subject matter, know the relevant literature and understand the capabilities and limitations of the experimental methods to be used to a degree that he/she is able to make the best use of the Committee's advice. The student must be prepared to work with the Committee: listen to the critique, follow the advice and amend the proposal if necessary to make use the best ideas and/or express his/her opinions about the project and justify the strategy and approach. Students whose proposal defense is judged inadequate may submit and defend a revised proposal within 3 months.

2. Progress to the dissertation defense

WRITTEN PROGRESS REPORTS (10-15 pages text, with most relevant figures that are clearly labeled) ARE DUE 1 WEEK PRIOR TO MEETING. The purpose of the written progress report is to make the subsequent meeting most efficient by bringing out the best of the Committee's critique and advice. The student must appreciate that Committee members are not experts in his/her specific area of research and/or that they remember the details of the proposal. Therefore, the progress report must contain not only the most relevant results obtained since the last meeting, but also to help the Committee members re focus on the subject by providing a brief introduction/ background. The progress report must also contain a section on the future plans of the student, so that the Committee is prepared to critically discuss those during the meeting, and the student can take advantage of the Committee's advice in the most effective manner.

The Dissertation Committee meetings take place at least every 9 months. It is the responsibility of the student to ensure that this schedule is followed. In addition, meetings must be held on the following occasions, as determined by the Committee Chair in consultation with the Mentor: 1) if there is any major redefinition of the research problem, 2) when the student is ready to begin drafting the dissertation (sufficiency; see below), or 3) if a major change in the research findings occurs after permission to draft the proposal is given. The student is encouraged to highlight such events as publications, presentations of his/her results at scientific conferences and submission/award of fellowships.

Following the oral presentation by the student, the Committee has summary discussion in the absence of the student. The summary is then communicated to the student and amended according to the student's comments. Finally, a written summary prepared by the Chair of the Committee is provided to the Committee, the Graduate Program Director, and the student.

In the case of students who have been in the Program longer than 5 years, or more than 3.5 years after the qualifying examination, the Dissertation Committee will meet every 4 months to make a determination of progress and to consider continuation of the stipend, tuition scholarship, and/or student health insurance departmental coverage.

The Sufficiency Meeting: Permission to write the dissertation is obtained at a meeting of the Dissertation Committee. The Sufficiency Meeting Document consists of:

1) Copy of manuscript that has been accepted for publication for which the student is the first author.
2) A 1-2 page text consisting of a background section (1-2 paragraphs), the hypothesis and specific aims (1-2 paragraphs) and the major conclusions (1-2 paragraphs).
3) An outline of the dissertation showing what will be in each chapter (a draft table of contents).
4) All data figures with appropriate legends (some of these may be draft versions, but overall, figures and their legends must be at around 80% of their final quality).

Each committee member must receive the Sufficiency Meeting Document at least 2 weeks before the meeting, at which the Committee hears and discusses the student's presentation of the work. Permission to write the dissertation requires a consensus of the Committee (1 member may dissent) and will only be granted when the committee finds that all experimentation is complete. Once permission to write has been received, the student will have a period of 4 months in which to write and defend the dissertation.

The stipend is discontinued after 4 months following the Sufficiency Meeting and students may be subject to termination from the program if they fail to complete their dissertation requirements within 6 months of sufficiency. The student must justify a delay (i.e., health or family issues) and have it formally approved by the Dissertation Committee and the Program Director.

First Author Publication Requirement: Students are required to publish their dissertation work in high quality peer-reviewed journals. A minimum of one first author peer-reviewed research (not review) article is **required to be accepted or published prior to the request for sufficiency**. The student must have actively participated in generation of the data and writing the manuscript (including any revisions).

Additional requirements for graduation include completion of the requisite number of credits of course work with a 3.0 average.

3. Dissertation and Final Examination

When the dissertation is complete, the mentor must review the dissertation and approve it for distribution to all committee members except the external examiner. The committee members will then have two weeks in which to review the dissertation. The committee will then meet in the absence of the student to make a determination as to the acceptability of the dissertation.

If the dissertation is deemed acceptable, the student will then be allowed to schedule the dissertation defense and to send a copy of the dissertation to the external examiner (the external examiner must not be a current collaborator of the student's mentor). The committee will provide the student with specific suggestions to improve the dissertation. To be "acceptable", the dissertation must be fully formatted and include all text sections, figures and figure legends. "Acceptable" means that only minor revisions are required to improve the text of the dissertation (90% complete).

If the dissertation is deemed unacceptable, the committee will make specific recommendations to the student regarding rewriting and/or further experimentation. Unless extensive experimentation is required, the student will resubmit the dissertation within 2 months. If further experimentation is required, the committee will set a time limit.

At the dissertation defense, the Committee expects the candidate to display: the significance of the obtained results; adequate knowledge of the relevant literature; familiarity with the theory and limitations of methods employed, and a demonstrated ability to independently design, execute and interpret original experiments. The Committee functions as a final examining committee immediately after the public presentation. The student must complete all revisions required by the committee prior to the defense and provide committee members (excluding the external committee member) with revised copies of the

dissertation at least 5 days prior to the defense. After the defense, the student should mainly be making revisions required by the external committee member. Once all revisions to the dissertation have been made, the student may request the signatures of the committee members. The signature of a Committee member on the dissertation is a statement that the dissertation is complete to his/her satisfaction and requires no further work or writing.

Submitting the Dissertation to the Graduate School:
In order for the student to graduate, the Graduate School must accept the dissertation. The Office of the Graduate School has a set of extremely detailed rules regarding the format of dissertations. The student should obtain these rules when beginning to write the dissertation. The student should adhere strictly to these rules, which are obtainable at: http://www.miami.edu/grad/.

Master of Science Degree

The MCP Graduate program is a PhD-granting program. If a student must leave the program due to exceptional circumstances, the program will consider granting him/her a Master of Science in Pharmacology degree. To become a candidate for this degree, the student must bring this request to his/her Dissertation Committee and inform the Program Coordinator (stipend support from the Program will stop at this point). The Committee must hold a meeting to evaluate the student's progress and the reason for leaving the program. On the basis of the student's research accomplishments, the Dissertation Committee decides whether or not to support the request for Masters and informs the Program of the decision. The Program Director, in consultation with the Graduate Committee, decides whether to allow the student to write the Master's Thesis and defend it. The Master's Committee, appointed by the PD, includes members of the dissertation committee and one Graduate committee member. All Master degree requirements (thesis document, defense to committee, and University paperwork) must be completed within six weeks after permission to write the thesis is granted. Upon the oral defense of the thesis, the Masters Degree Committee can make the recommendation to grant the Degree, with the final approval made by the Program Director.

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STUDENT PUBLICATIONS

The MCP Program expects publication of dissertation work in quality peer reviewed journals. One such publication is required to be accepted before sufficiency is granted, and the student must be a major contributor (first or co first author) in that publication. The student must have actively participated in generation of the data, writing the manuscript and interaction with the reviewers. It should be noted that our best students graduate with 4 or more publications. The student and Mentor decide whether to include all of the work the student has done (and published) into the dissertation.

STUDENT ATTENDANCE OF SCIENTIFIC MEETINGS

Students are encouraged to present their research at domestic national meetings. Criteria for student travel: The student must present their research (a poster or talk) and must be the first (presenting) author of the abstract.

Please note – MCP Program travel funds are not available for the current fiscal year. It is recommended students apply for the MFA Travel Award offered by the Office of Graduate Studies. Typically, the application submission deadlines for the MFA travel award are September 1st, December 1st, and March 1st. Application announcements are sent directly to the students prior to each of deadlines by the Office of Graduate Studies/Program Coordinator.

All students are urged to apply for travel awards from the society or group organizing the conference. Student travel awards are relatively easy to get if the application is submitted in a timely manner.

THE GRADUATE SCHOOL HANDBOOK AND ACADEMIC BULLETIN

The official rules of the University regarding the Doctor of Philosophy degree are published each year in the Graduate School Handbook and Academic Bulletin. Students should read and adhere to these rules.

DISMISSAL AND APPEALS

Students can be dismissed by the Program for academic or professional reasons. Decisions on dismissal are made by the Graduate Committee (Program Director and three Program Members). To appeal a major programmatic decision (e.g., dismissal, denial of degree, termination of stipend), students should first present their reasons for appealing to the Program Director and Steering Committee. This appeal will be given a fair and impartial hearing followed by a decision made by majority vote. If the student remains dissatisfied with the result of this appeal, s/he may appeal the Program's decision, in writing, to the Senior Associate Dean for Graduate Studies, within 30 days of the Program's final decision. Decisions by the Senior Associate Dean are appealable to the Dean of the Graduate School through the filing of a formal Graduate School Grievance. Graduate School Grievance Guidelines:
https://umshare.miami.edu/web/wda/grad/download_docs/GRADUATE_COUNCIL_GRIEVANCE_GUIDELINES_4-2009.pdf.

LEAVE OF ABSENCE POLICY AND PROCEDURES for PhD STUDENTS

This statement applies to full time PhD students in good academic standing at the University of Miami Miller School of Medicine (UMMSM). In general, trainees may receive stipends during the normal holiday periods observed by UMMSM (New Year's Day, MLK, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day). PhD students may also receive stipend support for up to **15 calendar days (including weekends)** of sick leave per year.

PhD students are permitted to receive stipend support during a reasonable number of vacation days. The exact number and timing of vacation days is negotiated between the student and mentor, but vacation days are normally expected to be no more than **2 weeks per year (10 business days)**.

The graduate school recognizes that doctoral students receiving a stipend from a fellowship, teaching or research assistantship may require a paid leave of absence due to pregnancy or the need to care for a new child. The process to secure the leave should follow the steps described below:

1) Graduate students must apply for a leave using the leave of absence form. This form, available on the graduate school website, should be submitted one semester before the intended start of the leave, if at all possible.

2) The length of the paid leave of absence should not exceed a total of *three months*. Any student requesting a longer period of leave may be granted an unpaid leave of absence.

3) Any accommodations and funding required during the leave must be provided by the academic home school/college, department or program. This is particularly important if the student is the recipient of a research assistantship from a federal grant (NSF, NIH, DOE, DoD, etc…) or an external fellowship without maternity/paternity leave stipulations, since a student cannot keep receiving stipend payments from these sources during the leave of absence.

4) Requests to extend the leave of absence beyond three months can be made only due to medical reasons during the leave period and require the submission of proper documentation. Any leave extensions may be granted as unpaid leaves of absence.

5) The time spent on leave of absence due to childcare accommodation will not count against the student's academic time-to-completion in the corresponding graduate program.

6) During the graduate tenure a given student can only benefit once from this policy.

7) On a case by case basis, the Graduate School may consider two doctoral students for co-parenting the same child and the conditions of the accommodation will vary. Requests can be directed to the Dean of the Graduate School.

8) Any other cases not contemplated in this document should be directed for consultation by the Dean of the Graduate School.

Once a student returns from an approved leave, he/she will need to submit an application for readmission form. If the student returns within the approved leave time frame, the Graduate School will simply approve. If the student returns outside of the approved length of time, the readmission form will be reviewed.

Individuals requiring periods of time away from their research training experience longer than specified here must seek approval from their Program Director for an **unpaid** leave of absence. At the beginning of a leave of absence, the trainee must submit a written request which includes the reason for the request as well as the date the leave will begin and end. This request, once approved by the Program Director, should be submitted to the Office of Graduate and Postdoctoral Studies which will seek the necessary approval from the Senior Associate Dean.

STIPENDS

All graduate students in good academic standing will receive an annual stipend of $28,500 for 2016-2017 and **may not be employed elsewhere**. Typically, a student will receive a stipend up to a period of 8 weeks following his/her defense OR until the end of the semester in which he/she defended, whichever period is less. Payroll assignments and details will be managed by the Molecular Cell and Developmental Biology Graduate Program Coordinator. Students are paid on the last day of each month and are required to have direct deposit.

FELLOWSHIP SUPPLEMENTS

It is the policy of the Office of Graduate Studies that a student who successfully competes for external fellowships will receive a $2,000 yearly supplement to his/her stipend for the length of the fellowship award, as long as the fellowship covers at least 75% of the stipend. The faculty mentor will be responsible for providing this supplement while the student is the mentor's laboratory.

TUITION SCHOLARSHIPS

All graduate students in good academic standing will also receive a tuition scholarship for the duration of their studies. The Program Coordinator will submit the appropriate registration and tuition waiver information on behalf of the student each semester.

FEES (2016-17)

- **Mandatory** fees are accessed at the beginning of each semester. Students should monitor their account and pay their balance in a timely manner in order to avoid late fees and registration freezes. The mandatory fees are:
  - Activity fee - $15
  - Health and Counseling Center fee - $25

        - Student Health Center fee - $92
    - **Optional** fees may be waived. They are:
        - Athletic fee - $78
        - Wellness Center fee - $166 (Fall); $166 (Spring); $70 (Summer) Wellness Center fee is automatically charged unless declined within first week of classes each semester

STUDENT ROOM

There is a Graduate Student Room (RMSB 6076) beside the Pharmacology Administration Office (RMSB 6079) available for the Pharmacology and Neuroscience students. This room contains a table and "office" chairs as well as some more comfortable furniture. In addition, there are several computers (Windows and Macintosh) that are connected to the Internet.

EMAIL

UM provides free e-mail accounts to all students; please be sure to read your e-mail daily. If you do not have e-mail, please contact the Program Coordinator to get University access. E-mail is an important avenue of communication between the Cell Biology Program and the graduate students.

HEALTH INSURANCE

Graduate Student Health Insurance (GSHI) Rates for 2016-17		
Semester	**Coverage Period**	**Rate**
Annual	August 15, 2016 – August 14, 2017	$2513.00

Students are required to show proof of adequate health insurance. All students are automatically enrolled in the University sponsored Student Health Insurance plan. For those individuals covered under an outside policy, and who wish to waive the UM plan must do so through **CaneLink**, under the "Other Important Links" option. - Insurance cancellation requests must be renewed each academic year via **CaneLink**.

Please note that International Students are required to maintain the University of Miami health insurance.

Students scheduled to graduate at the end of the Fall semester can request to be charged for the Fall semester only by completing an insurance exception form by September 1st. Students who request to be charged for the Fall only, and remain enrolled, will be subject to the Spring/Summer insurance fee

HEALTH INSURANCE INFORMATION FOR DOMESTIC STUDENTS

Domestic students enrolled in six or more credit hours per semester (or considered full time, including graduate students enrolled in a 700/800 level class) are required to obtain adequate health insurance (see exceptions). The annual premium for the health insurance plan offered through the Student Health Service is added to each student's fees. Domestic students with adequate alternative coverage may request cancellation of the insurance fee by submitting a Domestic Insurance Cancellation Form, or via **CaneLink**. Students with limited out of area coverage or otherwise inadequate coverage are urged to carefully review their options before waiving the Student Health Service sponsored insurance plan. Deadlines to waive the insurance are available on the Student Health Center website (https://www6.miami.edu/student-health).

Insurance cancellation requests must be renewed each academic year via **CaneLink**.

HEALTH INSURANCE INFORMATION FOR INTERNATIONAL STUDENTS

All international students are required to enroll in the University sponsored health insurance program. The annual premium for this coverage is added to each student's fees. Optional coverage for dependents can be requested at the time the student is first able to enroll in the plan (within 14 days of the start of the

semester) or within 30 days of termination of other similar coverage, or because of any of the following events; birth, legal adoption, placement for adoption, marriage, legal guardianship, or court or administrative order. Renewal of dependent coverage is the responsibility of the student / dependent and must be requested prior to the termination of the current policy in order to prevent a lapse in coverage. For more information, contact the Student Health Service at www.miami.edu/student-health or (305) 284-1652.

INTERNATIONAL STUDENT AND SCHOLAR SERVICES

The Department of International Student and Scholar Services (ISSS) provides support services for international students and scholars. ISSS offers the following support services: immigration advising, orientation, employment information and authorization, federal income tax filing, personal and adjustment problems, advocacy and liaison (sponsors). A special orientation program is held in the Fall for all new international students to facilitate the educational and cultural adjustment of new and transfer international students.

For more information contact ISSS: Phone: (305) 284-2928
Email: Isss@miami.edu Web: www.miami.edu/internationalservices/
Address: 560 Merrick Drive, Building 21-F, Coral Gables, FL 33124-5550

STUDENT COUNSELING CENTER

The University Student Counseling Center has personal counselors who can help students effectively cope with the challenges of college life and facilitate learning, growing, and socializing. The Counseling Center offers a wide ranges of services, including short-term individual counseling, career and educational counseling, outreach programs, and various groups aimed at enhancing personal growth and development. The center is staffed by an experienced team of professionals from the fields of psychology, psychiatry, mental health counseling and social work. Students can contact the center Monday-Friday between the hours of 9 a.m. – 5 p.m. by calling (305) 284-5511. The center is located in Building 21-R of the Center for Student Services on Gables Campus. If a crisis occurs after hours counselors can be reached by calling the University of Miami Police Department (305) 284-6666.

SECURITY (305) 243-6000

The UM Medical Campus provides security to monitor building entrances and patrol the campus 24 hours a day. If you are working late or on the weekends, security officers will provide escorts upon request to any point on the Medical Campus including Metrorail. Call Medical Campus Security at (305) 243-6000 or 6-6000 or *711 on in-house phones.

METRORAIL PASSES

The Miami-Dade Metrorail is an elevated rapid transit system that runs through Miami and provides convenient access to the medical school at Civic Center Station exit. Discounted monthly Metrorail passes are available to UM students and must be ordered a month in advance. To order a pass contact the Security Office at (305) 243-6280 or UMParking@med.miami.edu.

PARKING

The UM Security Office is responsible for issuing parking lot access for faculty, staff, and students. However, since parking space is limited there is usually a waiting list. To place your name on a waiting list for a particular parking garage contact Daysi Fleitas at (305) 243-6280 ext. 2 or email: UMParking@med.miami.edu. The Dominion Parking Garage is privately owned and usually has available parking. Call (305) 324-0900 or walk over to the office at Dominion Towers (1400 NW 10th Avenue, Suite 101).