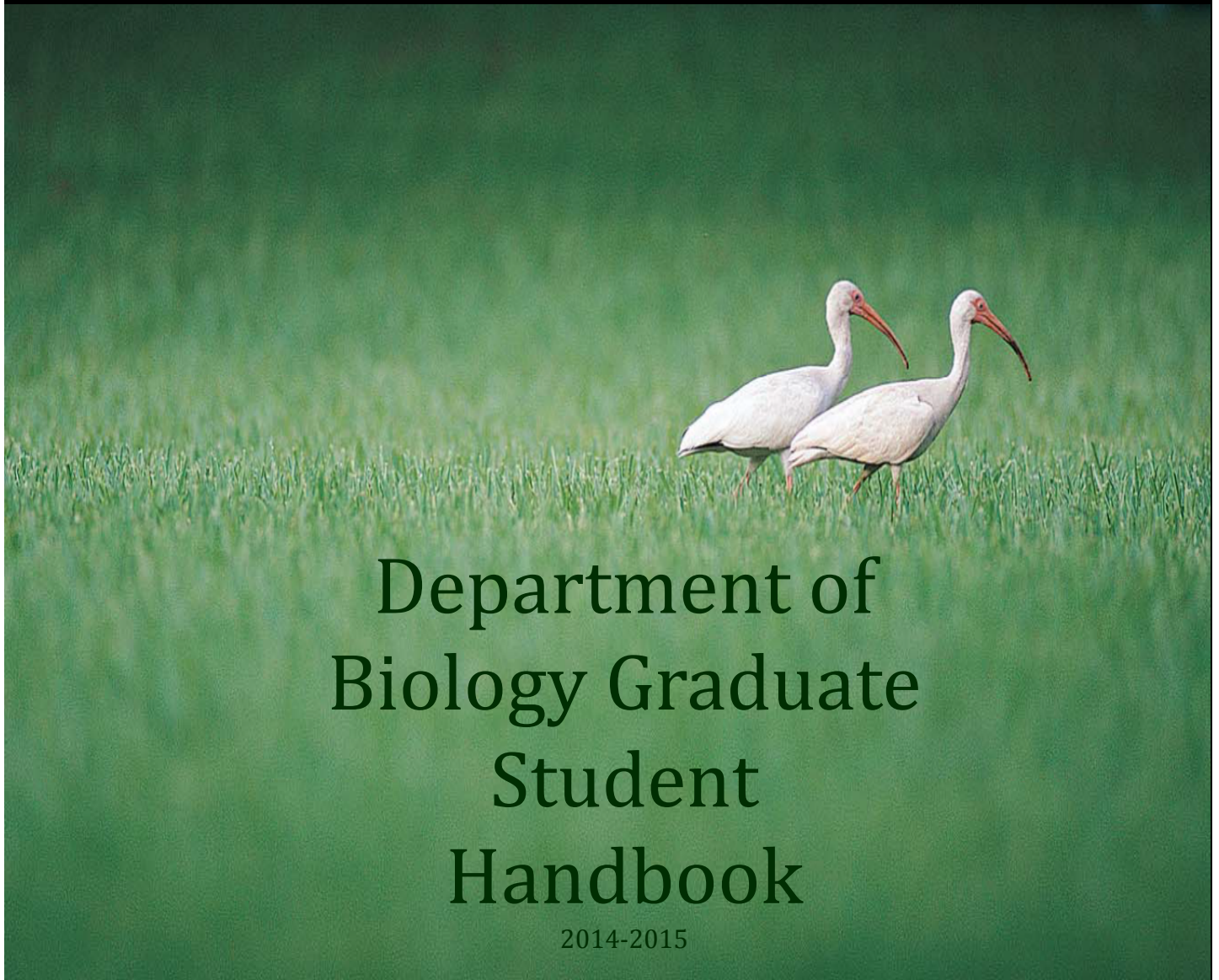


UNIVERSITY OF MIAMI



Department of Biology Graduate Student Handbook

2014-2015

Editor: Dr. Al Uy



**University of Miami
Department of Biology**

New Graduate Student Orientation Schedule

Friday, August 22, 2014

New International Student Orientation (International Students Only) 9:30 AM - 1:00PM
Whitten Learning Center, Room 130

Department of Biology Orientation 1:30 PM - 3:00 PM
Cox Science, Rm 217
Students will be accompanied to the library at 1:30PM from Cox

New Graduate Student Reception 3:30 PM - 5:00 PM
Rathskeller (Student Activities Center)

Sunday, August 24, 2014

Graduate Student Orientation Noon - 3:00 PM
Bank United Center (Field House)

President's Picnic 4-6 PM
President Shalala's home (shuttle begins from Bank United Center at 3:30 PM)

For registration: www.miami.edu/index.php/graduate_school

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First Year Graduate Student Checklist

- | | | |
|--------------------------|---|---|
| <input type="checkbox"/> | Attend Graduate Student Orientations | See page 3 for Orientation Schedule |
| <input type="checkbox"/> | Meet with your advisor/s to form an initial committee | |
| <input type="checkbox"/> | Meet with initial committee to discuss course work | See page 19 |
| <input type="checkbox"/> | Complete IACUC Certification (TAs & RAs working with vertebrates) | See page 37 for more information |
| <input type="checkbox"/> | Attend Lab Safety Seminar and submit certificate of completion to Biology Department | Required for students with teaching assignments |
| <input type="checkbox"/> | SPEAK TEST (International Students with Teaching Assistantship) | The Intensive Language Institute tests the spoken English proficiency of all incoming international teaching assistants for the University of Miami before they are assigned to teach. The SPEAK test, the institutional form of the Test of Spoken English (TSE) is a taped and timed test developed by the Educational Testing Service (ETS) and is used in this assessment. Students who do not successfully pass the SPEAK test are eligible to demonstrate their spoken English through a videotaped teaching demonstration before a panel. They are also eligible to take a spoken English course. This 10-week course is taught each semester, depending on demand, and is designed to improve English oral communication and presentation skills. |
| <input type="checkbox"/> | Online TA Orientation | Must complete by October 1, 2014 |
| <input type="checkbox"/> | Responsible Conduct of Research | RST-601 Online course must be complete by January 2013. Email course completion certificate to Graduate Program Secretary
RST-602 Seminar Training taught March/April 2013. RST-601 must be completed before the seminar
See page ___ for more information |

Quick Reference Contacts

Department of Biology Room 215 Cox Science Center www.bio.miami.edu	305-284-3979 305-284-3039 (f)
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Marisa Hightower, SEEDS Program Manager mhightower@bio.miami.edu	
Carolina Fernandez, Senior Staff Assistant cfernandez@bio.miami.edu	305-284-5909
Aliana Valenzuela, Accounting Assistant aliana@bio.miami.edu	305-284-4639
Rob Burgess, Network Specialist rob@bio.miami.edu	305-284-1753
Office of Student Accounts Room 158 Ashe Administration Building	305-284-6430 option 5
The Graduate School 115 Albert Pick Hall (Brescia)	305-284-4154
Ty Henry, Assistant Director, Graduate Programs, Graduate School t.henry1@miami.edu	305-284-4155
Doreen Yamamoto, Dissertation Editor dyamamoto@miami.edu	305-284-5096

**When using a campus landline, dial 8 and the last 4 digits of the telephone.

Fall 2014 Academic Calendar

Subject to Change

69 Class Days per Semester

Aug 11	Mon	Deadline for Readmission
Aug 12	Tues	Prestigious Awards and Fellowships Due in Honors Program & Office of Academic Enhancement. For specific deadline dates on the various awards see www.miami.edu/oac .
Aug 19	Tues	International Student Orientation
Aug 20	Wed	Housing Available for Students
Aug 20	Wed	Orientation Begins
Aug 21	Thurs	Housing Available for Continuing Students
Aug 25	Mon	CLASSES BEGIN
Aug 25	Mon	Late Registration Fees in Effect
Sept 1	Mon	HOLIDAY (LABOR DAY)
Sept 4	Thurs	Last Day for Registration and to Add a Course
Sept 10	Wed	Last Day to Drop a Course Without a "W"
Sept 10	Wed	Deadline to apply for Inactive Status
Sept 10	Wed	Deadline to apply for Non-UM programs
Sept 10	Wed	Last Day to Make a Change in Credit-Only Designation
Oct 3	Fri	Academic Alert Grades Due in Canelink
Oct 3	Fri	Last Day to Apply for Graduation Fall
Oct 16 - 19	Fri	FALL RECESS
Oct 20	Mon	Registration Appointments Available on Canelink
Oct 27	Mon	Last Day to Drop a Course
Nov 3	Mon	Registration for Spring 2015* (Begins)
Nov 7	Fri	Magna/Summa Theses Due in Honors Program Office
Nov 7	Fri	Graduate Students: Last Day to Defend Dissertation/Thesis for Fall 2014
Nov 22 - 30	Sat – Sun	THANKSGIVING RECESS
Dec 9	Tues	CLASSES END (11:00PM)
Dec 10	Wed	Reading Day
Dec 10	Wed	Grade Roster available to Faculty
Dec 11 – 17	Thurs – Wed	FINAL EXAMS
Dec 17	Wed	Graduate School Deadline for Completion of Dissertation/Thesis
Dec 17	Wed	SEMESTER ENDS (11:00PM)
Dec 18	Thurs	FALL COMMENCEMENT EXERCISES – All Degrees
Dec 18	Thurs	Housing Closes at NOON for Non-Commencement Participants
Dec 19	Fri	Housing Closes at NOON for Commencement Participants
Dec 22	Mon	Final Grades Released by Faculty in Canelink by Noon
Dec 23	Tues	Final Grades Available to Students in Canelink

Spring 2015 Academic Calendar

Subject to Change

69 Class Days per Semester

Dec 29	Mon	Deadline for Readmission
Jan 2-10	Fri – Sat	Interession 1 (special tuition, add/drop, dates, & refund policy apply)
Jan 7	Wed	Housing Available for Students
Jan 7	Wed	International Student Orientation
Jan 9	Fri	Orientation Begins
Jan 12	Mon	CLASSES BEGIN
Jan 12	Mon	Late Registration Fees in Effect
Jan 19	Mon	HOLIDAY (MARTIN LUTHER KING, JR. DAY)
Jan 21	Wed	Last Day for Registration and to Add a Course
Jan 28	Wed	Last Day to Drop a Course Without a “W”
Jan 28	Wed	Deadline to apply for Inactive Status
Jan 28	Wed	Deadline to apply for Non-UM programs
Jan 28	Wed	Last Day to Make a Change in Credit-Only Designation
Feb 23	Mon	Academic Alert Grades Due in Canelink
Mar 6	Fri	Last Day to Apply for Graduation for Spring and Summer
Mar 7 – 15	Sat - Sun	SPRING RECESS/Interession 2
Mar 23	Mon	Registration Appointments Available on Canelink
Mar 25	Wed	Last Day to Drop a Course
April 3	Fri	Magna/Summa Theses Due in Honors Program Office
April 3	Fri	Graduate Students: Last Day to Defend Dissertation/Thesis for Spring 2015 Graduation
April 6	Mon	Registration for Fall Semester 2015 and Summer 2015* (Begins)
April 24	Fri	CLASSES END (11:00PM)
April 25 – 28	Sat - Tues	Reading Days
April 25	Sat	Grade Roster available to Faculty
April 29 – May 6	Wed - Wed	FINAL EXAMS
May 6	Wed	Graduate School Deadline for Completion of Dissertation/Thesis
May 6	Wed	SEMESTER ENDS (11:00PM)
May 7	Thurs	Honors Day Convocation
May 7	Thurs	SPRING COMMENCEMENT EXERCISES – All Graduate Degrees
May 8	Fri	SPRING COMMENCEMENT EXERCISES – All Undergraduate Degrees
May 8	Fri	Housing Closes at NOON for Non-Commencement Participants
May 9	Sat	Housing Closes at NOON for Commencement Participants
May 11	Mon	Final Grades Released by faculty in Canelink by Noon
May 13	Wed	Final Grades Available to Students in Canelink

Most up-to-date calendars available at www.miami.edu/registrar

Procedures for Graduate Students in Biology

Passed by the faculty on March 19, 2003

(Updated January 28, 2011)

APPLYING FOR ADMISSION

In applying for admission, applicants must select either the *Master's* or the *Ph.D.* track. A limited number of applicants to the Ph.D. program may be invited to interview at departmental expense. **Applications are due December 1.** All applicants must send the following to the Director of Graduate Studies in Biology (application forms are available online at <https://www.applyweb.com/aw?mgrbio>):

1. Completed application form.
2. All undergraduate and graduate official transcripts (photocopies are not accepted).
3. Official scores from recent Graduate Record Examinations (within five years), including the aptitude portion; the Biology subject matter test also is recommended (photocopies of scores are not accepted).
4. International applicants whose native language is not English must additionally submit the TOEFL (Test of English as a Foreign Language) and the TSE (Test of Spoken English) official scores (photocopies of scores are not accepted).
5. Letters of recommendation, from three science instructors/ supervisors that address: nature and duration of relationship to applicant; motivation; ability to conceptualize and deal quantitatively with biological problems, and research potential.
6. Cover letter that identifies interests, suggests possible research projects, and states career goals.
7. Copies of any research papers (e.g., publications, manuscripts, senior reports, etc.).
8. Written confirmation of a UM Biology faculty sponsor; applicants **MUST** secure the sponsorship of a Biology faculty member as a condition for admission; the research interests of the applicant and the faculty sponsor should be well-matched. The sponsor will be the major advisor.
9. Application fee of \$65.

Materials submitted in support of an application cannot be released for other purposes or returned to the applicant.

APPLYING TO CHANGE BETWEEN GRADUATE TRACKS

Applicants who were admitted on the Master's track, but who wish to change to the Ph. D. track without completing the Master's may apply for admission to the Ph.D. program at the beginning of their second semester. Letters of support from three Biology faculty, including a major advisor, should be added to the applicant's file. The file must be current. Such applicants will be judged by the same criteria that are applied to other Ph.D. applicants.

DEGREE REQUIREMENTS

All students are required to satisfy **the general requirements** for the appropriate degree that are listed in the **UM Graduate Studies Bulletin**, whether or not these requirements are listed among the Biology requirements.

The Master of Science degree may be attained by either of the two following routes:

M.S. with thesis (a three year program)

Credits: a total of 30 credits are required:

- ❖ 24 course credits, including the two-semester departmental core courses for graduate students and at least one graduate course in statistics. Students are encouraged to take courses from more than one conceptual area. They are encouraged to select courses and independent studies that will prepare them for research, as listed under the Ph.D. requirements. No more than nine (9) credits from the independent study series (BIL 671-675) may be used to fulfill the 24 course credits. At times these course numbers are used by professors to teach a new course or a special topics course, in which case the corresponding credits can be counted as a non-independent study credit. Course selection requires committee approval.
- ❖ 6 research credits (BIL 710); no more than six M.S. research credits are allowed.
- ❖ The minimum acceptable grade average in all coursework towards the degree is a "B (3.0)" and no grade may be below a "C."

Research Proposal: public presentation and successful defense to the committee of a written research proposal. The public presentation must be given during regular sessions of the Fall or Spring semesters, not during summer sessions, intersessions, reading days or finals weeks.

Admission to candidacy: application is made by recommendation of the committee.

Thesis: A well-written and successfully defended thesis of publishable quality; a defense is successful if all members of the committee sign the grad school form and the signature page of the thesis.

Other requirements described under "The Master's Degree," including but not limited to:

- ❖ a total of at least 30 credits (course credits plus research credits). The Graduate School and the Department concur in requiring at least 24 course credits and exactly six research credits (BIL 710) for a thesis M.S.
- ❖ Once a student has completed all required credits, she/he must enroll in "Research in Residence" (BIL 720) status until the degree is granted. This course carries zero (0) credits, but is considered full-time enrollment. Even though no credit is earned, a tuition charge equivalent to one course credit normally applies to this course.

The committee:

- ❖ A single committee will combine the responsibilities of the supervisory and thesis committees.
- ❖ The supervisory committee will be determined by the student in consultation with his or her advisor. The committee will consist of a minimum of three faculty, one of whom must be from outside the department, and one of whom must be a member of the graduate faculty. There is no sub-disciplinary representation requirement.
- ❖ The thesis committee is formed officially when the student is admitted to candidacy. It may comprise the same individuals as the supervisory committee, or it may be formed anew. The student in consultation with the advisor suggests the membership of the committee to the graduate school. The committee will consist of a minimum of three faculty, one of whom must be from outside the department, and one of whom must be a member of the graduate faculty. There is no sub-disciplinary representation requirement.
- ❖ The thesis committee is nominated by the department, but it must be approved and appointed by the Dean of the Graduate School. There is a special form that must be filed with the graduate school.
- ❖ Committee meetings are required at least once a year (recommended at least once a semester). The student is responsible for arranging meetings. The student should consult with the committee about major changes in research goals and about problems. Memos summarizing each meeting must be entered into the student's file.

The time table:

- ❖ A written thesis proposal is due no later than the middle of the second semester. Please take note of this deadline. The scope of the M.S. thesis should be in line with the time table.
- ❖ Admission to candidacy normally occurs after completion of one year or 12 credits of graduate work and successful defense of the thesis proposal.
- ❖ Analysis of data and a polished draft of the thesis should be completed and in the hands of the committee by the middle of the sixth semester. Please take note of this deadline. The scope of the M.S. thesis should be in line with the time table.
- ❖ Defense of the thesis and its submission to the Graduate School must meet or precede the deadline for graduation immediately following the sixth semester unless an extension has been approved by the Graduate Admissions and Advisement Committee (GAAC) upon recommendation of the thesis committee. Notice of the defense must be submitted on a special form to the graduate school in advance of the defense and must be posted publicly in the department.
- ❖ The oral defense of the thesis must be given during regular sessions of the Fall or Spring semesters, not during summer sessions, intercessions, reading days, or finals weeks.

- ❖ No student may receive the degree in the same semester in which she/he is admitted to candidacy.
- ❖ The indicated dates form firm deadlines. A student's committee, however, may submit a written petition to GAAC for an extension of time detailing reasons for the request. An extension will be granted only under extraordinary circumstances and will be effective upon written approval by GAAC.
- ❖ Proposals to change the schedule for any reason should be preceded by a study of the graduate bulletin sections on leaves of absence, full time student status, and recency of credit. Such a proposal must explicitly address how the proposed change of schedule relates to these matters. The memo requesting the change also should address the proposed financial support.

M. S. without thesis (a two year program)

Credits:

- ❖ A total of 36 course credits are required by the Biology Department, including the two-semester departmental core courses for graduate students and at least one graduate course in statistics. Students are encouraged to take courses from more than one conceptual area, listed under the Ph.D. requirements. No more than 9 credits from the independent study series (BIL 671-675) may be used to fulfill the 36 course credits. At times these course numbers are used by professors to teach a new course or a special topics course, in which case the corresponding credits can be counted as a non-independent study credit. Course selection requires committee approval.
- ❖ The minimum acceptable grade average in all coursework towards the degree is a "B (3.0)" and no grade may be below a "C."

Admission to candidacy is made by recommendation of the committee.

Qualifying exam: The student must pass a written comprehensive exam given by the committee.

The committee:

- ❖ A single committee will generally combine the responsibilities of the initial supervisory and the comprehensive examination committees. The committee will be determined by the student in consultation with her/his advisor. The committee will consist of a minimum of three faculty, one of whom must be from outside the department, and one of whom must be a member of the graduate faculty. There is no sub-disciplinary representation requirement.
- ❖ The examination committee is formed officially when the student is admitted to candidacy. It may comprise the same individuals as the supervisory committee, or it may be formed anew. The student in consultation with the advisor suggests the membership of the committee to the graduate school. The committee will consist of a minimum of three faculty including the student's advisor, one of whom must be from outside the department, and one of whom must be a member of the graduate faculty. There is no sub-disciplinary representation requirement.

- ❖ The examination committee is nominated by the department, but it must be approved and appointed by the Dean of the Graduate School. There is a special form that must be filed with the graduate school.
- ❖ Committee meetings are required at least once a year (recommended at least once a semester); the student is responsible for arranging meetings. The student should keep the committee advised of major changes in the graduate program plan. Memos summarizing each meeting should be in the student's file.

Other requirements described under "The Master's Degree":

- ❖ Note that although the Graduate School requires only 30 credits for an M.S. degree, the Department requires 36 course credits for a non-thesis M.S.

The time table:

- ❖ Admission to candidacy normally occurs after completion of one year or 12 credits of graduate work.
- ❖ The comprehensive exam must be passed by the end of the fourth semester.
- ❖ No student may receive the degree in the same semester in which she/he is admitted to candidacy.
- ❖ The indicated dates form firm deadlines. A student's committee, however, may submit a written petition to GAAC for an extension of time detailing reasons for the request. An extension will be granted only under extraordinary circumstances and will be effective upon written approval by GAAC. The memo requesting the change also should address the proposed financial support.
- ❖ Proposals to change the schedule for any reason should be preceded by a study of the graduate bulletin sections on leaves of absence, full time student status, and recency of credit. Such a proposal must explicitly address how the proposed change of schedule relates to these matters.

C. DOCTOR OF PHILOSOPHY

Credits: a total of 60 credits (including both course and research credits) beyond the Bachelor's degree are required:

- ❖ At least 18 course credits that are not from the independent study series, including the two-semester departmental core courses for graduate students and at least one graduate course in statistics. The independent study series is BIL 671-675. At times these course numbers are used by professors to teach a new course or a special topics course, however, in which case the corresponding credits can be counted as a non-independent study credit. Course selection requires committee approval.
- ❖ At least 12 research credits (BIL 730). Once the overall number of required credits (see below) has been reached, there is no need to take additional research credits.

- ❖ An additional 30 credits from any combination of graduate courses (500 and 600 level regular courses and independent study courses) and research credits (700 level) to bring the total number of credits beyond the Bachelor's Degree to 60 credits. (One example: 18 required course credits + 12 required research credits + 15 additional course credits + 15 additional research credits = 60 total; another example would be 18 additional course credits and only 12 additional dissertation credits, etc.)
- ❖ Students who already have a Master's Degree in the same field may not need as many course credits (consult Graduate School rules on transfer credits), but at least 24 credits must be taken in residence at UM.
- ❖ The committee may decide that students with previous graduate level courses may be exempt from some of the course requirements.
- ❖ The minimum acceptable grade average in all coursework towards the degree is a "B (3.0)" and no grade may be below a "C."
- ❖ **Conceptual areas**: Students are encouraged to take courses and independent studies from at least three conceptual areas and are urged to take courses and independent studies that will prepare them for the comprehensive qualifying exam and for research. Students also are encouraged to participate in seminars and study groups and to take special courses in other departments of UM, at our Coalition for Excellence in Tropical Biology partner institutions, from the Organization for Tropical Studies, or other special interdisciplinary courses. Such courses should be appropriate to their course of study and research area as determined by their committees. Conceptual areas offered in our department include: Evolution, Ecology, Behavior, Genetics and Molecular Biology, Cell Biology and Development. Special concentrations in our department and/or in collaboration with other departments include: Tropical Biology, Mathematical Ecology, Neuroscience, and Behavior.

A comprehensive qualifying exam should be passed by the end of the third semester.

- ❖ A single committee (see number 9, below, about committee membership) will advise the student on both comprehensive and research training. To fulfill the **comprehensive function**, the committee will be responsible for ensuring breadth, significant background and depth in at least 3 conceptual areas (examples include but are not limited to the areas listed above).
- ❖ To establish intellectual communication between the committee members and students early on, the committee will begin to work with the student in the first semester. Faculty will suggest reading lists, courses and/or independent study, as needed, to prepare the student with sufficient background for the comprehensive examination which will include 3 areas, one of which is the research area. The committee and student will interactively define the scope of comprehensive training and thus, the scope of the comprehensive examination in these 3 areas.

- ❖ The comprehensive examination will be held in the third semester. The committee will designate a chair other than the student's advisor to administer the examination. The written part of the exam will not be open-book and will be administered on campus for two discrete periods of time (up to 4 hours each, within two consecutive days) by the examination chair. All members of the committee will grade all the questions. With committee approval, an alternative is to present to the committee a first-authored, publishable, full-length article manuscript concerning research conducted since matriculation at UM. Before the end of the third semester, the manuscript must be submitted to a journal approved by the committee. After the committee has read the written answers or manuscript, about one week later there will be an oral exam for the purpose of further exploring the student's grasp of the subject matter.
- ❖ Each committee member will decide on a pass/fail grade based on the total performance (written plus oral). For the student to pass the examination, 3 of the 4 examiners must vote a grade of pass. An oral and written summary of the committee's evaluation must be prepared by the chair of the examination committee and given to the student and to GAAC. If the student does not pass the examination, there will be a chance to retake it the following semester. In the case of failure a second time, he/she will be terminated from the program.

Research proposal: A public presentation of a research proposal and defense of a written research proposal to the **complete research committee** (see below) should be completed by the middle of the fourth semester. Students are encouraged to follow the format of a grant proposal to a major funding agency. At the proposal defense, the student will receive either a pass or a fail. A grade of pass will be recorded if no more than one member of the complete research committee (see below) votes to fail the student. If the student fails the proposal defense, she/he will be given a second chance to defend no later than the sixth week of the fifth semester. If the defense is failed a second time, the student will be terminated from the program.

Admission to candidacy: (application is made on a form available in the grad school and in the department). This normally will occur at the end of the fourth semester. The requirements are to pass the comprehensive examination and to successfully defend a written research proposal.

Teaching: All students on the Ph. D. track in Biology are required to serve satisfactorily at least one semester as a teaching assistant in one of the courses offered as part of the Department's training program.

Grants: Submission of a grant proposal to a major funding agency (e.g., NSF, NIH, National Geographic, World Wildlife Fund, etc.). All students are required to seek outside funding for their research. This must be a research project proposal. Application for an NSF pre-doctoral fellowship does not meet this requirement, but application for an NSF dissertation improvement grant does qualify.

Ph. D. Dissertation: A well-written and successfully defended dissertation containing an original contribution to the field and of quality appropriate for publication in a scientific journal; a defense is successful if all members of the committee sign the graduate school form and the signature page of the dissertation. A public dissertation seminar also is presented at the time of the defense.

Other requirements described under "Doctor of Philosophy," including but not limited to:

- ❖ a total of at least 60 credits (course credits plus research credits).

- ❖ Once a student has completed all required credits, he/she must enroll in "Research in Residence" (BIL 750) until the degree is granted. This course carries 0 credits, but is considered full-time enrollment. Even though no credit is earned, a tuition charge equivalent to 1 course credit normally applies to this course.

Committee: A single committee will advise the student on both gaining comprehensive knowledge and research training. The committee will be responsible for ensuring breadth, significant background and depth in at least 3 conceptual areas (examples include but are not limited to the areas listed above). The research function of the committee is to advise the student on research, including preparation, training, project choice, project design, implementation and evaluation of the research. The committee will go through several phases and its membership will be determined by the advisor and student together, contingent upon approval of GAAC and/or the Graduate School, as appropriate at each phase:

- ❖ The initial committee will consist of at least four (4) faculty, two (2) appointed to ensure breadth of training (from two areas outside the research area) and two (2) from the research area. It will be formed to help the student choose courses during the first few weeks of the first semester. This committee will decide whether students having a M.S. in biology (botany, zoology, etc.) from another institution can substitute a graduate level course taken elsewhere for a departmental course requirement; it also will decide which additional courses should be taken for both research and breadth. The choice of areas briefly will be outlined in a memo to GAAC.
- ❖ The initial committee of at least four (4) faculties will be responsible for preparing and administering the comprehensive examination. The chair of the examination committee must be someone other than the student's advisor.
- ❖ The complete committee of at least four (4) faculties including one from outside the department, should be formed by the end of the third semester; all four members should participate in the proposal evaluation which will take place in the fourth semester. The committee will consist of a minimum of four (4) faculties, which includes the committee chair, who must be a member of the Graduate Faculty. Of the remaining members, it is also required that two shall be from the Graduate Faculty.
- ❖ The dissertation committee (of four) is formed officially when the student is admitted to candidacy. It usually will comprise of the same individuals as the complete research committee, or it may be formed anew. The student and advisor consult on the membership of the committee, and the department nominates the committee to the graduate school. The committee will consist of a minimum of four faculties, which includes the committee chair who is the advisor, who must be a member of the Graduate Faculty. Of the remaining members, it also is required that two shall be from the Graduate Faculty and one from outside the department of concentration. The dissertation committee is nominated by the department, but it must be approved and appointed by the Dean of the Graduate School. There is a special form that must be filed with the graduate school.

- ❖ Committee meetings are required at least once a year (recommended at least once a semester in the early phases). The student is responsible for arranging meetings; the student should consult with the committee about any major changes in research goals and any problems; memos summarizing each meeting should be in the student's file.

Time table:

- ❖ The written comprehensive qualifying examination must be passed by the end of the third semester.
- ❖ A polished, written dissertation proposal must be defended to the committee in the fourth semester together with a public presentation of the proposal. This must take place by mid-April of the spring semester or mid-November of the fall semester.
- ❖ Admission to candidacy normally occurs after the comprehensive qualifying exam and proposal defense are passed upon the recommendation of the committee and the approval of the Graduate School. Application for admission to candidacy is made to the graduate school on a special form.
- ❖ Analysis of data and a polished draft of the dissertation should be completed and in the hands of the dissertation committee no later than the middle of the tenth semester.
- ❖ Defense of the dissertation and its submission to the Graduate School must meet or precede the deadline for graduation immediately following the tenth semester unless an extension has been approved by GAAC upon recommendation of the dissertation committee. Notice of the defense and of the public seminar must be submitted on a special form to the graduate school in advance of the defense, and must be posted publicly in the department.
- ❖ The oral defense of the dissertation must be given during regular sessions of the Fall or Spring semesters, not during summer sessions, inter-sessions, reading days or finals weeks.
- ❖ No student may receive the degree in the same semester in which she/he is admitted to candidacy.
- ❖ The indicated dates form firm deadlines. A student's committee, however, may submit a written petition to GAAC for an extension of time detailing reasons for the request. An extension will be granted only under extraordinary circumstances and will be effective upon written approval by GAAC.
- ❖ Proposals to change the schedule for any reason should be preceded by a study of the graduate bulletin sections on leaves of absence, full time student status, and recency of credit. Such a proposal must explicitly address how the proposed change of schedule relates to these matters. The memo requesting the change also should address the proposed financial support of the student beyond the 10 semesters of normal departmental support.

Public presentations must be during regular semesters. We reiterate that the public presentation associated with the defense of the proposal and the public seminar associated with the defense of the dissertation must be given during regular sessions of Fall or Spring semesters, not during summer sessions, inter-sessions, reading days, or finals weeks.

IMPLEMENTATION

All Graduate students will be reviewed each spring semester by GAAC.

- The advisor will review the student's progress to date.
- The student will provide updates for a student progress database every February.
- The student will provide written evidence that the advisor and committee have reviewed her/his progress and plans.
- Each student will receive a letter summarizing the results of the discussion concerning his/her progress.
- All graduate students shall have the right to respond to GAAC, and, if necessary, the graduate faculty in matters pertaining to the review.
- Possible outcomes of the review:
 - Student is making satisfactory progress.
 - Student is not making satisfactory progress; recommendations are made for improvement.
 - Student is not making satisfactory progress; his/her tenure terminated.

FINANCIAL SUPPORT

- The Department intends to support all doctoral students in good standing for up to 10 semesters. **Support beyond 10 semesters is contingent upon GAAC approval.**
- Master's degree students usually are not eligible for departmental stipends or tuition remission.
- Students who do not provide annual updates for the student progress database will be ineligible for continued funding. Students who will be off-campus still are responsible for making sure that GAAC receives their data. Students who choose not to present at the annual departmental graduate student symposium may be considered as not in good standing.
- Students holding full fellowships or research assistantships will not normally be given teaching assignments, nor will students be permitted to hold fellowships and research assistantships simultaneously. Exceptions require GAAC approval.

Required Graduate Core Modules

(A two semester, 6 credit sequence)

I. Fall Semester: Graduate Core Course in *Genomes to Organisms*

This course will provide all incoming graduate students with a strong foundation in how genomes are structured, and how the information encoded in genomes is regulated by intrinsic and extrinsic factors during development and evolution.

A. Major Topics

- (i) Genome Structure
- (ii) Gene Regulation
- (iii) Cells
- (iv) Development
- (v) Physiology
- (vi) Synthesis: EvoDevo

B. Graduate Faculty (*teaching in Fall 2014)

James Baker
William Browne
Akira Chiba*
Julia Dallman*
John Lu
Jeff Prince
Isaac Skromne
Leonel Sternberg
Athula Wikramanayake*
Alexandra Wilson

II. Spring Semester: Graduate Core Course in Ecology & Evolutionary Biology

This course will provide all incoming graduate students with a strong background in key ecological and evolutionary theory.

A. Major Topics

(i) Ecology

- a) Population ecology
- b) Community ecology
- c) Physiological ecology
- d) Ecosystem ecology

(ii) Evolution

- a) Principles of natural selection
- b) Speciation & biodiversity
- c) Population genetics and neutral theory/molecular evolution
- d) Phylogenetics, systematics

(iii) Synthesis – EcoEvoDevo

B. Graduate Faculty (* teaching in Spring 2014)

Carol Horvitz*

Don DeAngelis*

Kathleen Sealey

Barbara Whitlock

William Searcy*

Al Uy

Kevin McCracken

Doctor of Philosophy Course Requirements Checklist

Requirement:	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	Total
Core Modules (BIL 612)											6
Statistics											3
Non-independent study Courses (not 671-675)											9
BIL 730/740											12
Additional Courses*											30
										Total =	60

1. Credits

- a. At least 18 credits (non-independent study), including the two-semester set of Core Modules (6 credits) and at least one graduate course in statistics. The independent study series is BIL 671-675. At times these course numbers are used by professors to teach a new course or a special topics course, however, in which case the corresponding credits can be counted as a non-independent study credit. Please keep notes regarding the topic and faculty of any such courses using a BIL 671-675 number. Course selection requires committee approval.
- b. At least 12 research credits (BIL 740 and/or 730). Once the overall number of required credits (see below) has been reached, there is no need to take additional research credits.

2. An additional 30 credits from any combination of graduate courses (500 and 600 level regular courses and independent study courses) and research credits (700 level) to bring the total number of credits beyond the Bachelor's Degree to 60 credits. (One example: 18 required course credits + 12 required research credits + 15 **additional** course credits + 15 **additional** research credits = 60 total; another example would be 18 **additional** course credits and only 12 **additional** dissertation credits, etc.)

- a. Students who already have a Master's Degree in the same field may not need as many course credits (consult the Graduate School rules on transfer credits), but at least 24 credits must be taken in residence at UM.
- b. The committee may decide that students with previous graduate level courses may be exempt from some of the course requirements.
- c. The minimum acceptable grade average in all coursework towards the degree is a "B (3.0)" and no grade may be below a "C."

- d. **Conceptual Areas:** Students are encouraged to take courses and independent studies from at least 3 main conceptual areas, and are used to take courses and independent studies that will prepare them for research and for the comprehensive exam. Students also are encouraged to participate in seminars and study groups and to take special courses in other departments of UM, at our Coalition for Excellence in Tropical Biology partner institutions, from the Organization for Tropical Studies, or other special interdisciplinary courses. Such courses should be appropriate to their course of study and research area as determined by their committees.

Conceptual areas offered in our department:

1. Evolution (520's, 620's or 519 included)
 2. Ecology (530's or 630's)
 3. Behavior (540's or 640's)
 4. Genetics & Molecular Biology (BMB 509, BIL 530, 550's and 650's)
 5. Physiology and Cell Biology (560's and 660's)
 6. Special concentrations in our department and/or in collaboration with other departments include: Tropical Biology, Mathematical Ecology, Neuroscience and Behavior
3. A comprehensive qualifying exam should be passed by the end of the third semester. See page 17 for further details.
4. Research Proposal: A public presentation of a research proposal and defense of a written research proposal to the complete research committee should be completed by the middle of the fourth semester.
5. Admission to Candidacy: This will normally occur at the end of the fourth semester. Requirements are passing the comprehensive examination and successfully defending a written research proposal.
6. Teaching: All students on the Ph. D. track in Biology are required to serve satisfactorily at least one semester as a teaching assistant in one of the courses offered as part of the Department's training program.
7. Grant submission: Submission of a grant proposal to a major funding agency (e.g., NSF, NIH, National Geographic, World Wildlife Fund, etc.). All students are required to seek outside funding for their research. This must be a research project proposal. Application for an NSF pre-doctoral fellowship does not meet this requirement, but application for an NSF dissertation improvement grant does qualify.
8. Ph. D. Dissertation: A well-written and successfully defended dissertation containing an original contribution to the field and of quality appropriate for publication in a scientific journal; a defense is successful if all members of the committee sign the grad school form and the signature page of the dissertation. A public dissertation seminar is also presented at the time of the defense.

9. Other requirements described under "Doctor of Philosophy," include but are not limited to:
- a. a total of at least 60 credits (course credits plus research credits).
 - b. Once a student has completed all required credits, s/he should enroll in "Research in Residence" (BIL 750) status until the degree is granted. This course carries 0 credits, but is considered full-time enrollment. Even though no credit is earned, a tuition charge equivalent to 1 course credit normally applies to this course.

***For further detailed information regarding any of the above as well as the committee, time table, public presentations & implementation, please refer to [PROCEDURES FOR GRADUATE STUDENTS IN BIOLOGY](#) or the [UNIVERSITY OF MIAMI BULLETIN](#).

Master's with Thesis Course Requirements Checklist

Requirement:	S1	S2	S3	S4	S5	S6	Total
Course Credits							12
Statistics							3
Independent Study courses (671-675)							9
BIL 710							6
Other							1
						Total =	30

Credits

M.S. with thesis (a three year program)

Credits: a total of 30 credits are required:

- ❖ 24 course credits, including the two-semester departmental core courses for graduate students and least one graduate course in statistics. Students are encouraged to take courses from more than one conceptual area; they are encouraged to select courses and independent studies that will prepare them for research, as listed under the Ph.D. requirements. No more than nine credits from the independent study series (BIL 671-675) may be used to fulfill the 24 course credits. At times these course numbers are used by professors to teach a new course or a special topics course, in which case the corresponding credits can be counted as a non-independent study credit. Course selection requires committee approval.
- ❖ 6 research credits (BIL 710); no more than six M.S. research credits are allowed.
- ❖ The minimum acceptable grade average in all coursework towards the degree is a "B (3.0)" and no grade may be below a "C."

Research Proposal: public presentation and successful defense to the committee of a written research proposal. The public presentation must be given during regular sessions of the Fall or Spring semesters, not during summer sessions, intersessions, reading days or finals week.

Admission to candidacy: application is made by recommendation of the committee.

Thesis: A well-written and successfully defended thesis of publishable quality; a defense is successful if all members of the committee sign the grad school form and the signature page of the dissertation.

Other requirements described under "The Master's Degree," including but not limited to:

- ❖ a total of at least 30 credits (course credits plus research credits). The Graduate School and the Department concur in requiring at least 24 course credits and exactly six research credits (BIL 710) for a thesis M.S.).
- ❖ once a student has completed all required credits, she/he must enroll in "Research in Residence" (BIL 720) status until the degree is granted. This course carries zero credits, but is considered full-time enrollment. Even though no credit is earned, a tuition charge equivalent to one course credit normally applies to this course.

***For further detailed information regarding any of the above as well as the committee, time table, public presentations & implementation, please refer to [PROCEDURES FOR GRADUATE STUDENTS IN BIOLOGY](#) or the [UNIVERSITY OF MIAMI BULLETIN](#).

Master's without Thesis Course Requirements Checklist

Requirement:	Semester 1	Semester 2	Semester 3	Semester 4	Total
Course Credits					24
Statistics					3
Independent Study courses (671-675)					3
				Total =	36

Credits

M.S. without thesis (a two year program)

Credits: a total of 36 credits are required:

³⁵/₁₇ 36 course credits, including the two semester departmental core course for graduate students and at least one graduate course in statistics. Students are encouraged to take courses from more than one conceptual area; they are encouraged to select courses and independent studies that will prepare them for research, as listed under the Ph.D. requirements. No more than nine credits from the independent study series (BIL 671-675) may be used to fulfill the 36 course credits. At times these course numbers are used by professors to teach a new course or a special topics course, in which case the corresponding credits can be counted as a non-independent study credit. Course selection requires committee approval.

³⁵/₁₇ The minimum acceptable grade average in all coursework towards the degree is a "B (3.0)" and no grade may be below a "C."

Admission to candidacy: is made by recommendation of the committee.

Passing a written comprehensive exam given by the committee.

***For further detailed information regarding any of the above as well as the committee, time table, public presentations & implementation, please refer to [PROCEDURES FOR GRADUATE STUDENTS IN BIOLOGY](#) or the [UNIVERSITY OF MIAMI BULLETIN](#).

PROPOSAL FOR AN ALTERNATIVE Ph.D. QUALIFYING EXAM IN BIOLOGY

This document proposes an alternative qualifying exam as an **option** that may be selected by advisors and their students. **The alternate qualifying exam requires writing and publishing a full scientific article.** The purpose of this alternate exam is to immediately focus students and their graduate advisors on developing the research, analysis and writing skills that are necessary for a successful career.

The authority to determine whether the qualifying exam has been passed will continue to reside with the examination committee. In addition, the committee and student will still need to determine which areas of breadth each committee member represents, and the student should prepare as for standard written and oral qualifying exams. If the committee approves this option, however, the student may, in lieu of the regular eight-hour, two-day written examination, submit and orally defend a research manuscript.

The specific requirements are:

1. The research **must have been conducted since matriculation at UM**, under the guidance of the Ph.D. advisor. Research conducted prior to matriculation at UM cannot be the basis for the article. However, a student's supervisory committee may at its discretion approve work that considerably extends previous research (*e.g.* a M.S. project) and that contains substantial new data generated since matriculation.
2. The student **must be the first author** of the article, and **must play the principal role** in data analysis, writing, submission, and seeing the manuscript through to publication.
3. The target journal should have an impact factor above the median (*i.e.*, top 50%) for journals in its subject area.
4. The publication **must be a full article**: No form of short note (*e.g.*, primer, technical or natural history note), short communication or brief commentary is acceptable. Substance rather than paper length will be the major consideration: *e.g.* articles in *Science* and *Nature* would be short but perfectly acceptable! The exam committee will assess the paper's acceptability.
5. Prior to submission for publication, all members of the supervisory committee must have agreed upon journal selection, served as collegial reviewers of the manuscript, and agreed that the manuscript is suitable for submission. The student is also expected to orally present and defend the research described in the manuscript.
6. Satisfactory completion of this alternate qualifying exam will require **submission** of the manuscript **before the end of the third semester** of graduate study. As is the case for a standard written qualifying exam, satisfactory completion will also require a vote of the supervisory/examination committee.
7. A memorandum to GAAC by the supervisory/examination committee chair reporting passing the alternate qualifying exam should be accompanied by a copy of the journal's acknowledgment of submission.
8. Any student who has not submitted their approved manuscript by the end of the third semester will be required to take the standard written qualifying exam in the fourth semester of graduate study.
9. The student is encouraged to present the work on which the manuscript is based at the department's annual graduate student symposium.



Fee Memorandum

TO: BIOLOGY GRADUATE STUDENTS

CC: Dr. Al Uy, Director of Graduate Studies

DATE: 7/25/2014

RE: AY 2015 Graduate Student Fees

All Biology Graduate Students are responsible for the Student Health & Counseling Center Fee (formerly known as the University Fee); Activity Fee and the Student Center Fee. These fees, listed below, are applied at the start of each semester. Students are responsible for payment of the fees upon registration. Any unpaid fees may result in finance charges and/or a course registration stop on your account. The Department is not responsible for any unpaid fees, finance charges or waiving the fees. Any exceptions to this rule must be approved by the Biology Department and the Office of Student Accounts.

Per Student Accounts, the \$116.00 per semester Student Health and Counseling Center Fee; the \$42.00 Activity Fee and the \$156.00 Student Center Fee are mandatory to all new graduate students regardless of credit load; and mandatory to all continuing graduate students (taking 9 or more credit hours). Registration for any 700-level course (including BIL750 for 0 credits for which 1 credit is charged) means you are in full term status and therefore the fee is mandatory.

Full Time (9 or more credit hours)	
Tuition per credit	\$1,790.00
“0” Research Credit Courses	\$1,790.00
Activity Fee	\$42.00
Athletic Fee	\$72.00
Student Center Fee	\$156.00
Wellness Center Fee	\$152.00
Student Health and Counseling Center Fee	\$116.00

*Should you wish to waive the Wellness Center Fee, you may do so through Canelink. The form deadline for this upcoming Fall 2014 semester is September 4, 2014. The Athletic Fee is optional for Graduate Students. To have this fee waived, please visit the Office of Student Account Services in Ashe 158.

“The University reserves the right to change without notice tuition, fees, room and all other charges at the beginning of any academic year, and the right to change activities and board fees at the beginning of any semester.” For further information regarding University of Miami’s fees, please visit www6.miami.edu/umbulletin/info/pay/tuition.htm.

Student Fee Description

Activity Fee

The Activity Fee entitles students to receive an identification card which is their required identification card for various campus uses such as student elections, use of certain University facilities, free admission to many University-sponsored events, and the Ibis yearbook. The Student Activity Fee Allocation Committee (SAFAC), an all student committee, recommends allocation from this fee to the University's administration. The funds generated by this fee are used to support the availability of a wide range of programs, services, facilities and organizations including the University Center, student activities, campus sports, major events, e.g., Homecoming and Carni Gras, various forms of entertainment, major concerts, student publications, student radio station, and student government.

Athletic Fee

The Athletic Fee entitles students to attend assigned home games for football, baseball, basketball and intercollegiate contests. Free transportation is included for events held at the Land Shark Stadium.

Health and Counseling Center Fee

The Health & Counseling Centers Fee, a mandatory fee for all new students (undergraduate, graduate, and law) regardless of credit load, and for continuing graduate and law students enrolled in 9 or more credit hours, which allows for primary medical care physician/ nursing services, 24 hour on-call services, health counseling and community outreach/ public health initiatives at the Student Health Service, and individual and group counseling, substance abuse and other addiction programs, crisis intervention, case management, and mental health education and other outreach programs at the Counseling Center.

Wellness Center Fee

The Patti and Allan Herbert Wellness Center Fee entitles students to use the 114,000 square-foot Center which includes a 10,000 square-foot fitness room, six racquetball courts, two squash courts, indoor lap pool, two gymnasiums for basketball, volleyball, badminton, floor hockey and soccer, jogging track, aerobics and martial arts room, health juice bar lounge and locker and shower rooms. The Center also has a Wellness Suite consisting of a computer resource library, human performance lab, instructional kitchen, classrooms, medical area and conference room. Additionally, the Center is adjacent to an outdoor courtyard and four outdoor basketball/ volleyball courts.

The fee also includes basic aerobic classes, sports tournaments and informal recreation programs. The facility will generally be open from 6:30 a.m. - 11:00 p.m. Monday through Friday and 8:00 a.m. - 9:00 p.m. Saturday and Sunday.

Student Health Insurance Fee

Domestic students enrolled in six or more credit hours per semester or considered full time, are required to obtain adequate health insurance. 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 via [myUM](http://myum.miami.edu) (<http://myum.miami.edu>). Deadline to waive the annual insurance fee is July 25th. Insurance cancellation requests must be renewed each academic year via [myUM](http://myum.miami.edu) (<http://myum.miami.edu>). Please note that your financial registration will not be complete unless this charge is studenthealth@miami.edu.

Student Center Fee

Provides funding for the new student center project, which includes both a new Student Activities Center built on the site of the old Rathskeller and also renovations and upgrades to the existing Whitten University Center. Undergraduate, Graduate, and Law Students proposed and approved a referendum on this fee in 2006 to support new meeting rooms, student organization office spaces, retail options, and a new Rathskeller. Completion of the first phases of the project will occur during summer/fall 2011. A student-chaired Student Center Advisory Board is charged with considering hours, policies, and direction for the complex to ensure that student organizations and individual students have priority use of the facility for their meetings and programming. The 119,000 square foot Student Activities Center and the renovated University Center will be joined by a new patio and performance stage to create a student center complex capable of meeting the needs of all UM students.

Funding Policy and Procedure

Extramural grants and fellowships

The Department requires students to submit at least one proposal for external funding. Please note that all proposals must be first evaluated and approved by the Department of Biology office then by the Office of Sponsored Programs. Approval by the Office of Sponsored Programs prior to submission is part of the university's policy in submitting and handling external funding. Please plan your submission with these requirements in mind.

Extramural courses

The Department encourages our students to partake in extramural courses that will benefit your education and completion of your PhD dissertation. To ensure available departmental funding, course information must be submitted a minimum of 30-days prior to the start date of the course (earlier if possible). Prior to registration, a concise memo requesting funding for your course and a brief explanation of the education benefit to your dissertation work must be submitted to GAAC (or Program Director). This should be accompanied by a memo of endorsement from your advisor.

Upon GAAC approval and availability of funding, it is recommended that the department submit payment on your behalf for course registration, flight, and pre-payment of the hotel. If funds are available, the department may cover the costs of your daily meals, ground transportation, and other costs relating to the extramural courses.

Conference Travel

We strongly encourage our students to present talks and posters at conferences and meetings, so the department will do what it can to support each of our students. Funding is for use only when a student is actually on a conference program (i.e. talks or posters). Full funding from the department is not guaranteed; therefore the graduate student should and must consider additional sources of funding, such as Kriloff and GAFAC. Note, please review GAFAC guidelines for application instructions. Be sure to apply for additional funding in a timely manner.

It is important to communicate to the department your intention to attend a conference. After your poster or paper has been accepted, you must submit the following to the Graduate Program Secretary for GAAC approval:

1. A complete Pre-Travel Authorization Form¹, including brief statement of purpose for trip (include if you are invited to talk, contributing to a talk, proposing a talk or submitting a poster)
2. A short memo of endorsement from your advising professor
3. Your abstract
4. Conference Information (agenda if available, also)
5. Estimated Expenses
6. Acceptance email/letter from Organization
7. Any other related information related to the particular trip

Once approved, the department will help coordinate your travel arrangements including paying for the hotel, airfare and registration directly. The department is not responsible for extraneous costs from the conference, such as T-shirts, excursions and non conference related travel. *The departmental travel fund is not to be used for field research or summer stipends.*

After your return, you must submit a completed and signed Request for Disbursement of Funds form. If the pre-trip requirements were not completed, then the department may not have the available funds to reimburse the expenses. In order to help expedite the process, please be sure to submit receipts from the trip within 30days of return.

Summer stipends and research/field expenses do not fall into these fundable categories (students and mentors should seek extramural funds for those).

¹ *The Pre-Travel Authorization and the Request for Disbursement Form may be found on www.bio.miami.edu/departmentalinfo.htm.*

Research & Field Travel

Funding for field travel is available on a case by case basis. The Department Travel and Kriloff awards are not available for research & field travel. The College of Arts & Sciences Summer Fellowship, and departmental annual awards (i.e. Kushlan, Curtis, Evoy, etc.) may be applied towards research or field travel. If you do not have any award money, you must seek additional sources of funding, such as GAFAC.

Prior to your travel, you will need to submit to the Graduate Program Secretary:

1. A complete Pre-Travel Authorization Form, including a brief statement of purpose for trip
2. Estimated Expenses
3. If driving to/from the destination, estimated mileage and memo stating reason for driving vs. flying to destinations (include estimated costs for each)

On your return, you must submit a Request for Disbursement of Funds form signed by your advisor. If you did not complete the pre-trip requirements, the department may not have the available funds to reimburse the expenses. In order to help expedite the process, submit the receipts from the trip within 30 days of return. Please note, if driving, the department can determine reimbursement to be made either based on mileage or gas/toll receipts.

Please Note: If you are traveling internationally for any graduate study purpose, you must submit your Pre-Travel Authorization form at least 30days prior to your departure date. The Biology Department must inform Risk Management of your travel for insurance purposes.

External Committee Member

Funding for your external dissertation committee member's visit must be approved by GAAC and the department. This only applies if the external committee member is not local to South Florida. The request must be submitted and approved at least 30 days prior to the travel dates of the external committee member. Full funding is not guaranteed. The following must be considered and approved:

1. Communication regarding travel arrangements should be made directly between the Graduate Program Secretary and the External Committee Member.
2. Airfare: The department may cover the cost of the airfare of your outside committee member. Airfare may be purchased one of two ways: through the department or the outside member may purchase his/her own flight and seek reimbursement with a previously approved cost. Airfare must be approved and purchased no later than 30-days prior to his/her arrival.
3. Lodging/Accommodations: It is customary for the Outside Committee Member to stay with the graduate student or the advising faculty/chairman of the dissertation committee. Should this not be possible, it will be necessary to provide a reason to the department as to why these arrangements cannot be accommodated. After approval, the department will make the arrangements for the Outside committee member's accommodations at a hotel of our choosing.
4. Expenses: It is not approved for the graduate student to cover the meal expenses of the outside committee member. The committee member may request reimbursement for one dinner and transportation costs to/from their home airport.
5. Seminars: the department encourages the Outside Committee member to present a seminar while they are visiting University of Miami to benefit our community.

Funding sources for Biology Graduate Students

Departmental Travel Funding Sources:

Presentation of Poster or Talk at Conference: Up to \$1,500 may be awarded during your graduate tenure. It may be used for up to three different conferences. This source is pending on approval of the Department² and available funding (see GAFAC and Kriloff below for more funds that can be used towards conferences).

Outside courses:

Our department offers the possibility for the students to take a training/course outside of UM. The Organization for Tropical Studies (OTS) offers courses that are highly recommended for ecologists. Woods Hole is an option for developmental/molecular training. You can also take a course at FIU or other universities. This source is also based on available funding and approval.

Departmental Support Funds:

Below is a list of awards for which you may apply. Please note the restrictions for each, some of which have changed since last year. The Fellowships and Awards Committee (Barbara Whitlock and Isaac Skromne) will consider applications for all awards together. You are free to apply for more than one award, for the same project or for two different projects. If you submit applications for multiple projects, you will need to submit items I-X separately for each. Fellowship and Awards Committee members will be recused from evaluative discussions of and decisions regarding their own students.

Early-stage awards

1. **William H. Evoy Graduate Research Support Fund** (“Evoy Fund”) – funds are intended for graduate students in the early stages of their research, in any area. Preference will be given to doctoral students, but master’s thesis research may also be supported. Awards will be made between \$400 and \$1200.
2. **Jay M. Savage Graduate Research Support Fund** (“Savage Fund”) – to graduates students in the early stages of their research; intended for pilot studies in tropical biology. Most awards will be made between \$200 and \$400, although exceptional requests up to \$800 will be considered. This is a one-time award expected to cover expenses related to field research in some tropical locale.

Late-stage awards

3. **Kushlan Graduate Research Support Fund** (“Kushlan Fund”) – makes awards to doctoral students in the final stages of their doctoral research, to facilitate the completion of the Ph.D. dissertation. This is a one-time award of up to \$3000, to complete field research (including travel, but not for travel to a scientific meeting) or the final stages of data acquisition and analysis.

² See *Funding Policy and Procedure* for further description and instruction.

Awards for any stage

4. **J. Gerry Curtis Plant Sciences Scholarships** (“Curtis Scholarship”) – small scholarships (up to \$3000) for research in basic or applied plant sciences. These funds are intended to cover research expenses in the field, greenhouse, or laboratory, including the collection of preliminary data to enhance the development of a dissertation proposal. A student may apply for and receive a Curtis award more than once; receipt of a Curtis award more than once depends, however, on evidence of the productive use of the prior award. In your application, please include a statement on the contribution of your study to the advancement of horticulture.

About the application: The Fellowships and Awards Committee expects proposals that address a clearly identified fundamental problem in biology that is logistically feasible and for which your system is appropriate. The Committee asks that you organize your application for support according to the guidelines presented below. Reviewers of external grant applications are influenced by the care taken by the applicant in preparing the material. Our Committee does not differ in this regard. These proposals should be polished, professional, and thoroughly proofread. Standard 1” margins and a font > 11.5 point are required. Your application should include headings I-IX. Sections I-VI must fit within the page limit of the application (two pages). Participation in the graduate symposium will be taken into consideration in awarding these funds. **If you have received funds from any of these sources in the past (including the Tropical Biology Fellowship that is no longer offered), you must include in Section VIII a brief report on how funds were spent and what was achieved.**

- I. YOUR NAME, TITLE OF THE PROJECT, and the AWARD or AWARDS sought.
- II. OBJECTIVES. A clear statement of the general problem and your specific objectives.
- III. BACKGROUND. Provide the historical and/or logical context of your study. Outline the body of theory relevant to your work in a way that shows what gap you intend to fill, extension you intend to make, or disagreement you intend to resolve – in other words, your rationale.
- IV. PROPOSED WORK AND METHODS. This is the heart of your proposal. What specific issues are you examining? Why in this system? Describe the methods you will use to address the problem, how they will produce the data necessary to answer the question you are asking, and how they will be analyzed to establish your results and form your conclusion.
- V. SIGNIFICANCE. How will your results bear on the basic scientific question you are asking? How does your study relate to past progress made by yourself and others in answering those questions? **How will this award contribute to progress toward your degree?**
- VI. LITERATURE CITED
- VII. DETAILED BUDGET AND BUDGET JUSTIFICATION. Explain how the funds are to be used and how each of the itemized expenditures supports the research goals. This should be one page in length.
- VIII. OTHER CURRENT AND PAST SOURCES OF FUNDS (INCLUDING AMOUNTS) AND DETAILS OF THEIR USAGE. If none, state “none.” Not to exceed two pages.
- IX. CURRICULUM VITAE. Not to exceed two pages. Please indicate if you participated in the Biology Department graduate symposium.
- X. BRIEF LETTER OF SUPPORT FROM FACULTY ADVISOR. Your application will not be considered without a letter of support from your advisor.

Maximum length for Sections I-VI: Two pages for Evoy, Savage, Kushlan, and Curtis awards.

Sections I-IX should be submitted as a single pdf file by email to whitlock@bio.miami.edu. The letter of support (sect. X) may be sent separately but needs to arrive by the deadline. All application material must arrive by 5pm EST, March 1th, 2013. Incomplete, incorrectly formatted, or late applications will not be considered.

University Funding Sources

GAFAC (Graduate Activity Fee and Allocation Committee)

How much? Up to \$350 except for reusable equipment the limit is \$300

What can be funded? Conferences, equipment, field research, filmmaking, events, performances, exhibitions, & publications.

You are eligible when you pay \$40 per semester for your Activity Fee

Max and Peggy Kriloff Graduate Student Travel Scholarship (Arts & Science students only)

How much? Up to \$200

What can be funded? Travel to scholarly/professional meetings to present research.

Where to obtain applications? College of Arts and Sciences

Office of Graduate & Administrative Services

Ungar Building, Room 335

(305) 284-3188

College of Arts and Sciences Awards

(It's required to have advanced to candidacy)

Summer Awards: \$5000

Dissertation Award: Yearly stipend ~\$20000

External Sources of Funding - Web sites for more information

How much? Varies depending on the organization.

What can be funded? Tuition, books, fees, conferences, equipment, field research, events, performances, exhibitions, and publications.

Where to obtain applications? Visit any of the web sites listed below. There are many others, but these are the best starting points.

Scholarship Resource Network Express

Student Services, Inc.

Spencer Dissertation Fellowships for Research

Related to Education

MOLIS Scholarships/Fellowships

National Research Council

USIA Fulbright Program/Fulbright-Hays

GrantsNet

FastWeb! Financial Aid Service Finder

The Organization of American States

National Endowment for the Humanities (NEH)

Wenner-Gren Foundation for Anthropological

Research

American Council of Learned Societies (ACLS)

NCSS Online

The United Nations

Social Science Research Council (SSRC)

National Endowment for the Arts (NEA)

American Association of University Women

(AAUW)

Andrew W. Mellon Fellowships in Humanistic Studies

National Science Foundation

For more detailed information go to:

- Our Biology Graduate Student Website (BGSa):
<http://www.bio.miami.edu/bgsa/resources/funding.html>
- http://www.miami.edu/index.php/student_life/student_organizations/graduate_activity_fee_allocation_committee_gafac/funding_sources_for_graduate_students/

Graduate School Forms - Quick Guide

During the course of your graduate career, you will encounter different forms necessary for your completion of your degree. The following list will give a brief description of each. You may find these forms on the Graduate School website or the University of Miami Electronic Theses & Dissertation website

(http://www.miami.edu/gs/index.php/graduate_school/current_students/electronic_theses_dissertations/).

Also, review the 2012-2013 Electronic Thesis & Dissertation Process (ETD) document for step by step instruction.

1. **Petition for Transfer of Credits:** This form is used to transfer credits from an accredited institution.
2. **Application for Admission to Candidacy for the PhD:** After passing the comprehensive examination and successfully defending a written research proposal, the Graduate School will appoint your Dissertation Committee after submission of this form. For detailed information regarding the makeup of your committee, please see page 20 of this guide.
3. **Defense Announcement/Notice Form:** At the time of your Dissertation Defense, a public dissertation seminar must be given during regular sessions of Fall & Spring Semesters. This online form announces the time and date of your dissertation defense to the Graduate School. This should be submitted with ample time before the defense.
4. **Ph.D. Final Paperwork/Materials Checklist:** This checklist will help you keep track of the final paperwork and materials that must be submitted to the Graduate School AFTER you have completed and uploaded your electronic dissertation or doctoral essay to the ETD database. Each final submission packet should include this document, signed by you.
5. **Ph.D. Certificate of Defense Form:** This is a certificate of approval of Doctoral Dissertation. Your chair and committee members should sign four certificates at the time of your successful defense. Staple a copy of your abstract to each original certificate, and submit the originals to the Dissertation Editor as part of the complete final submission package. The student is responsible for turning these documents into the Graduate School at the time of the final submission. Do not turn these or any other important documents unless they are part of your final submission. Your department should not submit these certificates on your behalf. Visit http://www.miami.edu/gs/index.php/graduate_school/current_students/electronic_theses_dissertations/ for further information.

Any questions? Please contact Kayla Bridgeforth, Graduate Program Secretary, or Tyrone Henry, Assistant Director, Graduate Programs.

Institutional Animal Care & Use Committee (IACUC)

What is IACUC?

“The Institutional Animal Care and Use Committee (IACUC) is a self-regulating entity that, according to U.S. federal law, must be established by institutions that use laboratory animals for research or instructional purposes to oversee and evaluate all aspects of the institution's animal care and use program.”³ The UM IACUC may inspect teaching and research laboratories that use vertebrates anytime without prior notice. Failure to comply with the IACUC policies and guidelines could result in suspension of teaching and research.

Teaching Assistants:

In order to be eligible for a Teaching Assistantship, you must complete the IACUC animal care course (see <http://iacuc.med.miami.edu/x12.xml>). Once you have completed the course, you will receive an email or other document stating that you have completed it satisfactorily. A copy of that document must be placed in your official file, in order for you to be eligible. If it is not in your file, you cannot serve as a TA. This document shows you have taken the course.

Teaching Assistants are required to complete the following elements of the UM Lab Animal Welfare Training Program:

- *"Working With the IACUC-- Core Course for Investigators,"*
- *"University of Miami Occupational Health & Safety and Standard Operating Procedures for Lab Animal Users,"*
- *“Electives for the species most relevant to your research or teaching roles at the University.”*

The IACUC certification is valid for only four years and must be renewed before the end of the fourth year. Since all graduate students are expected to TA at least once, per the University of Miami Bulletin for Biology PhD, you should complete the course. Incompletion of the course may delay a Teaching Assistant appointment or denial of a Teaching Assistant position.

In addition, if you do teach a course that uses vertebrates, you must submit at the beginning of each semester to the Graduate Program Secretary, Marisa Hightower:

- Course & Section number,

Number of each vertebrate species expected to be used. At the end of semester you must inform her the number of each vertebrate species that is actually used.

You and faculty instructor are required to give a 15-min presentation of animal welfare to your students before the start of use of vertebrates at the beginning of each semester. You should let Marisa know your presentation date.

This information is essential for the IACUC teaching report, prepared by the Biology faculty representative (currently Dr. Lu).

³ www.iacic.org.aboutus.htm

Research Assistants:

Research Assistants who use vertebrates in research are required to complete the animal welfare training program every four years. Certificate training must be completed before the start of your work assignment. Completing the three elements above will ensure your compliance with the IACUC. Upon completion of the course, please submit a copy of your completion record to be filed in your student file.

Specialized Species or Model Specific Courses **Provided by the CITI (Collaborative Institutional Training Initiative):**

- Post-Procedure Care of Mice and Rats in Research: Reducing Pain and Distress
- Working with Amphibians in a Research Setting
- Working with Mice in Research Settings
- Working with Rats in Research Settings
- Working with Hamsters in Research Settings
- Working with Gerbils in Research Settings
- Working with Guinea Pigs in Research Settings
- Working with Rabbits in Research Settings
- Working with Cats in Research Settings
- Working with Dogs in Research Settings
- Working with the Laboratory Dog CD-ROM: Basic and Advanced Lessons
Streaming Videotape (Video CD)- Working With the Laboratory Dog
- Working With Swine in Research Settings
- Working With Nonhuman Primates in Research Settings
Streaming Videotape- Working Safely with Nonhuman Primates

More Information:

Who is IACUC?

IACUC.ORG is produced by the [American Association for Laboratory Animal Science \(AALAS\)](#).

AALAS is an organization committed to serving society through education and the advancement of responsible laboratory animal care and use. One of AALAS' goals is to be a resource for continuing education, training, and knowledge exchange.

Purpose of IACUC.ORG

IACUC.ORG is an information resource for members and staff of institutional animal care and use committees. It is a link archive where online resources are organized by menus and submenus. Many who browse the Internet for IACUC resources may find it overwhelming to randomly sift through the enormity of Websites and their online materials. IACUC.ORG was developed as an organizational tool to quickly point to a topic of interest, such as protocol forms or disaster plans used by different institutions.”³

What is AAALAC?

“AAALAC stands for the Association for Assessment and Accreditation of Laboratory Animal Care. AAALAC International is a private, nonprofit organization that promotes the humane treatment of animal in science through voluntary accreditation and assessment programs.” The UM IACUC is accredited by the AAALAC, and the accreditation must be renewed every three years.

Responsible Conduct of Research

RST-601 – Introduction to the Responsible Conduct of Research (on-line training)

Additional information about this course, and about the Responsible Conduct of Research training program at UM, is available at: www.miami.edu/rcr.

Course Description

In response to training mandates by the National Institutes of Health (NIH) and the National Science Foundation (NSF), UM requires that all graduate students, postdoctoral fellows and other trainees who receive NIH or NSF funding complete an online course in the Responsible Conduct of Research (RCR) offered by the CITI Program (www.citiprogram.org). RST-601 has been created so that completion of CITI Program RCR courses can be recorded in the UM Registrar's system.

CITI Program RCR courses are available in different versions to suit the needs of various disciplines (see the **UM Course Registration** and **CITI Program Registration** sections below). CITI's RCR course is recommended for everyone engaged in research, regardless of funding source or training level. Schools and colleges at UM may optionally require RCR training for broader groups of persons than the NIH/NSF mandate stipulates. Consult your school or college for more information.

NOTE: Persons funded by NIH are also required to complete RST-602, a classroom-based course, or an approved equivalent to RST-602.

Learning Objectives

RCR training is now considered integral to the preparation of future scientists. The NIH defines RCR as “the practice of scientific investigation with integrity, involv[ing] the awareness and application of established professional norms and ethical principles in the performance of all activities related to scientific research.” The CITI RCR course provides learners with a foundation in the core topics of RCR. “Modules” (lessons) of the course depend on the particular disciplinary configuration, but can include:

1. Research misconduct (and questionable research conduct)
2. Conflicts of interest and commitment
3. Data acquisition, management, sharing and ownership
4. Publication practices and responsible authorship
5. Peer review
6. Collaborative science
7. Human subjects research
8. Research involving animals
9. Mentor/trainee responsibilities
10. Lab safety, bio-safety, radiation safety, etc.
11. Export controls and national security
12. Whistle-blowing (allegations, investigations, dispute resolution)
13. Intellectual property (patent, trademark, copyright)
14. Social responsibilities of researchers and research institutions

The CITI Program RCR course modules provide both historical background and address current issues in research ethics. By the end of the course learners should have a basic understanding of the standards of professional conduct sufficient to guide their conduct as trainees. Learners are also provided with a “UM module” that provides information about local resources and support services, for use when questions or concerns about ethical research conduct arise “in real life.”

Format and Requirements

A CITI RCR course consists of 10-15 modules, depending on the particular set of topics specified for the disciplinary flavor of the course. (See the **Learning Objectives** section above). There is no time limit and modules may be completed in any order. Each module has an associated quiz; an overall score of 80% correct responses must be achieved across all the modules. The total time online depends on the student and the number of modules, but the average is approximately 3-4 hours.

RST-601 is a zero-credit course. Successful completions are recorded with an “S” (satisfactory) in the UM Registrar’s system.

UM Course Registration

CITI Program RCR training should ideally be completed within the first semester of funding, though schools and colleges have some discretion with respect to timing. Students whose funding status requires RCR training should be registered within the UM Registrar system in the appropriate section of RST-601 by their home school or department, or do so at their own initiative; this is ideally done prior to taking a CITI course. CITI Program software records all course completions, but these completions cannot be reflected in students’ UM Registrar records until after registration in RST-601.

Sections of RST-601 and their assigned college or school for online CITI courses:

<u>Section</u>	<u>UM College or School</u>
01	Arts and Sciences
02	Business
03	Continuing Studies
04	Education
05	Engineering
06	Medicine
07	RSMAS
08	Nursing
09	Communications

CITI Program Registration

The CITI Program platform is limited to registered users. First-time users must create a new CITI Program user-ID and an associated password. During the CITI registration process it is essential to specify: (a) affiliation with the “University of Miami/Jackson Health System”; (b) one’s correct UM C-number; (c) one’s primary school/college/departmental affiliation. **CITI Program course completions will be reflected in the UM Registrar system only if this is done correctly (particularly the specification of C-number), and then only after the student is registered for RST-601.**

Each school or college will determine which CITI RCR version best applies to their curriculum, and will indicate the appropriate version to their students. The RCR version is selected during the CITI registration process. Versions of CITI RCR currently available include:

- Biomedical
- Social/Behavioral
- Physical Sciences
- Humanities
- Engineering
- Science Administrators

If you encounter problems during the CITI registration process, use the online help information available on the site or contact the CITI Program Help Desk at 305-243-5723 (8:30 a.m. – 5:30 p.m. weekdays). Instructions are also available at www.miami.edu/rcr.

Additional Reading

National Academies' Committee on Science, Engineering and Public Policy, On Being a Scientist: A Guide to Responsible Conduct in Research. National Academies Press, 2009 (3rd edition). Full text available on line at: http://www.nap.edu/openbook.php?record_id=12192.

Frances L. Macrina, Scientific Integrity: Text and Cases in Responsible Conduct of Research. ASM Press, 2005 (3rd edition).

Adil E. Shamoo and David B. Resnick, Responsible Conduct of Research. Oxford University Press, 2009 (2nd edition).

References

National Institutes of Health (NIH) requirements for RCR training as detailed in *Update on the Requirement for Instruction in the Responsible Conduct of Research* (NIH, NOT-OD-10-019, 24 November 2009), available at: <http://grants.nih.gov/grants/guide/notice-files/NOT-OD-10-019.html>.

National Science Foundation (NSF) requirement for RCR training from Section 7009 of the America Competes Act (42 U.S.C. 1860o-1), as published in the Federal Register on 20 August 2009 (volume 74, number 160, pages 42126-42128) and detailed in the NSF Grant Proposal Guide and NSF Award and Administration Guide. See also *Responsible Conduct of Research Frequently Asked Questions* (updated 3 March 2010), available at: http://www.nsf.gov/pubs/policydocs/rcr/faqs_mar10.pdf.

Responsible Conduct of Research (seminar training)

All students receiving funding from NIH are required to take this ethics course. However, all students are strongly encourage to also take the course, regardless of your funding source.

Three sessions of "live" Responsible Conduct of Research (RCR) training are scheduled for: Wednesday 20 August (Gables campus, Flipse 5 Auditorium), Thursday 28 August (Medical campus, Gautier 118), and Friday 12 September (Marine campus, Dougherty Auditorium). **These are the ONLY live sessions scheduled for the coming 2014-15 academic year.**

Students can self-register for one of these three sessions by going to www.miami.edu/rcr and then clicking on the "LIST OF SCHEDULED CLASSES" link, then clicking on a "Self Register" link.

CITI Program RCR courses are generally a pre-requisite to the live classes. A reminder that access to CITI Program is now available via CaneID for UM affiliates. Information about using CaneIDs for CITI, as well as a login link to do this can be found at <http://uresearch.miami.edu/regulatory-compliance-services/citi>.

Access via CaneID is now the preferred method for UM affiliates, since it guarantees accurate transfer of completion data according to C-number.

Contact

Reid Cushman

UM Ethics Programs

Office: 305-243-5723

Fax: 305-243-6416

Email: reid.cushman@miami.edu

Additional information about this course, and about the Responsible Conduct of Research training program at UM, is available at: www.miami.edu/rcr.

CITI Program Registration

The CITI Program platform is limited to registered users. First-time users must create a new CITI Program user-ID and an associated password. During the CITI registration process it is essential to specify: (a) affiliation with the “University of Miami/Jackson Health System”; (b) one’s correct UM C-number; (c) one’s primary school/college/departmental affiliation. **CITI Program course completions will be reflected in the UM Registrar system only if this is done correctly (particularly the specification of C-number), and then only after the student is registered for RST-601.**

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- Social/Behavioral
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- Humanities
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- Science Administrators

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Cox Science Center Room Booking Procedure

As of June 2010, there is a new system for booking rooms in Cox Science Center. The new system is designed to be user friendly, allow you to view Cox room availability, and request a room to be booked on your behalf. Please book your room at least three (3) weeks in advance. Once your email request has been received, your room will be booked and an email confirmation will be sent to you. If any conflicts arise, you will be notified and can seek alternate room options. If your room reservation is no longer needed, please send an email to bookaroom@bio.miami.edu, and your reservation will be removed from the calendar and that space can be utilized by others.

Currently classes have been inputted up through Fall 2014 semester. When Spring 2015 classes are available, they too will be added to the calendar. ***Please consider when making any requests to book a room that classes take precedence over any other type of reservation.***

1. Go to the Biology Underground Page: underground.bio.miami.edu (u.bio.miami.edu)
2. Click on Book a room in Cox Science Center
3. View availability by selecting “Another Users Calendar” to choose different rooms and Month drop box to view the month you want.
4. Email bookaroom@bio.miami.edu and submit a formal request
5. When submitting your request please include the following:
 - a. Name & contact information (phone #)
 - b. Room number
 - c. Time frame
 - d. Reason for reservation (ie. lab meetings, dissertation defense, Beta Beta Beta Meeting etc...)
6. Once your request has been approved and added to the web calendar, an email confirmation will be sent to you.

Should you have any questions about the new system, please contact Marisa Hightower, SEEDS Program Manager, at 8-3988 or via email at bookaroom@bio.miami.edu.

The Cox Science Building is open from 7am to 10pm Monday through Saturday. Events occurring after this time or on weekends will require a Faculty/Staff/Student Advisor to be present for the event.

**Cox Annex Conference room is available to Biology Faculty and Graduate Students for lab meeting, student dissertation/thesis defenses and/or committee meetings.*

Please note the Office of the Registrar books the lecture rooms 126 and 145 and Cox Lobby. Please visit www.miami.edu/index.php/registrar/course_curriculum

Campus Resources

Academic Calendar

305-284-2295 miami.edu/calendar

Academic Resource Center

305-284-2800 umarc.miami.edu

Athletics

305-284-3822 hurricanesports.com

Campus Dining

305-284-3584 miami.edu/dining-services

Campus Housing

305-284-4505 miami.edu/housing

Career Planning

305-284-5451 miami.edu/topple

Dual-Degree Program

miami.edu/dualdegree

Honors Program

305-284-5384 miami.edu/honors

Multicultural Student Affairs

305-284-2855 miami.edu/msa

Research Opportunities

305-284-5058 miami.edu/ugr

Student Activities

305-284-6399 miami.edu/student-activities

Student Employment

305-284-6641 miami.edu/student-employment

Student Health Center

305-284-5927 miami.edu/student-health

Study Abroad

305-284-3434 miami.edu/studyabroad

Summer Scholars

305-284-6107 miami.edu/summerscholars

Wellness and Recreation

305-284-3253 miami.edu/wellness

Office of Admission

305-284-4323 miami.edu/admission

Office of International Admission

305-284-2271 miami.edu/intladmission

Office of Financial Aid Services

305-284-5212 miami.edu/ofas

School of Architecture

305-284-3731 arc.miami.edu

College of Arts and Sciences

305-284-4333 www.as.miami.edu

School of Business

305-284-4641 bus.miami.edu

School of Communication

305-284-2265 com.miami.edu

School of Education

305-284-5703 education.miami.edu

College of Engineering

305-284-2404 eng.miami.edu

Rosenstiel School of Marine and Atmospheric Science

305-284-2180 rsmas.miami.edu

Frost School of Music

305-284-2241 music.miami.edu

School of Nursing & Health Studies

305-284-4325 miami.edu/sonhs

Graduate School

305-284-4154 miami.edu/grad

Miller School of Medicine

305-243-3234 med.miami.edu

School of Law

305-284-2339 law.miami.edu

Division of Continuing and International Education

305-284-4000 edmiami.com

UM Catalog

miami.edu/UMBulletin

Got Questions? Ask UM!

miami.edu/askUM

Visiting Campus

miami.edu/visit

