# Student Handbook for the Master of Science in Integrative Biology Program

### **PART 1: THE GRADUATE STUDENT**

# **MSIB Graduate Student Responsibilities**

Graduate students must adhere to the policies and procedures that govern their education at Kennesaw State University. That responsibility requires that all graduate students dents

- o Participate at an appropriate level in university, departmental, or program governance.
- o Develop a collegial and professional network with faculty, fellow students, and other professional within their field.

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# **Faculty and Staff Involved in the Education of Graduate Students**

#### **The Supervising Professor**

The Supervising (or "major") Professor is the primary faculty member responsible for providing guidance on developing a research question and thesis proposal, facilitating and overseeing their student's research, and reviewing and approving their final research products (the thesis, defense, and seminar). The Supervising Professor is "Chair" of the student's thesis committee. The Supervising Professor be accessible to their students and serves as their advisor. You should meet regularly with you Supervising Professor to

- ! Discuss research ideas
- ! Discuss the make-up the thesis committee.
- ! Discuss specific research responsibilities, including time lines for completion of research and the thesis.
- ! Report research progress and discuss any problems that are impeding or might potentially impede progress.
- ! Discuss professional development.
- ! Discuss financial support.

#### The Supervising Professor is expected to:

- ! Be able and willing to assume principal responsibility for advising students toward degree completion.
- ! Meet with the student regularly to assess the student progress and to provide guidance concerning the student's research project and professional development.
- ! Provide individual research space for each student within the faculty's assigned research space.
- ! Interact with students in a professional, civil, and collegial manner in accordance with University policies and relevant laws.
- ! Discuss authorship policy with students in advance of entering into collaborative projects, and acknowledge student contributions to research presented at conferences, in professional publications, or in applications for copyrights and patents. The student should receive "first authorship" for publications primarily derived from the creative research and writing of the student.
- ! Treat students with respect, as junior colleagues and potential future peers upon gaining admission to their program of study.

#### **Thesis Committee Members**

Each of the thesis committee members will carefully review the student's research proposal and the thesis, and submit comments, corrections, format changes, and other suggestions in writing to the graduate student. Editorial remarks for the thesis shall be submitted at least two weeks prior to the student's scheduled presentation and defense. Committee members are expected to attend the student thesis proposal, to attend the student thesis seminar and to participate in the student's thesis defense. All appointed committee members are voting members of the student's thesis committee with regards to approving course of study, the thesis proposal, and the final thesis. Thesis Committee members are responsible for selecting comprehensive questions for the purpose of program assessment.

# Responsibility of The Graduate Coordinator of the Master of Science in Integrative Biology Program.

The Coordinator of the Master of Science in Integrative Biology Program will be included in a departmental team that plans and evaluates the progress of graduate students. Also, solving critical problems that may arise within the program will be a part of the Coordinators duties. The Coordinator will be the resource person who enables faculty to focus on their roles as mentors. The main responsibilities of this position will be to develop and implement strategies, procedures, and indexes that support the promotion, admission, advising, assistantships, enrollment and forecasting of the Master of Science in Integrative Biology program. The Coordinator will report directly to the Department Chair. The Coordinator will work very closely with the admissions officer and degree auditor to ensure that standard procedures are followed. The Coordinator will be the liaison person for both student and faculty. The coordinator is expected to:

- ! Coordinate staff and student workers in relation to the program
- ! Be involved in strategic planning for program growth, positioning, and marketing
- ! Engage directly with current and prospective students as needed
- ! Act as primary author of policies and procedures pertaining to the program
- ! Serve as a liaison between program and key partners including the Faculty, Staff, Other Departments, Registrar, Alumni Relations and community partners.
- ! Chair the MSIB Program Committee.
- ! Approve thesis committee membership for each graduate student.
- ! Consult with Department Chair and Assistant Chair on assigning teaching assistants to specific courses.
- ! Administer surveys for the purpose of program assessment.
- ! Maintain research portfolios for each student for the purpose of program assessment.
- ! Manage tuition waivers

- ! Approve course substitutions
- ! Approve graduate student programs of study

#### **Master of Science in Integrative Biology Program Committee**

Graduate students will not typically have direct interactions with this committee. However, this committee plays an important role in the graduate student's experience at KSU. This committee makes decisions on acceptance of applicants to the program and on awarding teaching assistantships and evaluating how well teaching assistants are meeting their responsibilities. The committee is also involved in assessing the program and developing any necessary revisions.

### Policies regarding the thesis process

A thesis that reports the results of an original investigation is required. The thesis will

- sources of funding including expenses that will be incurred by the department for supplies and equipment. Thesis proposals must be received by or before  $June\ 30$ .
- ! Once thesis committee membership has been established and the research proposal has been approved, it is expected that students will meet with their committee at least once a semester thereafter to discuss research progress and develop strategies for completion of the research.
- ! A departmental seminar (publicly advertised at least 10 days prior) followed by a thesis defense (attended by all members of the student's committee) is required and must occur at least one week prior to graduation. The thesis must be approved and signed by the Thesis Committee at least three days prior to graduation, and should be submitted (electronically) to the library at this time. The seminar and defense precedes this deadline by a few days to allow for any changes suggested by the Thesis Committee during the defense. To allow sufficient time for evaluation, the student should submit a draft of the completed thesis to all members of the bJ 17.152 Committhould

- Advanced Evolutionary Analysis BIOL 6413 3 credits
- Professional Aspects in Biology\* BIOL 7100 3 credits
- Integrative Biology\* BIOL 7200 3 credits
- Research Methods across Biology\* BIOL 7300 4 credits
- Ecological Physiology BIOL 7333 4 credits
- Multidisciplinary Approaches to Ecological Questions BIOL 7400 3 credits
- Molecular and Microbial Approaches to Pathogenesis BIOL 7478 -3 credits
- Current Topics in Integrative Biology Seminar\* BIOL 7500 1 credit
- Cell Signaling BIOL 7634 3 credits
- Computational Biology BIOL 7638 3 credits
- Research for Master's Thesis\* BIOL 7990 1 to 9 credits\*\*
- Directed Studies BIOL 7950 1 to 4 credits
  - \* Required courses
  - \*\* At the end of each semester for students making satisfactory progress on their thesis research, the MSIB Program Director will assign a grade of "IP" (In Progress) for each hour of BIOL 7990 taken. At the end of the semester in which a student will graduate, these IP grades are converted to P (Pass).

The following courses are considered to be integrative in nature and are crosslisted (with additional course requirements for graduate credit):

- Comparative Vertebrate Anatomy BIOL 4350/ BIOL 6350 (4 credit hours)
- Cell and Molecular Biology BIOL 4410/ BIOL 6410 (3 credit hours)
- Introduction to Bioinformatics BIOL 4415/ BIOL 6415 (4 credit hours)
- Plant Physiology BIOL 4420/ BIOL 6420 (4 credit hours)
- Plant Ecology BIOL 4422/ BIOL 6422 (4 credit hours)
- Medical microbiology BIOL 4460/ BIOL 6460 (4 credit hours)
- Virology BIOL 4475/ BIOL 6475 (3 credit hours)
- Bioethics BIOL 4486/ BIOL 6486 (3 credit hours)
- Special Topics in Biology\* BIOL 4490/ BIOL 6490 (1-4 credit hours) –topics recently taught under this course number are considered integrative and include Bioinformatics, Conservation Genetics, Restoration Ecology, Cancer Biology, and International Research Experience
- Molecular Genetics BTEC 4100/6100 (3 credit hours)
- Diagnostic Microbiology BTEC 4800/6800 (3 credit hours)
- Advanced Topics in Anatomy & Physiology BIOL 4610 (1-4 credit hours)

 Advanced Topics in Ecology & Evolution - BIOL 4620 (1-4 credit hours) -

# **Tentative course offering schedule:**

Fall	Spring	Summer	Fall	Spring
Research Methods across	Integrative Biology*		Research Methods across	Integrative Biology*
Biology*	3,		Biology *	33
Professional	Multidisciplinary		Professional	Microbial and
Aspects in	Approaches to		Aspectsin	Molecular
Biology*	Ecological Questions		Biology*	Pathogenesis
Computational Biology	Cell Signaling		Ecological Physiology	
Graduate	Graduate		Graduate	Graduate
Seminar*	Seminar*		Seminar*	Seminar*
Research for	Research for	Research for	Research for	Research for
Master's Thesis	Master's Thesis	Master's Thesis	Master's Thesis	Master's Thesis

# Sample program of study:

Fall	Spring	Summer	Fall	Spring
Research Methods across Biology *	Integrative Biology*		Ecological Physiology	Microbial and Molecular Pathogenesis
4 credits	3 credits		4 credits	3 credits

Professional Aspects in Biology\*

3 credits

# **Timeline**

Dates listed below for one 2 cycle from application to graduation.

Date	Deadline
January 15 prior to 1st year of study	Deadline for application to the program
April 1 prior to 1 <sup>st</sup> year of study	Deadline for 1st round applicants to accept
May 1 prior to 1st year of study	Deadline for 2nd round of applicants
Week before fall semester of 1st year of study	Orientation and Teaching Assistant training (required for all first semester MSIB Graduate Students).
January 15 of 1 <sup>st</sup> year of study	Thesis committee formed and approved by the Graduate Coordinator. Submit:  ! Request for Approval of Thesis/Dissertation Committee form* ! Program of Study form*
End of spring semester of 1 <sup>st</sup> year of study	Approval of thesis research proposal by student's thesis committee. Submit: ! Thesis/Dissertation Proposal Approval form* ! Electronic version of proposal to the MSIB Program Coordinator and Department Chair
August 1 to November 1 of the 2 <sup>nd</sup> year of study	Graduate students should see their Program Director for the petition to graduate. After the petition to graduate is received by the Office of Registrar, a graduation fee is assessed and a degree audit is completed in four to six weeks, which will be mailed accordingly.  https://web.kennesaw.edu/registrar/students/graduation_main#instructions
At least one week prior the graduation date for the semester in which the student plans to graduate (typically spring semester of 2 <sup>nd</sup> year of study) At least three days prior the graduation date for the semester in which the student plans to graduate (typically spring semester of 2 <sup>nd</sup> year of study)	Last day for thesis presentation and defense.

#### **PART 2: THE TEACHING**

#### **ASSISTANT**

## **Workloads and responsibilities for Teaching Assistants**

Teaching Assistants are expected to function as both professionals and students, providing quality instruction while making satisfactory normal progress towards their degree. Teaching Assistants in the MSIB will generally be responsible for teaching two to three laboratory sections per semester. Teaching Assistants will be under the direct supervision of the instructor of record for the class section to which they have been assigned. In addition, teaching assistants must work with course coordinators to ensure quality and consistency across lab sections in teaching content, and with the lab coordinator to ensure laboratory safety and to effectively manage shared supplies and equipment. Duties include (as applicable to a given course):

- ! Instruction of undergraduate students in the laboratory
- ! Grading laboratory assignments and laboratory practicals
- ! Taking attendance
- ! Reporting in a timely manner attendance and grades to the instructor of record (the TA is not instructor of record).
- ! Attending pre-lab training sessions preceding each week of formal lab instruction for the course that they teach.

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Teaching Assistants must complete a training program prior to first semester of teaching (i.e. the pre-semester module of Professional Aspects in Biology course).

Preference when assigning graduate student office space will be given to students holding teaching assistantship positions. Supervising Professors are expected to provide individual space for their graduate students within the faculty's assigned research space if general graduate student office space is unaA16 Td.ri6b2d(

#### **Laboratory Section Coordinator**

The Laboratory Section Coordinator is responsible for familiarizing the Teaching Assistant(s) with the laboratory curriculum. This task will be primarily accomplished through pre-lab training sessions preceding the Teaching Assistant's period of formal lab instruction. The Laboratory Section Coordinator must provide the Teaching Assistant with written materials that clearly outline the procedures to be followed by students in the lab, the assignments or assessments expected for the lab, and rubrics or guidance for grading. The Laboratory Section Coordinator must provide Teaching Assistants with a schedule of exams to be proctored (if applicable) within the first week of the course. Assignments and assessments should be designed to allow the Teaching Assistant to receive pre-lab training, deliver their lab sections, and complete grading within the maximum average of 19.5 hours per week allotted for teaching. Should grading result in teaching responsibilities in excess of 19.5 hours per week, the Laboratory Section Coordinator will be required to meet with the department chair and a member of the MSIB Program Committee to develop strategies to rectify the situation. The Laboratory Section Coordinator should use undergraduate Student Assistants, not Teaching Assistants, for prepping laboratory exercises.

The Laboratory Section Coordinator will also be responsible for

- ! Advising Teaching Assistants on planning and grading of laboratory assignments and exams.
- ! Answering questions concerning course-related content. The Laboratory Section Coordinator may request that the Teaching Assistant attend the lectures associated with the course for the purpose of familiarizing the TA with the course content.
- ! Discussing with Teaching Assistants problems associated with conduct of students in the laboratory that jeopardizes safety or interferes with student learning.

# **Department Laboratory Coordinator and Undergraduate Student Assistants**

The Department Laboratory Coordinator is a staff member who is responsible for supervising undergraduate Student Assistants. These Student Assistants are responsible for setting up equipment and materials for each week of lab. The Department Laboratory Coordinator is <u>not</u> responsible for familiarizing the Teaching Assistant with the laboratory curriculum (that is the task of Laboratory Section Coordinator). The undergraduate Student Assistants are <u>not</u> responsible for teaching laboratory curriculum. Should you need supplies or have problems with equipment during a laboratory session, the Department Laboratory Coordinator will be able to assist the Teaching Assistants.

#### **Lab Safety Officer**

The Lab Safety Officer is the head lab coordinator, purchaser and general lab management. The lab safety officer, along with the lab coordinators, can provide assistance on matters involving safety, purchasing, equipment, materials and supplies, as well as most other laboratory issues. The Lab Safety Officer maintains the safety of the labs and lab users, and provides safety training for students, faculty and staff.

### **Moving from Teaching to Research Assistantship**

Several mechanisms may permit a TA to move to RA status. The College of Science and Math and the MSIB program has committed to making as many midyear TA to RA transitions as possible. Although this is a positive opportunity, it is important to recognize that the TA contract as written covers one academic year at a time and thus especially mid-year (TA fall, RA spring) transitions to RA may not always be possible. Mid-semester transitions to RA are never possible.

Research mentors or students should make the request to move the student to RA status as soon as possible after notification of funding.

In order to be considered, the request to move a student to RA status must be received in writing by the MSIB Coordinator and the Biology Course Scheduler by

November 1 – for a transition to RA for spring semester

May 15 – for a transition to RA for fall semester

Requests should include the source of funding that will support the student's RA status.