

# BIOLOGY (MS)

## Degree Requirements

### Graduate Studies

The Master of Science degree in Biology is designed to provide qualified students the opportunity to further their knowledge in areas of biology, as indicated by course offerings and research interests of the faculty.

### Requirements for Admission

Students are admitted each semester. Graduate classes are only offered in fall and spring semesters.

The following criteria supplement the Graduate School criteria (see Categories of Admission):

#### Regular Admission

1. A four-year undergraduate major in Biology, Botany, Zoology, or Environmental Biology with a minimum GPA of 2.5 (on a 4-point scale) in all biological courses taken.
2. One year of freshman chemistry and at least one semester of organic chemistry.
3. One year of physics or geology.
4. Mathematics through calculus or statistics.
5. International students who do not speak English as their native language must submit proof of proficiency. A minimum TOEFL test score of 560 on the paper-based test (PBT), 220 on the computer-based test (CBT), 85 on the internet-based test (IBT), or a minimum score of 6.5 on the IELTS test.
6. Three letters of reference.
7. Students interested in entering the Thesis Program will submit a 750-word letter from the student indicating their research interests. Students interested in entering the non-thesis Program will submit a 500-word letter indicating their interest in the program and their future goals.
8. Students interested in entering the Thesis Program must have identified a mentor from Biology (the student should contact the Graduate Coordinator before applying to the program).
9. Submission of an updated resume or CV.

#### Non-Degree Admission

The Department of Biology accepts Non-Degree Graduate Students within the general admission and credit regulations of the University of South Alabama with certain reservations and limitations. Students should consult the Department concerning these limitations before applying for such status. Included, but not limited to, are the following:

1. Students are restricted to enrollment in courses prefixed BLY that the Chair determines will advance their career development in biological sciences. Only in exceptional cases, wherein it is determined to the satisfaction of the Chair that the aforementioned career goals are enhanced, will a non-degree student be permitted to enroll in courses offered by other departments.
2. Students must confer with the Chair or the Graduate Coordinator of the Department of Biology before attempting to enroll in any class.
3. Students seeking to change from non-degree status to a degree-granting program must reapply and be evaluated as any other student who has not previously applied to such a program.

### Graduate Assistantships

The Department offers several types of assistantships to qualified students. Application forms for assistantships with primary responsibilities in teaching and preparing laboratories are available through the departmental office. Additionally, some assistantships with primary responsibility in research are usually available each year. These assistantships are associated with grants and contracts that support the research of individual faculty members. In all cases, assistantships are approved by the Dean of the Graduate School upon recommendation of the appropriate sponsor within the University.

### Requirements for MS Degree for All Students

Students planning to pursue a Ph.D. are encouraged to follow the thesis option. However, a non-thesis curriculum is available for those students who so elect. The non-thesis degree allows students to further their academic credentials to prepare themselves for professional careers in healthcare, government, and private enterprise.

Together with the student's advisory committee, a curriculum will be developed that best aligns with the student's professional goals. If, in the opinion of a student's committee, the student lacks adequate undergraduate preparation or English skills, the student will be required to make up such deficiencies.

All requirements must be met in five years. In addition to satisfying the general requirements of the Graduate School, candidates for the Master of Science degree in Biology must satisfy the following requirements:

#### Thesis Program

1. Complete, with a minimum grade of "B", 30 hours of coursework at the 500 level. Students must complete at least 18 hours of formal coursework in BLY (excluding directed studies and thesis) listed courses. No course at the 400 level or below may be taken for graduate credit. A maximum of six credit hours may be granted for Directed Studies (BLY 594). All courses must be approved by the student's graduate advisory committee. The student's graduate committee, after consultation with the student, may require demonstration of additional proficiency in mathematics, computer skills, statistics, and/or require the student to take additional coursework.
2. Included in the 18 hours of formal coursework, students will complete the following core sequence:

Code	Title	Hours
BLY 510	Prof in Science	3
BLY 520	Biometry	4
BLY 544	Molecular Biology	3
BLY 585	Evolutionary Biology	3
BLY 592	Seminar	1
Remaining 4 hours can be chosen from other 500-level BLY course		4
<b>Total Hours</b>		<b>18</b>

3. Complete a thesis representing original research. A maximum of 9 hours credit will be granted for the thesis. Enrollment in BLY 599 (Thesis) is not permitted until the student's research prospectus has been approved by the advisory committee and Director of Graduate Studies, College of Arts and Sciences.
4. Write a research prospectus during the first year of study and submit it to the advisory committee for approval. Once the prospectus is approved, the student will schedule an oral defense.

5. Defense of the prospectus serves as the comprehensive qualifying exam and begins with a presentation of the prospectus and, where applicable, a progress report. The examination will begin with the presentation and progress report, followed by questions from any area of study closely or broadly related to the area of specialization. The exam committee will consist of the student's advisory committee members.
6. Each committee member will issue a grade for the student, following a rubric that considers various aspects of the presentation and oral examination, and has three possible scores for each category: 1 (insufficient), 2 (meets expectations), and 3 (above expectations). To pass the exam, a student must have an average score of 2 or above. Students are encouraged to review the rubric before the presentation, so they are aware of the committee's expectations. Students who fail will be allowed a second opportunity to pass the exam.
7. Publicly present an oral defense of the thesis.

### Non-Thesis Program

1. Complete, with a minimum grade of "B", thirty hours of coursework at the 500 level. No course at the 400 level or below may be taken for graduate credit. A maximum of six credit hours may be granted for Directed Studies (BLY 594).
2. A thesis is not required. Consequently, BLY 599 (Thesis) may not be taken, and the six semester hours normally associated with thesis research must be earned through formal coursework.
3. Complete at least 18 hours of graduate coursework with the "BLY" designation, excluding BLY 594. Additional career-relevant graduate courses may be selected from other departments, upon approval of the Graduate Coordinator or Departmental Chair. Included in the 18 hours of formal coursework, students will complete the following core sequence:

Code	Title	Hours
BLY 510	Prof in Science	3
BLY 520	Biometry	4
BLY 544	Molecular Biology	3
BLY 585	Evolutionary Biology	3
BLY 592	Seminar	1

4. Students will satisfy the comprehensive exam requirement by achieving a minimum of "B" in all core courses.
5. Transition between "thesis" and "non-thesis" options requires the majority consent of the student's advisory committee.