

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 semester, however.

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

Regular Admission

1. 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 at least 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 scores of 560 on the paper-based test (PBT), 220 on the computer-based test (CBT) or 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 will require a willing mentor from Biology (in this regard the student should contact the Graduate Coordinator before applying to the program).
9. All students will submit a 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 in 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 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 from the departmental office. In addition, 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 the Ph.D. degree are encouraged to follow the thesis option. However, a non-thesis curriculum is available for those students who so elect. The non-thesis degree offers students the possibility of furthering their academic credentials to prepare themselves for professional careers in healthcare, government, etc.

The curriculum for each student will be developed by the student's advisory committee in view of 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, the candidates for the Master of Science degree in Biology must satisfy the following requirements:

Thesis Program

1. Complete, with a minimum grade of "B", thirty hours of course work at the 500 level. All Biology graduate student 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 accepted by the student's graduate advisory committee. The student's graduate committee may, at its option, after consultation with the student, require demonstration of additional proficiency in mathematics, computer skills, statistics, and/or require the student to take additional course work.
2. Included in the 18 hours of formal coursework, students will complete the following core sequence:
 - BLY 510 – Professionalism in Science (3h)
 - BLY 520 – Biometry (4h)
 - BLY 544 – Molecular Biology (3h)
 - BLY 585 – Evolutionary Biology (3h)
 - BLY 592 – Seminar (1h)(The remaining 4 hours needed to meet the 18-hour requirement can be chosen from other 500-level BLY course offerings)
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 the Director of Graduate Studies, College of Arts and Sciences.
4. After submission of the written research prospectus to the committee, students will schedule a committee meeting and comprehensive qualifying exam. The exam will be oral and will start with a presentation of the prospectus and, where applicable, a progress report. Students will first be examined on the prospectus and progress report, and then any area of study closely or broadly related to the student's area of specialization. The exam committee will consist of the student's thesis committee.
5. The student will be graded by all committee members, following a rubric that considers various aspects of the presentation and has three possible scores for each category: 1 (insufficient), 2 (meets expectations), and 3 (above expectations). To pass the exam, a student will have to score an average of 2 or higher. Students are encouraged to look at the rubric before the presentation to be aware of the committee's expectations.

Students who fail the exam will be given a second opportunity.

6. Make an oral defense of the thesis.

Non-Thesis Program

1. The student will be required to complete, with a minimum grade of "B", 30 hours of course work 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 will not be required. Consequently, BLY 599 (Thesis) may not be taken, and the six semester hours normally associated with it must be earned through formal coursework.

3. The student will complete at least 18 hours of graduate coursework with the “BLY” designation, excluding BLY 594. Additional career-relevant graduate course selection may be from other departments. BLY coursework will include the following core sequence:
 - BLY 510 – Professionalism in Science (3h)
 - BLY 520 – Biometry (4h)
 - BLY 544 – Molecular Biology (3h)
 - BLY 585 – Evolutionary Biology (3h)
 - BLY 592 – Seminar (1h)
4. At the completion of coursework, non-thesis students will take a comprehensive evaluation in oral and/or written format. A departmental committee will evaluate the student's performance using a rubric. If unsuccessful, the evaluation may be repeated once after corrective action is recommended and implemented.
5. Transition between “thesis” and “non-thesis” options requires the majority consent of the student's advisory committee.

Department Information

Department of Biology website
<https://www.southalabama.edu/biology>

Undergraduate Studies

The program of the Department of Biology is designed to contribute to a scientific background as part of a liberal education. The department offers a diversified, broadly based program, which can be designed to satisfy many areas of study. Our multitrack major can provide the traditional student with a well-rounded background in biology, or students may select courses to prepare them for a particular area of study. The multitrack curriculum can prepare students for graduate study, pre-health professional fields (such as medicine or dentistry), marine biology, or environmental science. The department has persons trained to advise in each of these areas. A list of advisors for a specific track or area of study can be obtained from the departmental office.

All first-time freshmen must successfully complete CAS 100: First Year Experience as a degree requirement. Students must enroll during their first term at USA, except for summer-entry students, who must enroll in the fall semester following entry.

Effective for fall, 2016, Major Milestones are used in all concentrations of the Biology Bachelor of Science major to help students stay on track for timely graduation. Each regular semester in the Biology major is a tracking term. To remain on track, students must complete the milestone requirements for each tracking term. These requirements are viewable on the Major Milestone tab above.

Major milestone requirements apply only to full-time, degree-seeking students who first entered Fall 2016 or later. Milestone requirements do not apply to transfer students in the Biology program.

The sample academic plan viewable on the Major Milestone tab above is designed to ensure graduation in the Biology major in four years. Several academic plans are available -- consult with your academic advisor for the plan that is the best fit for you. For specific course requirements, refer to the program requirements above and the General Education requirements of the College of Arts and Sciences.