

# BIOLOGY (M.S.) THESIS OPTION

Degree: Master of Science

Major: Biology

Concentration: Thesis

Total Hours: 32

The Department of Biology offers a Master of Science in Biology degree with either a thesis or non-thesis option. It is designed to enhance the professional competence of graduates in biology or closely related disciplines who are interested in pursuing academic careers, employment in private industry or governmental agencies in biologically oriented fields, entrance to professional schools, or who are presently engaged in or planning to enter secondary school teaching. Students interested in these programs should contact Matthew Pyne for detailed advising (Maes 101-B, [mpyne@lamar.edu](mailto:mpyne@lamar.edu), (409) 880-7458).

## Applicants must:

- Have a B.S. or B.A. degree in biology from an accredited institution or complete a minimum of 24 semester hours in the biological sciences, including eight hours of general biology (BIOL 1406 General Biology I (Majors) & BIOL 1407 General Biology II (Majors) or the equivalent) and a course in genetics. Excluded from the 24 hours is Anatomy & Physiology (BIOL 2401 Anatomy and Physiology I & BIOL 2402 Anatomy and Physiology II).
- Complete a minimum of one semester of Organic Chemistry, or Biochemistry and one semester of statistics.
- Meet the admission standards of the College of Graduate Studies.
- All students wishing to enter the M.S. program in Biology must take the GRE General Test.
- The minimum composite score for entrance into the Non-thesis program is  $431 = (\text{GPA} \times 50) + \text{verbal GRE} + \text{quantitative GRE}$ . The minimum composite score for entrance into the Thesis program is  $445 = (\text{GPA} \times 50) + \text{verbal GRE} + \text{quantitative GRE}$ . The GPA used in the calculation is based on a 4.0 grade scale.
- All students entering the Thesis Program in biology must have a member of the biology faculty willing to serve as supervisor of the student's graduate studies. Applicants should explore the interests and research background of members of the faculty, including directly contacting faculty with common interests. Information on the biology faculty can be found at <https://www.lamar.edu/arts-sciences/biology/faculty-staff/index.html> (<https://www.lamar.edu/arts-sciences/biology/faculty-staff/>). Applicants should include with their application materials a letter of intent addressed to the faculty that explains the following:
  - their career goal(s) giving reasons for pursuing an M.S. Degree in Biology;
  - their areas of interest in biology; and
  - preferences to be supervised by specific faculty members.

## Thesis Option

This option is strongly recommended for those who plan to continue graduate work beyond the Master's level or to be employed in a research

position by private industry or a governmental agency. Students are expected to:

- Take Graduate Seminar (BIOL 5110 Graduate Seminar) at least two times. Any subsequent enrollments will not count toward the degree.
- A maximum of three (3) Special Topics research credits may apply toward the M.S. in Biology degree.
- Choose a supervising professor as an advisor with expertise in the discipline in which the student intends to work. With the help of the supervising professor choose at least two other graduate faculty to serve on a graduate committee. These faculty should be chosen on the basis of their professional expertise in biology and the specific contributions that can be made to the student's intended research project.
- Determine the student's program of study with the aid of the supervising professor and graduate committee. Students must complete a minimum of 32 hours of graduate credit. All course work will be in Biology. Exceptions must be approved by the major advisor and department chair. A maximum of six hours of thesis (BIOL 5390 Thesis-BIOL 5391 Thesis) can be used toward the degree.
- Perform a comprehensive literature review on the thesis topic and submit a written proposal for the thesis to the graduate committee.
- Perform an oral presentation of the proposal and answer questions by the graduate faculty of the Biology Department. In addition, pass an oral examination before the student's graduate committee on the experimental design of the proposed thesis.
- Perform the proposed research.
- Be registered for thesis (BIOL 5391 Thesis) at the time of graduation.
  - Present and defend the graduate thesis before the graduate faculty.
  - Follow the guidelines prepared by the Graduate College on the format of the written thesis and the timeline for submitting the thesis.

## M.S. Biology Thesis

Code	Title	Hours
<b>Required Courses for Major</b>		
BIOL 5110	Graduate Seminar (take twice)	2
BIOL 5390	Thesis	3
BIOL 5391	Thesis	3
<b>Electives</b>		
5000-level Biology courses		24
<b>Other</b>		
Leveling and Deficiency Courses (if required) <sup>1</sup>		
<b>Total Hours</b>		<b>32</b>

<sup>1</sup> Any deficient course work from the application requirement of 24 credits of Biology including two semesters of general biology and a genetics course, one semester of organic chemistry, and one statistics course.