

Master of Science in Biology

The Master of Science in Biology is designed to provide the flexibility required to develop specific course programs and acceptable thesis research proposals based upon the individual graduate student's interests and background. The general goal of the program is to provide the student with opportunity for improvement of competence, development of the ability to continue self-directed study, and development of intellectual responsibility in preparation for professional leadership in biology.

Admission to the Program

In addition to the general requirements of the university, specific requirements for admission to classified graduate status are:

1. Admittance into the program **requires** acceptance into the research laboratory of a full-time faculty member in Biology who will serve as the student's thesis advisor. Applicants are encouraged to contact prospective advisors *before* submitting your application regarding the availability of Master student positions;
2. Baccalaureate degree in biology or a related field from an accredited institution of higher learning;
3. Cumulative Grade Point Average (GPA) of at least 3.0 in all biology and supporting coursework in chemistry, physics, and mathematics;
4. Submission of scores on the Graduate Record Examination (GRE) General test. Scores are used in the evaluation process;
5. Submission of a one-page, typewritten personal statement to the Department of Biology Graduate Committee. Statement should include the student's preparation for graduate study, goals in the graduate training program, potential area of research and possible advisor, and professional goals following completion of the M.S.;
6. Submission of three letters of recommendation from people who are in a position to make relevant comments on the student's intent and potential for success in the M.S. program. At least two of the letters should be from current or former college or university faculty familiar with the student's scholarship and related activities.

Application deadlines for fall admission is March 31.

Advancement to Candidacy

In order to be advanced to candidacy, the student must have:

1. Achieved classified status;
2. Been accepted by a major advisor from the Department of Biology;
3. Completed at least 8 semester units of work applicable to the degree program as a graduate student at this university with the approval of the student's Thesis Graduate Committee, and with a minimum grade point average of 3.0 ("B");
4. Received recommendations for advancement to candidacy from the major advisor and from the Thesis Graduate Committee;
5. Submitted a formal program of graduate course work prepared in consultation with and approved by the student's Thesis Graduate Committee;

6. Approval of a written thesis proposal in conjunction with the completion of BIOL 6940. The graduate writing requirement is met upon successful completion of the written thesis proposal.
7. Gained final approval of the program and of the candidacy itself by the Dean of Graduate Studies.

Requirements for Graduation

1. A minimum of 30 semester units of acceptable graduate-level work included in the formal program, with no less than 21 units completed in residence at this university;
2. Advancement to candidacy for the degree and approval of the specific program of courses;
3. A grade point average of 3.0 ("B") in all graduate course work fulfilling the requirements of the Master of Science in Biology and grades of "C" (2.0) or better in each course in the program;
4. Completion of a final oral examination (thesis defense) and acceptance of the written thesis, approved by the student's Thesis Graduate Committee and Dean of Graduate Studies;
5. The Graduate Writing Assessment Requirement is met through successful completion of the thesis proposal;
6. Any additional general requirements not cited above and listed in Graduate Degree and Program Requirements (<https://catalog.csusb.edu/graduate-degree-programs/graduate-degree-program-requirements/>).

Thesis Graduate Committee and Major Advisor

The Thesis Graduate Committee consists of the graduate student's major advisor and two or more CSUSB Biology faculty members. Although a student must have three CSUSB Biology faculty, additional committee members from external Departments and/or Universities may be included. Students are advised to form a Thesis Graduate Committee early and meet most semesters as this committee has general supervision over a student's progress toward the Master's degree.

It is **required** for students to enter the program with the support of a major advisor. Therefore, students are responsible for contacting potential major advisors and encouraged to do so before applying to the program. The student in consultation with the major advisor will develop a program of specific courses and an acceptable thesis research proposal. The program plan and thesis proposal, as well as any subsequent modification, must be approved by the Thesis Graduate Committee and the Dean of Graduate Studies to advance to candidacy. Degree is granted upon completion and acceptance of the final thesis by the major advisor, Thesis Graduate Committee, and the Dean of Graduate Studies.

Students currently enrolled in the graduate program wishing to take courses off campus towards their graduate degree must petition the Department of Biology for approval through the graduate program coordinator and the Graduate Committee.

Upper division undergraduate level courses (course numbers 3010-4999) will only be applied towards Graduate course work with written approval of the department.

Repetition of courses requires approval of the Department of Biology Graduate Committee.

Degree Requirements (30 units)

(Program Code: BIOM)

BIOL 5010	Ethics in Biological Research	1
BIOL 5050	Biostatistics and Experimental Design	4
Students who have completed BIOL 5010 or BIOL 5050 at the undergraduate level may substitute any other 5000- or 6000-level course, selected in consultation with their thesis advisor, to meet the unit requirements of the degree.		
BIOL 6010	Effective Teaching Strategies for Graduate TAs	2
BIOL 6020	Professional Writing in the Biological Sciences	2
BIOL 6030	Presentation in Biological Sciences	1
BIOL 6100	Primary Literature in Biology	1
BIOL 6930	Supervised Graduate Research in Biology	1
BIOL 6940	Thesis proposal	3
Three units of Independent Graduate Research in Biology (from BIOL 6951, 6952, 6953, 6954, 6955, and/or 6956)		3
Two units selected from Biology courses numbered 6300-6490.		2
Seven units of electives to be chosen from courses in biology or related fields. Courses taken outside the department to fulfill these electives require prior approval of the Graduate Committee and thesis advisor. A maximum of three units from any combination of independent study and independent research courses, taken in addition to the required Independent Graduate Research, may be applied toward these electives.		7
Culminating Experience (3)		3
Total Units		30

Culminating Experience (3 units)

BIOL 6970	Graduate Thesis	3
Total Units		3

Proposing and Defending the Thesis

Students must conduct original research, and write a thesis acceptable to their major advisor, Thesis Graduate Committee, and the Dean of Graduate Studies. Early in their graduate studies, the student, in consultation with their major advisor, will select a Thesis Graduate Committee. The student is responsible for setting regular meetings with the Thesis Graduate Committee. In order to advance to candidacy, the student will provide a public presentation and a formal written proposal of their planned research to the Thesis Graduate Committee. A final public oral defense of the thesis research, followed by examination by the Thesis Graduate Committee, is required. Successful completion of the final oral examination includes acceptance of the thesis by the Thesis Graduate Committee and the Dean of Graduate Studies.