Department Chair: Todd McBride
Program Coordinator: Paul Smith
Program Office: Science Building I, 114
Telephone: (661) 654-3089
email: psmith@csub.edu
Website: www.csub.edu/Biology

Program Description
The Department of Biology offers a graduate program leading to a Master of Science in Biology degree. The Master of Science with a thesis option is intended to prepare students for professional positions in state and federal agencies, the environmental consulting industry, and for further graduate studies. The Master of Science with a non-thesis option is intended for working professionals, especially public school teachers, and emphasizes course work. A broad range of faculty research interests, easy access to diverse biological environments, and a range of modern research facilities permit the student to select from a broad spectrum of research topics.

Faculty interests include field biology, conservation biology, physiology, comparative morphology, ichthyoarchaeology, plant ecophysiology, plant anatomy, micro- and molecular biology, molecular evolution, ecology, systematics, and behavior.

APPLICATION PROCESS AND PROGRAM REQUIREMENTS

Application for the Master of Science in Biology
Persons seeking an MS in Biology must first apply to the Office of Admissions and Records for admission as unclassified graduate students. After admission to the University in the unclassified category, students are eligible to take graduate level courses in Biology, but without the assurance that their course work will count as credit towards the MS degree at CSUB. After admission to the University in the unclassified category, students should apply to the Graduate Committee of the Department to be advanced to conditionally classified or classified status.

Admissions requirements for the Master of Science in Biology
1. An earned bachelor’s degree in the biological sciences or a bachelor’s degree in a related science with minimum course work equivalent to BIOL 304, 305, 306, and 310.
2. An undergraduate GPA of at least 3.0 in the last 90 quarter (60 semester) units of course work, and Graduate Records Examination scores of 1000 or greater (verbal and quantitative), or an approved petition to the Graduate Committee of the Department waiving this requirement by proposing other evidence of adequate prior academic preparation.
3. Formal decision by the Departmental Graduate Committee to accept the student into the graduate program. The decision will be based on a formal application procedure, which includes evaluation of GPA, GRE scores, letters of recommendation, and other materials that may be required by the Committee and/or offered by the student.

Graduate Student Classifications

Unclassified Post Baccalaureate Status. The Unclassified Post Baccalaureate status allows students to take graduate level courses on a course-by-course basis without being formally accepted into the MS program. Requirements for Post Baccalaureate status are listed below.
1. An acceptable baccalaureate degree from an accredited institution.
2. An undergraduate GPA of at least 2.5 in the last 90 quarter (60 semester) units of course work or an approved petition to the Graduate Committee of the Department waiving this requirement by proposing other evidence of adequate prior academic preparation.

Classified Graduate Student. Acceptance as a Classified Graduate Student indicates that space has been made available for the student within the program and that the student has met the minimum preparation requirements to commence the program as listed below.
1. An acceptable baccalaureate degree from an accredited institution.
2. An undergraduate GPA of at least 3.0 in the last 90 quarter (60 semester) units of course work, or Graduate Records Examination scores of 1000 or greater (verbal and quantitative), or an approved petition to the Departmental Graduate Committee waiving this requirement by proposing other evidence of adequate prior academic preparation.
3. Acceptance into an academic advising relationship with a departmental faculty member (thesis-option).
4. Acceptance will only be granted if space is available for the student in the program.

Conditionally Classified Graduate Student. Students who fail to meet entirely one or more of the criteria for admission as a Classified Graduate Student may, at the discretion of the Biology Graduate Admissions Committee, be admitted as a Conditionally Classified Graduate Student. These conditions may include, but are not limited to, specific prerequisite courses, GPA, GRE scores, etc. Once the student has “remedied” all
conditions specified by the Biology Graduate Admissions Committee, the student classification will be changed to Classified Graduate Student.

Students admitted as a Conditionally Classified Graduate Student are not allowed to enroll in any 600-level courses. They are restricted to 500- and 400-level courses for which they have met prerequisites.

Advancement to Candidate Status. Acceptance as a candidate indicates that the student has completed at least 30 quarter units within the approved Plan of Study and that there is a reasonable expectation that the student will complete all remaining requirements within one year. Classified Graduate Students will be advanced to Candidate Status when they have met the following criteria:

1. Completion of all requirements for Classified Status.
2. Completion of at least 30 quarter units of courses applicable to the Master of Science Degree in Biology with a grade of "B-" or better and graduate GPA of at least 3.0.

Students in the thesis track must also:
3. Obtain approval of the student’s Master’s thesis research topic by the Departmental Graduate Program Coordinator and the Thesis Committee.
4. Obtain certification by the student’s thesis advisor that there is a reasonable expectation that the student will satisfactorily complete the Master’s thesis within one year.

Time limits have been set for completion of requirements at each level of status. Admission to Classified Status must be accomplished within two calendar years after acceptance as a Conditionally Classified Graduate Student. No more than three courses (15 units) may be taken for graduate credit until all prerequisites have been satisfied. Admission to Candidate Status must be attained within two calendar years after acceptance as a Classified Graduate Student. All requirements and graduation are to be completed within five calendar years after acceptance as a Conditionally Classified Graduate Student. The five-year time limit can be extended by petition to and approval from the Departmental Graduate Committee.

Completion of all requirements for the Master of Science in Biology require satisfactory completion of all courses in an approved Plan of Study and satisfactory completion of an exit examination or thesis, including oral examination and any revisions required by the Thesis Committee or Departmental Graduate Committee, and maintaining a 3.0 GPA.

Course Requirements for the Master of Science in Biology

Thesis-Option (45 units)
BIOL 505 (9), 510 (4), 605 (3), 690 (8), 691(1)
*ELECTIVES (400-, 500-, or 600-level courses) (20 units)

Non-thesis-Option (50 units)
BIOL 505 (9), 510 (4), 605 (3), 680 (1)
*ELECTIVES (400-, 500-, or 600-level courses) (33 units)

*ELECTIVE COURSES
BIOL 404, 406, 424, 430, 433, 451, 455, 462, 470, 477, 540, 577, 580
*Selection of elective courses must be approved by Graduate Coordinator (non-thesis option) or Thesis Committee (thesis option).

COURSE DESCRIPTIONS

BIOL 505 Current Topics in Biology (3)
Current topics of special interest to graduate students in Biology. Topics and content will vary as announced but will include contemporary or interdisciplinary areas of interest. Two hours lecture and three hours laboratory. Repeatable. A maximum of 21 units allowed.
Prerequisites: Graduate standing or consent of instructor and an upper division course appropriate to the topic.

BIOL 510 Advanced Experimental Design and Analysis (4)
Course covers how to effectively communicate biological science to the scientific community, effective methodology in experimental design, and proposal writing, including writing specific aims and creating a budget. Three hours lecture and three hours laboratory.
Prerequisites: Graduate standing or consent of instructor.

BIOL 540 Graduate Practicum in the Teaching of Biology (3)
Theory and practice in teaching biology at the undergraduate level. Regular meetings with the faculty sponsor and supervised experience in course design, lecturing, tutoring, laboratory preparation and delivery, administering and scoring examinations, and leading classroom discussions. One hour lecture and six hours laboratory.
Prerequisites: Graduate standing
BIOL 577 Advanced Topics in Biology (5)
Laboratory or field-based graduate level biological topics in a specialized area of contemporary biology, such as genetics, ecology, microbiology, physiology, behavioral biology, systematics, or molecular biology. Topics will be announced. May be repeated for credit as topics change. Two hours lecture and nine hours laboratory. Prerequisites: Graduate standing or consent of instructor and an upper division course appropriate to the topic. Lab fee required.

BIOL 580 Research (1-8)
Independent research: the student formulates a problem and research design in consultation with the faculty, conducts the investigation, compiles and analyzes the data, and presents the findings in written form. Repeatable. Although repeatable, a maximum of five units may be applied towards the Master’s degree. Available by consent of the advisor.

BIOL 605 Seminar in Biology (3)
Student presentation and discussion of reviews and reports focusing on current literature and scientific research in the areas of Biology. Two hours lecture and three hours laboratory. Prerequisites: Available by consent of the instructor.

BIOL 680 Non-Thesis Examination (1)
Comprehensive examination of graduate-level breadth administered by the Departmental Graduate Committee. Prerequisites: Approved petition for advancement to candidacy.

BIOL 690 Thesis (1-8)
Laboratory, field investigation, or a combination of both investigating a research problem. Repeatable. Although repeatable, a maximum of eight units may be applied towards the Master’s degree. Prerequisites: Approved petition for advancement to candidacy.

BIOL 691 Thesis Defense (1)
Preparation, completion (including final submission to the library), and oral defense of a written thesis approved by the Thesis Committee and the Departmental Graduate Committee. Prerequisites: Approved petition for advancement to candidacy.