

a broader understanding of biological theory. All students in this plan must complete 34 credit hours of coursework. All candidates are encouraged to include research or practical experiences by enrolling for three hours in either cooperative education in Biology (BIOL/MICR597), practicum (BIOL686/687/688) or independent study (BIOL/BOTN/ZOOL697/698/699).

Advising

Upon admission to the biology program, students will receive initial advising from the graduate coordinator, the principal adviser in their selected concentration, or the departmental graduate committee. Students are responsible for forming a permanent guidance committee and developing a program of study approved by that committee before registering for their second semester. After the first semester, if no program of study is on file, the guidance committee is not obligated to include any unapproved courses taken as part of the student's final program. The guidance committee for Thesis students will include at least three faculty members from the Department of Biology. The student usually selects the chair of the committee, and the other two members are chosen by the chair in consultation with the student. Additional members of the committee may be added from inside or outside the department by agreement between the chair and the student.

The guidance committee for Nonthesis students will consist of the principal graduate adviser for the selected concentration and the graduate coordinator. The graduate adviser, in consultation with the student, will prepare the student's program, which must be approved by the graduate coordinator. The student may select a third member of the guidance committee from faculty within the Department of Biology.

PROFESSIONAL MASTER OF SCIENCE IN BIOINFORMATICS (BINF)

See page 35 for Interdisciplinary studies listings.

MASTER OF SCIENCE IN ECOSYSTEM BIOLOGY (ECSY)

The master of science in ecology and organismal biology prepares students for research and teaching careers in such fields as aquatic ecology, terrestrial ecology, evolutionary biology, behavioral ecology and physiological ecology. It provides background for students entering doctoral programs in diverse areas of plant, animal and microbial ecology. It also prepares research personnel for careers with government agencies or private companies concerned with the protection or management of aquatic and terrestrial ecosystems. The program stresses the development of research skills, taxonomic expertise, field and laboratory methods and their application to both theoretical and applied ecology.

Course Requirements

This concentration in ecology and organismal biology requires a minimum of 30 credit hours for thesis students and 34 credit hours for nonthesis students. As many as six hours may be taken outside of the Department of Biology as cognates. All courses in the program of study must be approved by the student's guidance committee.

Required Courses.....5-11 hours

BIOL593 Seminar (1 hr)

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BIOL509 Statistics for Biologists (3 hrs)

Thesis students must select a minimum of six hours of research:

BIOL690/691/692 Thesis (1/2/3 hrs)

BIOL/BOTN/MICR/ZOOL697/698/699 Independent Study (1/2/3 hrs)

Restricted Elective Courses.....8-14 hours

Thesis students must select a minimum of three and nonthesis students must select a minimum of five from the following:

BIOL412 Biogeography (3 hrs)

BIOL522 Limnology (3 hrs)

BIOL535 Wetlands Ecosystems (3 hrs)

BIOL536 Terrestrial Ecosystems (3 hrs)

BOTN552 Aquatic Plants (3 hrs)

ZOOL439 Animal Physiological Ecology (3 hrs)

ZOOL502 Animal Behavior (2 hrs)

Elective Courses..... 11-15 hours

Elective courses to be selected in consultation with a graduate adviser. Nonthesis students must include a minimum of two taxonomic field courses, as listed in the Graduate Catalog.

Cognate Courses.....0-6 hours

Up to six credit hours selected in consultation with graduate adviser.

Program Total 30-34 hours

MASTER OF SCIENCE IN BIOLOGY — GENERAL (BIOG)

This program provides students with the opportunity to design a master of science program that meets their unique needs. As such, it is able to accommodate students with a wide range of backgrounds and career goals. It may be particularly suitable in providing additional background in biology for secondary teachers, preparing a broad background for students interested in community college teaching, and for students intent on entering into other professional careers.

Course Requirements

This concentration in general biology requires a minimum of 30 credit hours for thesis students and 34 credit hours for nonthesis students. As many as six hours may be taken outside of the Department of Biology as cognates. All courses in the program of study must be approved by the student's guidance committee.

Required Courses.....2-8 hours

BIOL593 Seminar (1 hr)

BIOL693 Seminar (1 hr)

Thesis students must select a minimum of six hours of research:

BIOL690/691/692 Thesis (1/2/3 hrs)

BIOL/BOTN/MICR/ZOOL697/698/699 Independent Study (1/2/3 hrs)

Restricted Elective Courses 22-32 hours

22 to 32 credit hours selected in consultation with the graduate adviser.

Cognate Courses.....0-6 hours

Up to six hours selected in consultation with the graduate adviser.

Program Total 30-34 hours

MASTER OF SCIENCE IN MOLECULAR/CELLULAR BIOLOGY (MCBI)

This program prepares students to pursue research and teaching careers in molecular and cellular biology. In addition to the general requirements stated for admission to the Master of Science in Biology stated above, this concentration requires the following for admission:

1. One year of general biology or equivalent (replaces twenty hours in biology);
2. A course in genetics and a course in physiology;
3. A course in biochemistry with laboratory; and
4. Two semesters of calculus or equivalent.