



Biology

MISSION STATEMENT

The purpose of this program is to improve science education for all students by preparing highly-skilled middle school and high school biology teachers with advanced biological knowledge within the context of research on how students learn that particular knowledge. The unique design of the program allows graduate students to continue to teach in their classrooms, while completing advanced biology coursework.

DEGREE OPTIONS

The Master of Arts option is appropriate for those who are clearing their credential, or who wish to take more biology coursework to supplement their background knowledge. The Master of Science option is appropriate for those who wish to design and carry out a classroom-based original research project in teaching and learning in biology. Students must choose an option by the end of the first year of coursework.

GRADUATION REQUIREMENTS

1. Complete and have accepted the application for graduation at the time indicated by the program.
2. Complete the approved graduate program of 36 units, including the thesis and six elective units for the M.S. or twelve elective units for the M.A.
3. Achieve a cumulative grade-point average of 3.000 or higher. A student may earn a maximum of two "C" grades in the program.
4. Pay all fees and tuition in full.

CORE COURSES

COURSE #	TITLE	UNITS
BIO 611	Science Education Seminar (1 unit repeated three times with different content)	3
BIO 633	History/Philosophy of Science	3
BIO 643	Research Design in Science Education	3
BIO 663	Cell Biology and Biochemistry	3
BIO 664	Ecology and Evolution	4

BIO 673	Physiology and Development	3
BIO 674	Genetics and Molecular Biology	4
BIO 682	Research Proposal and Pilot Study	1
Total units		24

ADDITIONAL MASTER OF SCIENCE COURSES

BIO 683	Thesis 1	3
BIO 693	Thesis 2	3
Total units		6

ELECTIVE COURSES*

M.S. students complete 6 units of elective coursework; M.A. students complete 12 units of elective coursework.

COURSE #	TITLE	UNITS
BIO 601	Graduate Internship in Biology	1-6
GED 691	SEASAND (may be repeated)	2
GED 691	Perspectives on Science (may be repeated)	2

- Approved upper-division biology courses
- Approved graduate education courses

** Students will develop an academic plan within the first semester of enrollment to determine the appropriate electives based on bachelor's degree coursework, teaching experience, and professional goals.*

Master of Arts and Master of Science Core Courses

BIO 611 (1-3) SCIENCE EDUCATION SEMINAR

This course will involve discussion and integration of seminal papers in the area of science education with particular attention given to biology education. These will be predominantly on-line courses. May be repeated for up to a total of three units.