

## **BIOLOGY (B.A. or B.S.) effective Summer 2006**

To graduate in this program, students must earn a minimum grade of C in Biol 115 and 116 and must have a minimum gpa of 2.40 in Biol 115, 116, 210, 212, and 213.

Required course work includes the university requirements (see regulation J-3), and the following major requirements (electives to be chosen in consultation with the departmental advisor).

Biol 115 Cells and the Evolution of Life (4 cr)  
Biol 116 Organisms & Environments (4 cr)  
Biol 210 Genetics (4 cr)  
Biol 212 Molecular and Cellular Biology (4 cr)  
Biol 213 Principles of Biological Structure and Function (4 cr)  
Biol 314 Ecology and Population Biology (4 cr)  
Biol 411 Senior Capstone (2 cr)  
Biol 421 Advanced Evolutionary Biology (3 cr)  
Chem 111 Principles of Chemistry I (4 cr)  
Chem 112 Principles of Chemistry II (5 cr)  
Chem 275/276 Carbon Compounds and Lab or Chem 277/278 Organic Chemistry and Lab (4 cr)  
Math 160 Survey of Calculus or Math 170 Analytic Geometry and Calculus I (4 cr)  
MMBB 380 Introductory Biochemistry or MMBB 300 Survey of Biochemistry (3-4 cr)  
Phys 111-112 General Physics I-II (8 cr)  
Stat 251 Statistical Methods (3 cr)

9 credits of approved electives from the following list are required (categories are intended only as a guide for student and advisor use):

### **Natural History**

Biol 341 Systematic Botany (3 cr)  
Biol 478 Animal Behavior (3 cr)  
Biol 481 Ichthyology (4 cr)  
Biol 483 Mammalogy (3 cr)  
Biol 484 Invertebrate Zoology (4 cr)  
Ent 440 Insect Identification (4 cr)  
WLF 482 Ornithology (4 cr)

### **Anatomy/Physiology**

Biol 311 Plant Physiology (4 cr)  
Biol 324 Comparative Vertebrate Anatomy (4 cr)  
Biol 423 Comparative Vertebrate Physiology (4 cr)  
Biol 450 Comparative Vertebrate Reproduction (3 cr)  
Ent 484 Insect Anatomy and Physiology (4 cr)  
MMBB 460 Microbial Physiology (3 cr)  
PISc 415 Plant Pathology (3 cr)

### **Quantitative/Integrative Biology**

Biol 425 ST: Experimental Field Ecology (3 cr)  
Biol 448 Plant-Animal Interactions (3 cr)  
Ent 441 Insect Ecology (3 cr)  
Math 437 Mathematical Biology (3 cr)  
MMBB 425 Microbial Ecology (3 cr)  
WLF 440 Conservation Biology (3 cr)  
WLF 448 Fish and Wildlife Population Ecology (4 cr)

### **Molecular/Cellular/Developmental (MCD) Biology**

Biol 354 Experimental Approaches in the Biological Sciences (2 cr)  
Biol 444 Genomics (3 cr)  
Biol 461 Neurobiology (3 cr)  
Biol 474 Principles of Developmental Biology (3 cr)  
MMBB 409 Immunology (3 cr)  
MMBB 440 Advanced Lab Techniques (4 cr)  
MMBB 475 Molecular Biology of the Cell (3 cr)  
MMBB 488 Genetic Engineering (3 cr)

In addition to the above electives, Biology majors are encouraged to enroll in at least 3 credits of coursework that emphasizes social, political or philosophical aspects of biology. A list of suggested courses will be provided by the student's advisor and is available on the department's website.

**Biology B.A. students must also complete:**

6 credits (two courses) in the humanities in addition to the minimum university-wide core requirement of 14 credits in the humanities/social sciences\*

3 credits (one course) in the social sciences in addition to the minimum university-wide core requirement of 14 credits in the humanities/social sciences\*

Foreign Languages 0-16 credits (zero-four courses) competence in one foreign language equivalent to that gained by the completion of four semesters of college courses through the intermediate level. This requirement may be satisfied by the completion of either of the following options (1) 16 credits or four high-school units in one foreign language, or (2) 12 credits in one foreign language, and one three-credit course in literature translated from the same language. The 12 credits may be satisfied by three high-school units in one foreign language.

\*Courses satisfying the humanities requirement are those dealing with the arts, literature, and philosophy. Courses satisfying the social science requirement are those courses dealing with a person's social condition including social relations, institutions, history, and participation in an organized community. Refer to online degree audit system through Web registration system or your academic advisor for a listing of appropriate courses.

**Biology B.S. students must also complete:**

3 credits (one course) in the humanities in addition to the minimum university-wide core requirement of 14 credits in the humanities/social sciences\*

3 credits (one course) in the social sciences in addition to the minimum university-wide core requirement of 14 credits in the humanities/social sciences\*

\*Courses satisfying the requirement are those dealing with the arts, literature, and philosophy. Courses satisfying the social sciences requirement are those courses dealing with a person's social condition including social relations, institutions, history, and participation in an organized community. Refer to online degree audit system through Web registration system or your academic advisor for a listing of appropriate courses.

A student may substitute for these requirements the successful completion of an academic minor or an area of emphasis of at least 18 credits approved by the Biological Sciences Department.