Biology

College of
Arts and Sciences

To address the breadth and depth essential to educating biologists, the biology major is structured to include both a broad foundation through core courses and opportunity for specialization within a biological subfield through biology electives. The major is designed to prepare the student for a post-baccalaureate profession in biology, for advanced professional training in the health sciences, or for graduate study in basic and applied areas of the biological sciences.

Degree Requirements

In addition to satisfying University Studies requirements and the College requirements listed earlier, each student completes the following:

Premajor Requirements

	Hours
Biology:	
BIO 150 Principles of Biology I	3
BIO 151 Principles of Biology Laboratory I	2
BIO 152 Principles of Biology II	3
BIO 153 Principles of Biology Laboratory II	2
Chemistry:	
CHE 105/107 General College Chemistry I and II	6
CHE 115 General Chemistry Laboratory	3
Mathematics:	
MA 113 Calculus I	4
or	
MA 123 Elementary Calculus and Its Applications	3

Major Requirements for the B.S. and B.A. (50 hours total)

Biology course work

a. Biology Core (16 hours)

BIO 304 Principles of Genetics	4
BIO 315 Introduction to Cell Biology	3
BIO 325 Introductory Ecology	4
*BIO 350 Animal Physiology	4
BIO 425 Biology Seminar (Subtitle required) **or** BIO 499 Biology Research Seminar	1

*Biology majors with strong interests in plants may substitute BIO 430G for BIO 350 with advisor's approval.

and

b. Biology Electives (16 hours)

Approved BIO or other courses at the 200 level or higher (except BIO 208). Up to six hours of BIO 395, Research in Biology, may be counted here. At least two biology electives must include laboratory work, and three or more hours of BIO 395 may count as one laboratory elective.

Additional Chemistry:

a. Organic Chemistry –

CHE 230 Organic Chemistry I	3
CHE 231 Organic Chemistry Laboratory I	2
CHE 232 Organic Chemistry II	3

or

b. Organic Chemistry/Biochemistry –

CHE 236 Survey of Organic Chemistry	3
CHE 231 Organic Chemistry Laboratory I	2
BCH 401G Fundamentals of Biochemistry	3

Physics with laboratory:

PHY 211 General Physics	5
PHY 213 General Physics	5
or	
PHY 231 General University Physics	4
PHY 232 General University Physics	4
PHY 241 General University Physics Laboratory	1
PHY 242 General University Physics Laboratory	1

Major Requirements

The degree program in biology requires a minimum of 42 semester credit hours in courses not open to freshmen (200 level and above). A minimum of 28 credit hours must be completed in an area related to the major.

Major Specialization (optional)

Biology majors are assigned an advisor based in part upon special interests they may have within the broad field of biology. With input from the advisor, the student may decide to develop an area of emphasis within biology by appropriate choice of biology electives. Possible emphases include, but are not limited to: animal biology, ecological and evolutionary biology, microbiology, molecular cell biology, molecular virology, environmental physiology, organismal physiology, plant biology, and premedical (or other pre-professional) studies. Interdisciplinary emphases overlapping other fields (e.g., agriculture, anthropology, chemistry, education, psychology) are also possible.