

# BA in Biology

## Bachelor of Arts in Biology

The B.A. degree provides maximum flexibility for biology majors to pursue an undergraduate liberal arts course of study that can lead to professional careers in medicine, allied health, public and environmental health, law, and graduate studies in the life sciences. Candidates must have a cumulative grade point average of 2.0 or better in biology courses. Effective fall semester 2009, candidates must also earn a minimum grade of C- in all core courses.

All B.A. degree majors must take at least 39 credit hours, but not more than 50 hours, in appropriate biology course work. A minimum of 18 hours at or above the 2000 level (including one laboratory) must be taken in residence in the UMSL Department of Biology in order to receive a B.A. degree from the College of Arts and Sciences with a major in biology.

## Lecture and Seminar Course Requirements

### Core Courses

The following biology courses or their equivalents are required:

BIOL 1821	Introductory Biology: Organisms And The Environment	5
BIOL 1831	Introductory Biology: From Molecules To Organisms	5
BIOL 2012	Genetics	3
BIOL 3302	Introduction To Evolution	3
BIOL 3622	Cell Biology	3
Select one of the following diversity courses:		3-5
BIOL 2102	General Ecology	
BIOL 2402	Vertebrate Anatomy	
BIOL 2482	Microbiology	
BIOL 2501	Biology Of Plants	
BIOL 4402	Ornithology	

BIOL 4422	Entomology	
BIOL 4501	Flowering Plant Families: Phylogeny And	
Select one of the following:		
SEC ED 4985 & BIOL 4986	Curriculum And Methods Of Teaching Life Sciences and Laboratory In Teaching Life Sciences	
BIOL 4889	Senior Seminar	

### **Elective Courses**

Three additional biology lecture courses, at the 2000 level or higher are required. They may be selected from any of the lecture or lecture-laboratory courses offered. Selection of these courses should reflect the career interest of the student. Biology courses taken to fulfill basic skill requirements (e.g., statistics requirement or biochemistry option) can be used to satisfy this requirement). At least two biology lecture courses taken as part of the core or as electives must be at the 4000 level or higher. No more than one of these higher level courses can be used to fulfill other requirements (e.g., diversity or statistics requirements, or biochemistry option). Biochemistry CHEM 4722 can also be used toward satisfying this requirement. BIOL 4905 or BIOL 4915 can be applied to the electives requirement but two 4000 level lecture courses are still required.

### **Laboratory Course Requirements**

Three biology laboratory courses at the 2000 level or higher are required. They may be taken from any of the lecture-laboratory or laboratory courses offered. Two credit hours of BIOL 3699, BIOL 4299, BIOL 4905, or BIOL 4915 (no combination of these courses allowed) can be used to fulfill one laboratory requirement. Students may take CHEM 4733 to satisfy one of these laboratory course requirements, but students may not use both BIOL 4713 and CHEM 4733 to fulfill this requirement.

### **Basic Skills Requirement**

A well-rounded biologist needs certain skills outside the biology subject matter. The basic skills requirement is designed to provide the student with a background in communication skills and knowledge in associated science areas.

Communication Skills. Courses in foreign languages and in writing are required for development of the basic communication skills needed to transmit scientific information. The following satisfy this requirement:

Foreign Language		
The foreign language requirement of the College of Arts & Sciences fulfills the departmental requirement.		3
Writing		
ENGL 3160	Writing In The Sciences (strongly preferred)	3
or ENGL 3100	Junior-Level Writing	
<b>Total Hours</b>		<b>6</b>

Associated Science Area. The following courses or their equivalents must be successfully completed in science areas related to biology:

PHYSICS 1011	Basic Physics I	4
PHYSICS 1012	Basic Physics II	4
CHEM 1111	Introductory Chemistry I	5
CHEM 1121	Introductory Chemistry II	5
CHEM 2612	Organic Chemistry I	3
Select one of the following:		2-3
CHEM 2223	Quantitative Analysis	
CHEM 2622	Organic Chemistry II	
CHEM 2633	Organic Chemistry Laboratory	
BIOL/CHEM 4712	Biochemistry	
MATH 1310	Elementary Statistical Methods	3
MATH 1035	Trigonometry	2
MATH 1100	Basic Calculus	3

or MATH 1800	Analytic Geometry And Calculus I	
Select one of the following:		3-4
BIOL 4122	Biometry	
MATH 1310	Elementary Statistical Methods	
MATH 1320	Introduction to Probability and Statistics	
<del>PSYCH 2201</del>	<del>Psychological Statistics</del>	
<b>Total Hours</b>		<b>34-36</b>

Sign-offs from other departments affected by this proposal

Department	Contact Person	Phone #	Objections
S003000	Chris Spilling	5437	No

Rationale      Statical methods for psychology has some overlap with the statistical methods we want for our Bio majors, but not enough. We find that the practices taught in the other classes that meet this requirement are more appropriate.