

# BS Biology Major Requirements

## Freshman Year

<b>Biology Courses</b> (with C- grade or better)	<b>Chemistry Courses</b> (with C- grade or better)
BIOL1081	CHEM1040
BIOL1081L	CHEM1040L
BIOL1082	CHEM1041
BIOL1082L	CHEM1041L
(or quarter equivalent courses)	(or quarter equivalent courses)

### Other requirements:

- Elementary Statistics I (STAT1034) or Introduction to Statistics (STAT 1031)
- Applied Calculus (MATH1044) or Calculus I (MATH1061)
- Freshman Seminar
- 3 Credit Hours of A&S Requirements

## Sophomore Year

Assuming the above requirements are met, students should usually take these courses in their sophomore year:

	<b>Fall Semester</b>		<b>Spring Semester</b>			
<b>BIOL</b>	<b>2083<sup>1</sup></b> <i>Genetics</i> (3 Cr. Hr.)	<i>or</i>	<b>2084C<sup>2</sup></b> <i>Ecology &amp; Evolution</i> (4 Cr. Hr.)	<b>2083<sup>1</sup></b> <i>Genetics</i> (3 Cr. Hr.)	<i>or</i>	<b>2085C<sup>1</sup></b> <i>Cell Biology</i> (4 Cr. Hr.)
<b>CHEM</b>	<b>2040 &amp; 2040L*</b> <i>Organic Chemistry I</i> (4+1 Cr. Hr.)	<i>or</i>	<b>2030 &amp; 2030L*</b> <i>Biochemistry I</i> (4+1 Cr. Hr.)	<b>2041 &amp; 2041L*</b> <i>Organic Chemistry II</i> (4+1 Cr. Hr.)	<i>or</i>	<b>2031 &amp; 2031L*</b> <i>Biochemistry II</i> (4+1 Cr. Hr.)
<b>A&amp;S Requirements**</b>	6-9 credit hours			6-9 credit hours		
<b>Total Credit Hours</b>	14-18 credit hours			14-18 credit hours		

<sup>1</sup>Genetics (BIOL2083) is required for all majors and is a prerequisite for Cell Biology (BIOL2085C). Students wishing to take Cell Biology in Spring Semester should take Genetics in Fall Semester.

<sup>2</sup>Students wishing to take Ecology & Evolution (BIOL2084C) should take Genetics (BIOL2083) in Spring Semester.

Students wishing to take all three sophomore courses [Genetics (BIOL2083), Ecology & Evolution (BIOL2084C), and Cell Biology (2085C)] should take either Ecology & Evolution or Cell Biology in their junior year. This third course will be counted as an upper-level elective with lab.

\*Organic Chemistry (CHEM2040, 2040L, 2041, & 2041L) are recommended for students interested in applying to professional schools such as medical, dental, veterinary, optometry, or podiatry, or graduate school in the biological sciences.

\*\*Students should complete English Composition and Quantitative Reasoning Requirements if not yet completed. Then students should choose courses to fulfill other A&S requirements such as foreign language. Approximately 9-12 credits of A&S requirements should normally be completed in the sophomore year.

## Junior & Senior Years

### *5 Upper Level Electives to be spread out across two years:*

	Upper-Level Elective
	Upper-Level Elective
	Upper-Level Elective
	Upper-Level Elective with Lab
	Upper-Level Elective with Lab

**Note: Students who choose to complete a concentration in Biology must choose their upper levels from the list of approved upper levels for that concentration. Please see your Biology advisor for details and assistance.**

### **Physics (pick one sequence):**

- General Physics (PHYS1051, 1051L, 1052, & 1052L) – algebra / trig based
- College Physics (PHYS2001, 2001L, 2002, & 2002L) – calculus based

### **Completion of A&S Requirements and Electives**

- Check with your A&S Advisor to verify completion.
- Amount of credit hours will vary.

### **Capstone**

#### **Course Number:**

A capstone course number, BIOL5050, has been established for 1 cr. with section numbers for each faculty member. Students fulfilling the capstone experience will register for the course one semester of their senior year as a tracking mechanism. The course will be graded Pass/Fail.

#### **Description:**

The capstone experience requirement of General Education in Biological Sciences can be met through one of the following options: a research option; a capstone Upper-level course; a capstone field trip; a senior or honors thesis; assistant TA or LA; or an equivalent experience (approved by petition to the Capstone Committee). The capstone can be used to simultaneously fulfill another biology major requirement (lecture or lab). Students should note that not all courses and undergraduate research credits are considered to be capstone. Upper level courses which can be used to fulfill the capstone are marked in the list of department courses. In addition, the student will need permission from the professor with whom they intend to complete their capstone in order to register for BIOL 5050. Undergraduate research options outside the department to be used as the capstone requirement must be approved by the undergraduate research director prior to initiation. It is expected that the capstone requirement will be completed during the student's senior year (both sophomore courses and 1-2 upper level biology electives have been completed,) or, in the case of summer field trips, between the junior and senior years.

### **Further Resources**

More information about advising, our curriculum, degree options, and research opportunities is available at our website: <http://www.artsci.uc.edu/departments/biology/undergrad.html>