

## CHECK LIST FOR THE B.S. DEGREE IN BIOLOGY EMPHASIS IN ECOLOGY

**Emphasis Adviser: Dr. Kathy Williams**

Ecology is the study of the interactions between organisms and factors in their environment. This emphasis includes a broad perspective of the biological sciences for careers in teaching, research, and public relations and administration in educational, governmental or private companies involved with environmental activity. Students intending to become teachers or researchers at an advanced level should plan on further study in graduate school.

### **PREPARATION FOR THE MAJOR (37 units of lower division courses)**

Biol 203	Principles of Cell & Molecular Biol.	3	_____	Chem 232	Organic Chemistry	3	_____
Biol 203L	Princ. of Cell & Molecular Biol. Lab	1	_____	Chem 232L	Organic Chemistry Lab	1	_____
Biol 204	Principles of Organismal Biology	3	_____	Math 124	Calculus for the Life Sciences	4	_____
Biol 204L	Principles of Organismal Biology Lab	1	_____	Phys 180A	Fundamentals of Physics	3	_____
Biol 215	Biostatistics	3	_____	Phys 182A	Physical Measurements	1	_____
Chem 200	General Chemistry	5	_____	Phys 180B	Fundamentals of Physics	3	_____
Chem 201	General Chemistry	5	_____	Phys 182B	Physical Measurements	1	_____

### **FINISHING YOUR DEGREE IN FOUR YEARS**

To finish in four years, all 9 sets of premajor courses listed above will need to be finished by the end of the 4<sup>th</sup> semester, or the 5<sup>th</sup> at the latest.

### **IMPACTION**

Biology is **impacted**. After admission to SDSU, students are initially placed into the Biology **premajor**. Premajors must meet department-specific criteria in order to be admitted to the major. Admission to the Biology major requires:

- completion of all Preparation for the Major courses
- an overall GPA of at least 2.6 (for all courses taken)
- combined GPA of 2.7 or higher in Preparation courses
- satisfaction of the lower-division writing competency requirement
- a minimum grade of C in each Preparation course
- no coursework for the premajor or the major may be graded Cr/NC

After completing these requirements, meet with the Biology advisor to be admitted to the major. Students who do not meet one or more requirements should meet with the Biology advisor each semester to determine an appropriate course of action.

### **PREREQUISITES**

- all prerequisites for all courses are necessary, and many are computer-enforced
- speak to the course instructor if you believe that a prerequisite should be waived for some unusual reason
- you cannot take Chem 200 without 1) passing a placement exam, or 2) passing Chem 100 with a C or better
- **you cannot take Biology 366 before being admitted to the major**
- meet with a Bioadviser if your prerequisite courses from another institution are not properly recognized in your Degree Audit Report

### **MAJOR: BIOLOGY W/ EMPHASIS IN ECOLOGY (Minimum of 36 upper division units)**

An overall 2.0 GPA is required for courses in the major.

#### **Required courses (17 units):**

Biol 352	General Genetics and Evolution	3	_____	Chem 365	Biochem., Cell and Mol Biol. I	3	_____
Biol 354	Ecology and the Environment	3	_____	Biol 366	Biochem., Cell and Mol Biol. II	4	_____
Biol 354L	Experimental Ecology	2	_____	Biol 366L	Biochem., Cell and Mol Biol. Lab. I	2	_____

**Elective courses (19 units):** One organismal course is required. At least 15 of the required 19 units of electives must be selected from the following list, and must include one lab course in addition to the organismal course. Not all organismal courses are in this "ecology electives" list. The remaining 4 units can include Biology 350-599 (except Biology 452).

Organismal course (not Biol 350)				Biol 517	Marine Ecology	4	_____	Biol 544	Ter. Ecos. Cl. Change	3	_____
				†Biol 518	Biology of Fishes	4	_____	Biol 560	Animal Physiology <sup>2</sup>	3	_____
		3-4	_____	Biol 526	Terrestrial Arthropods	4	_____	Biol 562	Ecol. Metagenomics	3	_____
Biol 496	Biol Experim. Ocean	3	_____	Biol 527	Animal Behavior	3	_____	Biol 597A	Univ. Statistical Meth.	3	_____
†Biol 508	Coevolution	3	_____	Biol 528	Microbial Ecology	3	_____	Biol 497/499	Indep. Research <sup>1</sup>	1-3	_____
Biol 509	Evolutionary Biology	3	_____	†Biol 535	Plant Ecology	4	_____	Biol 490	Honors Research <sup>1</sup>	3	_____
Biol 512	Ev.Ec. Marine Mamm.	3	_____	Biol 538	Envir. Policy Regul.	3	_____	<i>Other (remaining 4 units)</i>			_____
Biol 514	Biol. of the Algae	4	_____	Biol 540	Conservation Ecology	3	_____	<i>Other (remaining 4 units)</i>			_____
Biol 516A	Marine Larval Ecol. 1	4	_____	†Biol 542	Ecol. Signal. Environ.	3	_____				_____
Biol 516B	Marine Larval Ecol. 2	4	_____								

† Not taught in 2015-2016

<sup>1</sup> Prior approval of the Biology adviser (in LS-135) is needed and papers must be filed with the Office of Advising & Evaluations.

<sup>2</sup> Offered during summer session only.

## **Department of Biology**

<http://www.bio.sdsu.edu/>

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## **Undergraduate Advising Office**

Life Sciences North, Room 135  
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bioundergrad@sunstroke.sdsu.edu

Dr. Andrew J. Bohonak, Professor and Vice Chair of Biology,  
Director of Undergraduate Advising and Curriculum

Mr. Eddie Lopez, M.S., Associate Director of Advising

Ms. Arlene Castillo, M.S., Administrative Coordinator

### **For the most current information and answers to 25 Frequently Asked Questions**

See the bioadvising web page <http://www.sci.sdsu.edu/bioadvise/>

### **Degree opportunities**

The Department of Biology offers the following degrees:

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B.S. in Biology, with optional emphases in Cellular & Molecular Biology,  
Ecology, Evolution & Systematics, Marine Biology, or Zoology

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B.A. in Biology

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B.S. in Microbiology, with an optional emphasis in Clinical Laboratory  
Science/ Public Health Microbiology

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B.A. in Microbiology

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Minor in Biology, with optional emphases in five areas

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Biotechnology Certificate

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Demonstrate subject matter competency for the Single Subject Teaching Credential in Biology/Life  
Sciences

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### **Changing majors or minors**

Biology and Microbiology are impacted majors. If you wish to change majors, add a second major, or add a minor, see our department policies at <http://www.sci.sdsu.edu/bioadvise/>

### **Additional information**

Prospective students:

<http://arweb.sdsu.edu/es/admissions/>

Chemistry 200 placement exam:

[http://www.chemistry.sdsu.edu/courses/CHEM200/200\\_Placement\\_exam.php](http://www.chemistry.sdsu.edu/courses/CHEM200/200_Placement_exam.php)

"TAP" database of courses that will automatically transfer: <https://sunspot.sdsu.edu/pubred/!tap.disp>

Articulation of science courses that are not in the TAP database: meet with Biology advisors

Resources for traditionally underrepresented groups: CASA

<http://www.sci.sdsu.edu/casa/>

Career Services (register by your sophomore year):

[http://career.sdsu.edu/student\\_affairs/career/](http://career.sdsu.edu/student_affairs/career/)

Preprofessional Health Advising Office (GMCS-323):

<http://www.sci.sdsu.edu/preprof/>

Official explanation of graduation requirements:

<http://arweb.sdsu.edu/es/advising/9gradreqs.html>