

UNDERGRADUATE STUDIES: BIOLOGY - EMPHASIS IN ECOLOGY CHECKLIST

Visit the [Biology Undergraduate Advising Center](#) in LSN 102

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Emphasis Advisor: Dr. Rulon Clark (LS 224)

Preparation for the Major Coursework

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.

Four Year Degree

To finish your degree in four years, all 9 sets of premajor courses listed below will need to be finished by the end of your 4th semester, or the 5th 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 into the major. Admission to Biology Major requires the following:

- Completion of all the preparation for the Major courses *and* a combined GPA of 2.8 or higher in these courses (*excluding Phys 180A, 180B, 182A, and 182B*).
- A minimum of C or better in every course (Recommended A's and B's)
- Courses in the Preparation for the Major cannot be taken Cr/Nc.

After completing these requirements, you will be admitted to the Major automatically. *If* you are not admitted automatically meet with the Undergraduate Biology Advisor as soon as possible.

Students who do not meet one or more requirements should meet with the Undergraduate Biology Advisor each semester to determine an appropriate course of action.

NOTE: Not all upper division Biology courses are offered every semester. Check the current class schedule for complete course listings.

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

Biol 203	Princ. of Cell Molec. Biology	3	
Biol 203L	Princ. of Cell Molec. Biology Lab	1	
Biol 204	Princ. of Organismal Biology	3	
Biol 204L	Princ. of Organismal Biology Lab	1	
Biol 215	Biostatistics	3	
Chem 200	General Chemistry	5	
Chem 201	General Chemistry	5	

Chem 232	Organic Chemistry	3	
Chem 232L	Organic Chemistry Lab	1	
Math 124	Calculus of Life Sciences	4	
Phys 180A	Fundamentals of Physics	3	
Phys 182A	Physical Measurements	1	
Phys 180B	Fundamentals of Physics	3	
Phys 182B.	Physical Measurements	1	

Note: a computer programming course (e.g. Computer Science 107) is recommended.

No transfer courses will substitute for courses in the major without prior departmental approval.

UPPER DIVISION MAJOR

(36 units)

Cumulative 2.0 GPA required in all upper division coursework applied to the major.

Required Core Coursework (19 units)

Biol 351 Genetics	3		Chem 365 Fundamentals of Biochemistry	3	
Biol 352 Evolution	3		Biol 366 Cell and Molecular Biology	3	
Biol 354 Eco. and the Environment	3		Boil 366L Biochem, C.M.B. Lab	2	
Biol 354L Eco. and the Environment Lab	2		-----		

Elective Coursework (17 Units Minimum)

Required: At least two courses must be taken from this list.

Biol 509 Advanced Evolution (3)	Biol 540 Conservation Ecology (3)
Biol 512 Evolution and Ecology of Marine Mammals (3)L	Biol 542 Ecological Signaling in the Environment (3)
Biol 514 Biology of the Algae (4)L	Biol 544 Terrestrial Ecosystems and Climate Change (3)
Biol 516A Marine Larval Ecology Research Part 1 (4)L	Or Environmental Science (3)
Biol 516B Marine Larval Ecology Research Part 2 (4)	Biol 560 Animal Physiology (3)
Biol 517 Marine Ecology (3)	Biol 562 Ecological Metagenomics (3)
Biol 518 Biology of Fishes (4)	Biol 496 Experimental topics/Selected Topics in Chemistry (1-3)
Biol 526 Terrestrial Arthropod Biology (3)L	Or
Biol 527 Animal Behavior (3)	Biol 596 and/or
Biol 527L Animal Behavior Lab (1)	(Max 3
Biol 528 Microbial Ecology (3)L	Units)
Biol 535 Plant Ecology (4)L	Special Topics in Biology/Advanced special Topics in Chemistry (1-3)

Required: Organismal Lab Course

1. Organismal Lab Requirement – select at least one Organismal lab in bold from below.		
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Biol 512 Evolution & Ecology of Marine Mammals (3)	Biol 524 Ornithology (4)
Biol 514 Biology of Algae (4)	Biol 525 Mammalogy (3)
Biol 515 Marine Invertebrate Biology (4)	Biol 526 Terrestrial Arthropod Biology (4)
Biol 516A Marine Larval Ecology Research Pt.1 (4)	Biol 528 Microbial Ecology (3)
Biol 523 Herpetology (3)	Biol 530 Plant Systematics (4)
	Biol 531 Taxonomy of California Plants (4)
	Biol 535 Plant Ecology (4)

Custom Electives

- Customize your major by taking courses that you're interested in that are upper division Biology courses numbered 350-599 (except Biol 452) and upper division Chemistry courses (except Chem 300, 308, 497, 499, 560).
- Prior approval of the Biology Undergraduate Advisor (LSN-102) is needed and paperwork must be filed in order to enroll in Biol 497, 499, and/or 490.
- A maximum of 6 units between Biol 497 and 499 may be applied to the major.
- Elective courses other than Ecology electives listed above (including Biol 496 and 596) must be approved by the emphasis Advisor.
