UNDERGRADUATE STUDIES:
BIOLOGY - EMPHASIS IN ECOLOGY CHECKLIST

Preparation for the Major Coursework

See Department of Biology undergraduate advisers (LS-135) or 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.

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		Chem 232	Organic Chemistry	3	
Biol 203L	Princ. of Cell Molec. Biology Lab	1		Chem 232L	Organic Chemistry Lab	1	
Biol 204	Princ. of Organismal Biology	3		Math 124	Calculus of Life Sciences	4	
Biol 204L	Princ. 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	

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)

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

Core Coursework (17 units)

Biol 352 Genetics and Evolution	3		Chem 365 Biochem, C.M.B. I	3	
Biol 354 Eco. and the Environment	3		Biol 366 Biochem, C.M.B. II	4	
Biol 354L Eco. and the Environment Lab	2		Boil 366L Biochem, C.M.B. Lab	2	

Elective Coursework (19 Units Minimum)

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

Biol 509	Evolutionary Biology (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) Or Environmental Science (3)
Biol 516A	**Marine Larval Ecology Research Part 1 (4)[L]**		
Biol 516B	Marine Larval Ecology Research Part 2 (4)	Biol 560	Animal Physiology (3)
Biol 517	Marine Ecology (4)	Biol 562	Ecological Metagenomics (3)
Biol 518	Biology of Fishes (4)	Biol 597A	Univariate Statistical Methods in Biology (3)
Biol 526	**Terrestrial Arthropod Biology (3)[L]**		
Biol 527	Animal Behavior (3)		
Biol 527L	Animal Behavior Lab (1)	Biol 496 Or Biol 596 (Max 3 Units)	Experimental topics/Selected Topics in Chemistry (1-3) and/or Special Topics in Biology/Advanced special Topics in Chemistry (1-3)
Biol 528	**Microbial Ecology (3)[L]**		
Biol 535	**Plant Ecology (4)[L]**		
Biol 538	Environmental Policy and Regulations Or Environmental Science (3)		

Required: Organismal Lab Course

1. Organismal Lab Requirement – select at least one **Organismal lab** in bold from below.		

Biol 458	**Plant Biology (4)**	**Biol 524**	**Ornithology (4)**
Biol 512	**Evolutionary & Ecology of Marine Mammals (3)**	**Biol 525**	**Mammology (4)**
		Biol 526	**Terrestrial Arthropod Biology (4)**
Biol 514	**Biology of Algae (4)**	**Biol 528**	**Microbial Ecology (3)**
Biol 515	**Marine Invertebrate Biology (4)**	**Biol 530**	**Plant Systematics (4)**
Biol 516A	**Marine Larval Ecology Research Pt.1 (4)**	**Biol 531**	**Taxonomy of California Plants (4)**
		Biol 535	**Plant Ecology (4)**
Biol 523	**Herpetology (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-135) is needed and paperwork must be filed in order to enroll in Biol 497 and/or 499
- A maximum or 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.

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