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)

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Units</th>
<th>Course</th>
<th>Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biol 203</td>
<td>Princ. of Cell Molec. Biology</td>
<td>3</td>
<td>Chem 232</td>
<td>Organic Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>Biol 203L</td>
<td>Princ. of Cell Molec. Biology Lab</td>
<td>1</td>
<td>Chem 232L</td>
<td>Organic Chemistry Lab</td>
<td>1</td>
</tr>
<tr>
<td>Biol 204</td>
<td>Princ. of Organismal Biology</td>
<td>3</td>
<td>Math 124</td>
<td>Calculus of Life Sciences</td>
<td>4</td>
</tr>
<tr>
<td>Biol 204L</td>
<td>Princ. of Organismal Biology Lab</td>
<td>1</td>
<td>Phys 180A</td>
<td>Fundamentals of Physics</td>
<td>3</td>
</tr>
<tr>
<td>Biol 215</td>
<td>Biostatistics</td>
<td>3</td>
<td>Phys 182A</td>
<td>Physical Measurements</td>
<td>1</td>
</tr>
<tr>
<td>Chem 200</td>
<td>General Chemistry</td>
<td>5</td>
<td>Phys 180B</td>
<td>Fundamentals of Physics</td>
<td>3</td>
</tr>
<tr>
<td>Chem 201</td>
<td>General Chemistry</td>
<td>5</td>
<td>Phys 182B</td>
<td>Physical Measurements</td>
<td>1</td>
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</tbody>
</table>

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)

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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<tbody>
<tr>
<td>Biol 352 Genetics and Evolution</td>
<td>3</td>
</tr>
<tr>
<td>Biol 354 Eco. and the Environment</td>
<td>3</td>
</tr>
<tr>
<td>Biol 354L Eco. and the Environment Lab</td>
<td>2</td>
</tr>
<tr>
<td>Chem 365 Biochem, C.M.B. I</td>
<td>3</td>
</tr>
<tr>
<td>Biol 366 Biochem, C.M.B. II</td>
<td>4</td>
</tr>
<tr>
<td>Biol 366L Biochem, C.M.B. Lab</td>
<td>2</td>
</tr>
</tbody>
</table>

### Elective Coursework (19 Units Minimum)

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

- Biol 509 Evolutionary Biology (3)
- Biol 512 Evolution and Ecology of Marine Mammals (3)
- Biol 514 Biology of the Algae (4)
- Biol 517 Marine Ecology (4)
- Biol 518 Biology of Fishes (4)
- Biol 526 Terrestrial Arthropod Biology (3)
- Biol 527 Animal Behavior (3)
- Biol 527L Animal Behavior Lab (1)
- Biol 528 Microbial Ecology (4)
- Biol 535 Plant Ecology (4)
- Biol 538 Environmental Policy and Regulations Or Environmental Science (3)
- Biol 458 Plant Biology (4)
- Biol 512 Evolutionary & Ecology of Marine Mammals (3)
- Biol 514 Biology of Algae (4)
- Biol 515 Marine Invertebrate Biology (4)
- Biol 523 Herpetology (4)
- Biol 524 Ornithology (4)
- Biol 525 Mammology (4)
- Biol 526 Terrestrial Arthropod Biology (4)
- Biol 528 Microbial Ecology (3)
- Biol 530 Plant Systematics (4)
- Biol 531 Taxonomy of California Plants (4)
- Biol 535 Plant Ecology (4)

**Required:** Organismal Lab Course

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

### 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.