

# UNDERGRADUATE STUDIES: BIOLOGY – EMPHASIS IN ZOOLOGY CHECKLIST

## Preparation for the Major Coursework

See Department of Biology undergraduate advisers (LS-135) or Dr. Marshal Hedin (LS-204)

The Emphasis in Zoology includes the core courses of the biology major, emphasis electives selected from particular groups of animal biology course, which include areas as embryology, physiology, behavior and evolution, and general electives from biology. Students with a Zoology emphasis should strive to gain independent research experience in zoology through Biology 497/499.

### 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 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 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: Biol 354L **is not a required course** for the Zoology emphasis. This was a clerical error.

## 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 CMB I     | 4 |  |
| Biol 354 Eco. and the Environment | 3 | Biol 366 Biochem, CMB II   | 4 |  |
|                                   |   | Boil 366L Biochem, CMB Lab | 2 |  |

### ELECTIVE COURSEWORK (19 Units Minimum)

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

|  |   |
|--|---|
| Biol 509 Evolutionary Biology (3)<br>Biol 510 Molecular Evolution (3)<br><b>Biol 512 Evolutionary &amp; Ecology of Marine Mammals (3)<sup>L</sup></b><br><b>Biol 515 Marine Invertebrate Biology (4)<sup>L</sup></b><br><b>Biol 516A Marine Larval Ecology Research Pt.1 (4)<sup>L</sup></b><br>Biol 518 Biology of Fishes (4) <sup>L</sup><br><b>Biol 523 Herpetology (4)<sup>L</sup></b><br><b>Biol 524 Ornithology (4)<sup>L</sup></b><br><b>Biol 525 Mammology (4)<sup>L</sup></b> | <b>Biol 526 Terrestrial Arthropod Biology (4)<sup>L</sup></b><br>Biol 527 Animal Behavior (3)<br>Biol 527L Animal Behavior Lab (1) <sup>L</sup><br>Biol 540 Conservation Ecology (3) <sup>L</sup><br>Biol 560 Animal Physiology (3)<br>Biol 576 Developmental Biology (3)<br>Biol 496 Experimental Topics (1-3)<br>and/or<br>596 Special Topics in Biology (1-3)<br>(Max 3 units) |
|--|---|

**Required:** 2 Lab Courses (One class *cannot* fulfill both lab course requirements.)

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| 1. <u>Organismal Lab Requirement</u> – select at least one <b>Organismal lab</b> in bold from below.                     |  |  |
| 2. <u>Lab Elective Requirement</u> – select at least one additional lab course from below (may or may not be organismal) |  |  |

|   |   |
|---|---|
| Biol 350 General Microbiology (4)<br>Biol 436 Human Physiology Lab (2)<br>Biol 458 Plant Biology (4)<br>Biol 480L Clinical Hematology Laboratory (1)<br><b>Biol 512 Evolutionary &amp; Ecology of Marine Mammals (3)</b><br>Biol 514 Biology of Algae (4)<br><b>Biol 515 Marine Invertebrate Biology (4)</b><br><b>Biol 516A Marine Larval Ecology Research Pt.1 (4)</b><br>Biol 516B Marine Larval Ecology Research Pt.2 (4)<br>Biol 517 Marine Ecology (4)<br>Biol 518 Biology of Fishes (4)<br><b>Biol 523 Herpetology (4)</b><br><b>Biol 524 Ornithology (4)</b><br><b>Biol 525 Mammology (4)</b> | <b>Biol 526 Terrestrial Arthropod Biology (4)</b><br>Biol 527L Animal Behavior Lab (1)<br>Biol 528 Microbial Ecology (3)<br>Biol 530 Plant Systematics (4)<br>Biol 531 Taxonomy of California Plants (4)<br>Biol 535 Plant Ecology (4)<br>Biol 540 Conservation Ecology (3)<br>Biol 544L Global Change Science Lab (2)<br>Biol 556 Scanning Electron Microscopy Lab (2)<br>Biol 557 Transmission Electron Microscopy Lab (3)<br>Biol 562 Ecological Metagenomics (3)<br>Biol 567L Biochemistry, Cellular and Molecular Biology Lab II (2)<br>Biol 568 Bioinformatics (3)<br>Biol 597A Univariate Statistical Methods in Biology (3) |
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### 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 of 6 units between Biol 497 and 499 may be applied to the major.
- Elective courses other than Zoology electives listed above (including Biol 496 and 596) must be approved by the emphasis Advisor.

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