**ECOLOGY CONCENTRATION**

**Ecology Levels**
Select from the following: 12

- BIO 442 Behavioral Ecology
- BIO 444 Population Ecology
- BIO 445 Community Ecology
- BIO 446 Ecosystem Ecology

**Systems and Applications**
Select from the following: 12

- BIO 327 Wildlife Ecology
- BIO 401 Principles of Conservation Biology
- BIO 415 Biogeography
- BOT 326 Plant Ecology
- MSCI 328 Marine Ecology

**Biodiversity Courses**
Select from the following: 4

- BIO 321 Mammalogy
- BIO 322 Ichthyology
- BIO 323 Ornithology
- BIO 324 Herpetology
- BIO 329 Vertebrate Field Zoology
- BIO 335 General Entomology
- BIO 336 Invertebrate Zoology
- BIO 429 Parasitology
- BOT 313 Taxonomy of Vascular Plants
- MSCI 224 General Microbiology I 6
- MSCI 328 Marine Ecology
- MSCI 437 Marine Botany
- MSCI 439 Fisheries Science and Resource Management
- MSCI 440 Communicating Ocean Sciences to Informal Audiences

**Ecology Electives**
Select from the following: 7

- BIO 321 Mammalogy
- BIO 322 Ichthyology
- BIO 323 Ornithology
- BIO 324 Herpetology
- BIO 327 Wildlife Ecology
- BIO 329 Vertebrate Field Zoology
- BIO 330 Extended Field Biology Activity
- BIO 335 General Entomology
- BIO 336 Invertebrate Zoology
- BIO 361 Principles of Animal Physiology
- BIO 400 Special Problems for Advanced Undergraduates 5
- BIO 401 Principles of Conservation Biology
- BIO 415 Biogeography
- BIO 419 Analytical Methods in Ecology
- BIO/NR/SS 421 Wetlands
- BIO 427 Wildlife Management
- BIO 429 Parasitology
- BIO 434 Environmental Physiology
- BIO 435 Plant Physiology
- BIO/CHEM 441 Bioinformatics Applications
- BIO 442 Behavioral Ecology
- BIO 444 Population Ecology
- BIO 445 Community Ecology
- BIO 446 Ecosystem Ecology

**Approved Electives**
Select from the following: 8

- AG/EDES/ENGR/ GEOG/ISLA/ SCM/UNIV 350 The Global Environment
- BIO 321 Mammalogy
- BIO 322 Ichthyology
- BIO 323 Ornithology
- BIO 324 Herpetology
- BIO 327 Wildlife Ecology
- BIO 329 Vertebrate Field Zoology
- BIO 330 Extended Field Biology Activity
- BIO 335 General Entomology
- BIO 336 Invertebrate Zoology
- BIO 361 Principles of Animal Physiology
- BIO 400 Special Problems for Advanced Undergraduates 5
- BIO 401 Principles of Conservation Biology
- BIO 415 Biogeography
- BIO 419 Analytical Methods in Ecology
- BIO/NR/SS 421 Wetlands
- BIO 427 Wildlife Management
- BIO 429 Parasitology
- BIO 434 Environmental Physiology
- BIO 435 Plant Physiology
- BIO/CHEM 441 Bioinformatics Applications
- BIO 442 Behavioral Ecology
- BIO 444 Population Ecology
- BIO 445 Community Ecology
- BIO 446 Ecosystem Ecology
<table>
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<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>BIO 461</td>
<td>Senior Project - Research Proposal 🟣</td>
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<tr>
<td>BIO 462</td>
<td>Senior Project - Research 🟣 🟣</td>
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<td>BIO 463</td>
<td>Honors Research 🟣</td>
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<td>BIO 472</td>
<td>Current Topics in Biological Research 🟣</td>
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<tr>
<td>BIO/CHEM 475</td>
<td>Molecular Biology Laboratory</td>
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<tr>
<td>BOT 311</td>
<td>Plants, People and Civilization</td>
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<td>BOT 313</td>
<td>Taxonomy of Vascular Plants</td>
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<td>BOT 326</td>
<td>Plant Ecology</td>
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<td>BOT 433</td>
<td>Field Botany: California Plant Diversity</td>
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<td>ENGR 322/SCM 302</td>
<td>The Learn By Doing Lab Teaching Practicum 🟣</td>
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<td>ERSC/GEOG 250</td>
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<td>GEOG 440</td>
<td>Advanced-Applications in GIS</td>
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<td>LA/NR 218 or GEOG 318</td>
<td>Applications in GIS</td>
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<td>MCRO 224</td>
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<td>STAT 313</td>
<td>Applied Experimental Design and Regression Models</td>
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<tr>
<td>STAT 419</td>
<td>Applied Multivariate Statistics</td>
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Total units 43

1. Excess units will be applied to subsequent concentration electives.
2. Consultation with advisor is recommended prior to selecting approved electives; bear in mind your selections may impact pursuit of post-baccalaureate studies and/or goals.
3. Courses taken to meet a major or support requirement cannot be double-counted as an elective.
4. If BIO 461 or BIO 462 is used to meet the Senior Project Requirement, it cannot also be counted as an Elective.
5. Maximum of 6 units may be applied toward Approved Electives from "by arrangement" courses: BIO 400, BIO 461, BIO 462, BIO 463, BIO 472, ENGR 322/SCM 302.
6. Recommended for students interested in health science careers.