# ECOLOGY, EVOLUTION, BIODIVERSITY, AND CONSERVATION CONCENTRATION

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 363</td>
<td>Principles of Conservation Biology</td>
<td>4</td>
</tr>
<tr>
<td>LA/NR 218</td>
<td>Introduction to Geographic Information Systems (GIS)</td>
<td>3</td>
</tr>
<tr>
<td>or GEOG 218</td>
<td>Applications in GIS</td>
<td>3</td>
</tr>
</tbody>
</table>

### Biodiversity Courses

Select three from the following:

- BIO 321 Mammalogy
- BIO 322 Ichthyology
- BIO 323 Ornithology
- BIO 324 Herpetology
- BIO 335 General Entomology
- BIO 336 Invertebrate Zoology
- BOT 313 Taxonomy of Vascular Plants
- BOT 433 Field Botany: California Plant Diversity
- MCR 224 General Microbiology I
- MSCI 437 Marine Botany

### Ecology and Evolution Courses

Select one from the following:

- BIO 415 Biogeography
- BIO 442 Behavioral Ecology
- BIO 444 Population Ecology
- BIO 445 Community Ecology
- BIO 446 Ecosystem Ecology
- BIO 447 Spatial Ecology
- BOT 326 Plant Ecology
- MCR 436 Microbial Ecology
- MSCI 300 Marine Ecology

### Conservation Courses

Select one from the following:

- BIO 427 Wildlife Management
- MSCI 428 Marine Conservation and Policy
- MSCI 439 Fisheries Science and Resource Management
- NR 416 Environmental Impact Analysis and Management

### Approved Electives

Select from the following:

At least 8 units must be upper-division.

- ASCI 239 Principles of Rangeland Management
- BIO 300 Research Experience for Undergraduates
- 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 400 Special Problems for Advanced Undergraduates
- BIO 415 Biogeography
- BIO 427 Wildlife Management
- BIO 429 Parasitology
- BIO 434 Environmental Physiology
- BIO 435 Plant Physiology
- BIO 442 Behavioral Ecology
- BIO 444 Population Ecology
- BIO 445 Community Ecology
- BIO 446 Ecosystem Ecology
- BIO 450 Undergraduate Laboratory Assistantship
- BIO 461 Senior Project - Research Proposal
- BIO 462 Senior Project Research Experience
- BIO 463 Honors Research
- BOT 311 Plants, People and Civilization
- BOT 323 Plant Pathology
- BOT 326 Plant Ecology
- GEOG 441 Advanced Applications in Geospatial Technologies
- MCR 224 General Microbiology I
- MCR 436 Microbial Ecology
- MSCI 300 Marine Ecology
- MSCI 324 Marine Mammals, Birds and Reptiles
- MSCI 428 Marine Conservation and Policy
- MSCI 437 Marine Botany
- MSCI 439 Fisheries Science and Resource Management
- NR 141 Introduction to Forest Ecosystem Management
- NR 142 Environmental Management
- NR 314 Environmental Life-Cycle Analysis
- NR 404 Environmental Law
- NR 416 Environmental Impact Analysis and Management
- NR 418 Applied GIS
- NR 425 Applied Resource Analysis and Assessment
- NR 445 Systems Thinking in Environmental Management
- SCM 302/ENGR 322 The Learn By Doing Lab Teaching Practicum
- STAT 313 Applied Experimental Design and Regression Models
- STAT 324 Applied Regression Analysis
  or STAT 334 Applied Linear Models
- STAT 330 Statistical Computing with SAS
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>STAT 331</td>
<td>Statistical Computing with R</td>
</tr>
<tr>
<td>STAT 416</td>
<td>Statistical Analysis of Time Series</td>
</tr>
<tr>
<td>STAT 419</td>
<td>Applied Multivariate Statistics</td>
</tr>
<tr>
<td>STAT 421</td>
<td>Survey Sampling and Methodology</td>
</tr>
</tbody>
</table>

**Total units**: 43

1. Excess units will be applied to subsequent concentration electives.
2. Students seeking certification (e.g., as an Associate Wildlife Biologist from the Wildlife Society) should see their faculty advisor for guidance.
3. 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.
4. If a course is taken to meet a Major or Support requirement, it cannot be double-counted in the concentration.
5. Maximum of 6 units may be applied toward Approved Electives: BIO 200, BIO 300, BIO 400, BIO 450, BIO 485, BIO 495, MSCI 401.
6. If BIO 461 or BIO 462 is used to meet the senior project requirement, it cannot be double-counted as an Approved Elective.
7. Maximum of 2 units may be applied toward Approved Electives from SCM 302/ENGR 322.