The following courses are required for all Animal Ecology students unless otherwise stated.

**GENERAL EDUCATION**

- ENGL 150: Critical Thinking & Communication
- ENGL 250: Composition
  - AGEDS 311, NREM 330, P R 305, SP CM 312, SP CM 313, ENGL 207, 275, 302, 303, 304, 305, 306, 309, 310, 312, or 314
- LIB 160: Information Literacy
- SP CM 212: Fundamentals of Public Speaking
- Social Science Elective: See list on Iowa State website
- Ethics Elective: See list on Iowa State website
- Humanities Elective: See list on Iowa State website
- U.S. Diversity Elective: See list on Iowa State website
- Int’l Perspective Elective: See list on Iowa State website

**SCIENCE FOUNDATION**

- MATH 140: College Algebra
- STAT 101 or 104: Introduction to Statistics
- CHEM 163 +Lab or CHEM 177 +Lab & CHEM 178: College Chemistry
- CHEM 231 +Lab or CHEM 331 +Lab & CHEM 332: General Chemistry I & II –For Vet School ONLY
- PHYS 115 +Lab or PHYS 111: Elementary Organic Chemistry
- PHYS 115 +Lab: Organic Chemistry I & II –For Vet School ONLY
- Math Elective: Physics for the Life Sciences
- Soc. Elective: General Physics –For Vet School ONLY

**A ECL FOUNDATION**

- NREM 110: Orientation to NREM
- NREM 120: Introduction to Renewable Resources
- NREM 211: Careers in Natural Resources
- BIOL 211 +Lab: Principles of Biology I
- BIOL 212 +Lab: Principles of Biology II
- A ECL 312: Ecology
- A ECL 365: Vertebrate Biology

**FREE ELECTIVES**

- Miscellaneous classes applied towards graduation but not towards the major requirements. Can include A ECL/FOR/NREM courses after minimum requirements met within option.

**Total Credits to Graduate**

128 minimum

---

**FIRST YEAR**

<table>
<thead>
<tr>
<th>Semester 1</th>
<th>Semester 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 211 +L</td>
<td>4</td>
</tr>
<tr>
<td>NREM 110</td>
<td>1</td>
</tr>
<tr>
<td>MATH 140</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 163+L</td>
<td>5</td>
</tr>
<tr>
<td>Soc. Elective</td>
<td>3</td>
</tr>
<tr>
<td>16 credits</td>
<td></td>
</tr>
</tbody>
</table>

---

**SECOND YEAR**

<table>
<thead>
<tr>
<th>Semester 1</th>
<th>Semester 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>A ECL 365</td>
<td>4</td>
</tr>
<tr>
<td>AECL 312</td>
<td>4</td>
</tr>
<tr>
<td>Math Elective</td>
<td>4</td>
</tr>
<tr>
<td>ENGL 250</td>
<td>3</td>
</tr>
<tr>
<td>LIB 160</td>
<td>1</td>
</tr>
<tr>
<td>NREM 211</td>
<td>1</td>
</tr>
<tr>
<td>17 credits</td>
<td></td>
</tr>
</tbody>
</table>
NREM 104: PRACTICAL WORK EXPERIENCE

Required before graduation, students must complete 400 hours of career-related experience. Opportunities should be approved by current adviser prior to the start of the experience. Directly following the experience, summary forms must be submitted. Forms can be found at [http://www.nrem.iastate.edu/workexperience](http://www.nrem.iastate.edu/workexperience)

OPTIONS WITHIN ANIMAL ECOLOGY

**Fisheries and Aquatic Sciences**
The Fisheries and Aquatic Sciences option concentrates on aquatic ecosystems. Students learn about a variety of aquatic environments and the physical, chemical and biological characteristics of these ecosystems. They may focus on basic fish biology, aquatic ecology and fishery and watershed management.

Careers include: Fisheries Biologist, Hatchery Manager, Fish & Wildlife Specialist, Aquaculture Specialist, Lake Manager, Aquatic Biologist, Wetland Scientist, Restoration Ecologist, Marine Biologist

**Interpretation of Natural Resources**
The Interpretation option focuses on natural history, earth science, and communication techniques. Students in this option will study the natural environment and learn how to teach others about natural resource related topics.

Careers include: Park Ranger, Conservation Law Enforcement Officer, Environmental Educator, Naturalist, Natural Resource Policy or Public Relations

**Pre-Vet & Wildlife Care**
The Pre-Vet & Wildlife Care option is suited for two groups of people. One group is interested in continuing their education in the veterinary field and take courses to meet veterinary school admission requirements. The second group is interested in pursuing careers in the field of wildlife care. Courses cover animal physiology, animal disease detection and prevention, and behavior.

Careers include: Zoo Keeper, Wildlife Rehabilitator, Veterinarian, Animal Trainer

**Wildlife**
The Wildlife option concentrates on wildlife habitats, interactions within and among populations, and wildlife management. In addition to the in-depth study of wildlife, the option offers courses in policy, administration and law in order to prepare students for the public decision-making process that is necessary in most areas of wildlife management.

Careers Include: Conservation Law Enforcement Officer, Ornithologist, Park Ranger, Wildlife Biologist, Habitat Manager, Ecologist