**NATURAL RESOURCE ECOLOGY & MANAGEMENT: FISHERIES & AQUATIC ECOLOGY, BSAG**

Requirements for Students Matriculating in or before Academic Year 2023-2024. Learn more about University Academic Regulation 3.1 (http://catalog.okstate.edu/university-academic-regulations/#matriculation).

Minimum Overall Grade Point Average: 2.00
Total Hours: 125

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 1113</td>
<td>Composition I</td>
<td>3</td>
</tr>
<tr>
<td>or ENGL 1313</td>
<td>Critical Analysis and Writing I</td>
<td></td>
</tr>
<tr>
<td>Select one of the following:</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>ENGL 1213</td>
<td>Composition II</td>
<td></td>
</tr>
<tr>
<td>ENGL 1413</td>
<td>Critical Analysis and Writing II</td>
<td></td>
</tr>
<tr>
<td>ENGL 3323</td>
<td>Technical Writing</td>
<td></td>
</tr>
</tbody>
</table>

**General Education Requirements**

- **English Composition**
  - See Academic Regulation 3.5 (http://catalog.okstate.edu/university-academic-regulations/#english-composition/)
  - ENGL 1113 Composition I 3
  - or ENGL 1313 Critical Analysis and Writing I

- **American History & Government**
  - Select one of the following: 3
    - HIST 1103 Survey of American History
    - HIST 1483 American History to 1865 (H)
    - HIST 1493 American History Since 1865 (DH)
    - POLS 1113 American Government

- **Analytical & Quantitative Thought (A)**
  - MATH 1513 College Algebra (A) 1
  - STAT 2013 Elementary Statistics (A) 1

- **Humanities (H)**
  - Courses designated (H) 6

- **Natural Sciences (N)**
  - Must include one Laboratory Science (L) course
  - Select four hours from the following: 4
    - BIOL 1113 Introductory Biology (N)
    - or BIOL 1111 and Introductory Biology Laboratory (LN) 1
    - BIOL 1114 Introductory Biology (LN) 1
  - Course designated (N) 3

- **Social & Behavioral Sciences (S)**
  - AGECC 1113 Introduction to Agricultural Economics (S) 1 3

**Additional General Education**

- Courses designated (A), (H), (N), or (S) 6

**Hours Subtotal** 40

**Major Requirements**

**Core Courses**

- Select one of the following: 3
  - ANSI 3423 Animal Genetics
  - BIOL 3023 General Genetics
  - BIOL 4413 Biology of Fishes
  - BIOL 4434 Limnology
  - CHEM 1225 Chemical Principles II (LN)
  - or CHEM 1514 Chemistry II (LN)

- Select one of the following: 2
  - GEOL 1114 Physical Geology (LN)
  - PHYS 1014 Descriptive Physics (N)

- NREM 3523 Fish and Wildlife Population Biology 3
- NREM 4414 Fisheries Management 4
- NREM 4424 Fisheries Techniques 4
- NREM 4443 Watershed Hydrology and Water Quality 3
- NREM 4452 Pond Management 2
- NREM 4453 Aquaculture 3

**College Requirements**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 1215</td>
<td>Chemical Principles I (LN)</td>
<td>4</td>
</tr>
<tr>
<td>or CHEM 1314</td>
<td>Chemistry I (LN)</td>
<td></td>
</tr>
</tbody>
</table>

**Written and Oral Communications**

- Select one of the following: 3
  - AGCM 3103 Written Communications in Agricultural Sciences and Natural Resources
  - BCOM 3113 Written Communication
  - ENGL 3323 Technical Writing

- Select one of the following: 4
  - AGCM 3203 Oral Communications in Agricultural Sciences & Natural Resources (S)
  - SPCH 2713 Introduction to Speech Communication (S)
  - SPCH 3733 Elements of Persuasion (S)

- AG 1011 First Year Seminar 1

- Select one of the following: 4
  - ENTO 4484 Aquatic Entomology
  - SOIL 2124 Fundamentals of Soil Science (N)
  - NREM 3013 Applied Ecology and Conservation 3

**Departmental Requirements**

- Select one of the following: 4
  - BIOL 1604 Animal Biology
  - NREM 2134 Dendrology
  - NREM 1012 Introduction to Natural Resource Ecology and Management 2
  - NREM 2083 Geospatial Technologies for Natural Resources 3
  - NREM 3012 Applied Ecology Laboratory 2
  - NREM 3503 Principles of Wildlife Ecology and Management 3
  - NREM 4001 Issues In Global Change 1
  - NREM 4043 Natural Resource Administration and Policy 3
  - PBIO 1404 Plant Biology (LN) 4

**Hours Subtotal** 40
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>STAT 3013</td>
<td>Intermediate Statistical Analysis</td>
<td>3</td>
</tr>
<tr>
<td>or STAT 4013</td>
<td>Statistical Methods I (A)</td>
<td></td>
</tr>
</tbody>
</table>

**Related Courses**

Select courses from among the following or other courses in consultation with a faculty advisor for additional breadth, or to create a specialty emphasis area.  

Select one of the following:  

- AGEC 3503 Natural Resource Economics  
- AGEC 3723 Environmental Law for Agriculture and Natural Resources  
- ENVR 4512 Introduction to National Environmental Policy Act  
- GEOG 3153 Conservation of Natural Resources (S)  
- HIST 4523 American Environmental History (H)  
- NREM 3502 Wildlife Law Enforcement  
- NREM 4053 Natural Resource Recreation  
- POLS 4363 Environmental Law And Policy  
- POLS 4593 Natural Resources and Environmental Policy  
- SOC 4433 Environmental Sociology (S)  

Select 2 hours of the following:  

- ANSI 3543 Principles of Animal Nutrition  
- BIOL 3114 Vertebrate Zoology  
- BIOL 3153 Animal Behavior  
- BIOL 3513 Principles of Conservation Biology  
- BIOL 4113 Conservation Genetics  
- BIOL 4133 Evolution  
- BIOL 4174 Mammalogy  
- BIOL 4303 Organismal Ecotoxicology  
- BIOL 4363 Principles of Toxicology  
- GEOG 4203 Fundamentals of Geographic Information Systems  
- GEOG 4263 Geospatial Applications for Unmanned Aerial Systems  
- GEOG 4333 Remote Sensing  
- GEOG 4343 Geographic Information Systems: Resource Management Applications  
- NREM 3063 Natural Resource Biometrics  
- NREM 3091 Field Applications of Geospatial Technologies for Natural Resources  
- NREM 3101 Forest Resource Field Studies  
- NREM 3111 Natural Resource Field Studies  
- NREM 3143 Forest Biology  
- NREM 3224 Silviculture  
- NREM 3502 Wildlife Law Enforcement  
- NREM 3613 Principles of Rangeland Management  
- NREM 4023 Restoration Ecology  
- NREM 4033 Ecology Of Invasive Species  
- NREM 4053 Natural Resource Recreation  
- NREM 4093 Natural Resources, People and Sustainable Development (I)  
- NREM 4403 Wetland Ecology and Management  
- NREM 4522 Wildlife Management Applications and Planning  

- NREM 4523 Wildlife Management Techniques  
- NREM 4533 Wildlife Management for Game Species  
- NREM 4543 Wildlife Management for Biodiversity  
- NREM 4960 Undergraduate Internship  
- NREM 4980 Undergraduate Research  
- NREM 4990 Special Topics in Natural Resource Ecology and Management  
- PBIO 4005 Field Botany  

**Electives**  

Select 0 hours or hours to complete required total for degree  

**Total Hours**  

- College & Departmental requirements that may be used to meet General Education requirements.  
- If used as (N) course above, then hours are reduced by course hours.  
- If ENGL 3323 Technical Writing is used to satisfy ENGL 1213 Composition II above, hours in this block are reduced by 3.  
- If used as (S) course above, then hours are reduced by three.  
- May not use a course used above in Core Courses. Also may not use the same class for credit in both groups below.  

**Other Requirements**  

- A minimum of 40 semester credit hours and 100 grade points must be earned in courses numbered 3000 or above.  

**Additional State/OSU Requirements**  

- At least: 60 hours at a four-year institution; 30 hours completed at OSU; 15 of the final 30 or 50% of the upper-division hours in the major field completed at OSU.  
- Limit of: one-half of major course requirements as transfer work; one-fourth of hours earned by correspondence; 8 transfer correspondence hours.  
- Students will be held responsible for degree requirements in effect at the time of matriculation and any changes that are made, so long as these changes do not result in semester credit hours being added or do not delay graduation.  
- Degrees that follow this plan must be completed by the end of Summer 2029.
these changes do not result in semester credit hours being added or do not delay graduation.

- Degrees that follow this plan must be completed by the end of Summer 2029.