WILDLIFE AND FISHERIES SCIENCE, B.S.

Begin Campus: Any Penn State Campus

End Campus: University Park

Degree Requirements

For the Bachelor of Science in Wildlife and Fisheries Science, a minimum of 120 credits is required for the Wildlife option and a minimum of 122 credits is required for the Fisheries option:

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Education</td>
<td>45</td>
</tr>
<tr>
<td>Electives</td>
<td>3-9</td>
</tr>
<tr>
<td>Requirements for the Major</td>
<td>87-95</td>
</tr>
</tbody>
</table>

21 of the 45 credits for General Education are included in the Requirements for the Major. This includes: 9 credits of GN courses; 6 credits of GQ courses; 3 credits of GS courses; 3 credits of GWS courses.

General Education

Connecting career and curiosity, the General Education curriculum provides the opportunity for students to acquire transferable skills necessary to be successful in the future and to thrive while living in interconnected contexts. General Education aids students in developing intellectual curiosity, a strengthened ability to think, and a deeper sense of aesthetic appreciation. These are requirements for all baccalaureate students and are often partially incorporated into the requirements of a program. For additional information, see the General Education Requirements (https://bulletins.psu.edu/undergraduate/general-education/baccalaureate-degree-general-education-program/) section of the Bulletin and consult your academic adviser.

The keystone symbol appears next to the title of any course that is designated as a General Education course. Program requirements may also satisfy General Education requirements and vary for each program.

Foundations (grade of C or better is required.)

- Quantification (GQ): 6 credits
- Writing and Speaking (GWS): 9 credits

Knowledge Domains

- Arts (GA): 6 credits
- Health and Wellness (GHW): 3 credits
- Humanities (GH): 6 credits
- Social and Behavioral Sciences (GS): 6 credits
- Natural Sciences (GN): 9 credits

Integrative Studies (may also complete a Knowledge Domain requirement)

- Inter-Domain or Approved Linked Courses: 6 credits

University Degree Requirements

First Year Engagement

All students enrolled in a college or the Division of Undergraduate Studies at University Park, and the World Campus are required to take 1 to 3 credits of the First-Year Seminar, as specified by their college First-Year Engagement Plan.

Other Penn State colleges and campuses may require the First-Year Seminar; colleges and campuses that do not require a First-Year Seminar provide students with a first-year engagement experience.

First-year baccalaureate students entering Penn State should consult their academic adviser for these requirements.

Cultures Requirement

6 credits are required and may satisfy other requirements

- United States Cultures: 3 credits
- International Cultures: 3 credits

Writing Across the Curriculum

3 credits required from the college of graduation and likely prescribed as part of major requirements.

Total Minimum Credits

A minimum of 120 degree credits must be earned for a baccalaureate degree. The requirements for some programs may exceed 120 credits. Students should consult with their college or department adviser for information on specific credit requirements.

Quality of Work

Candidates must complete the degree requirements for their major and earn at least a 2.00 grade-point average for all courses completed within their degree program.

Limitations on Source and Time for Credit Acquisition

The college dean or campus chancellor and program faculty may require up to 24 credits of course work in the major to be taken at the location or in the college or program where the degree is earned. Credit used toward degree programs may need to be earned from a particular source or within time constraints (see Senate Policy 83-80 (http://senate.psu.edu/policies-and-rules-for-undergraduate-students/82-00-and-83-00-degree-requirements/#83-80)). For more information, check the Suggested Academic Plan for your intended program.

Requirements for the Major

To graduate, a student enrolled in the major must earn a grade of C or better in each course designated by the major as a C-required course, as specified by Senate Policy 82-44 (http://senate.psu.edu/policies-and-rules-for-undergraduate-students/82-00-and-83-00-degree-requirements/#82-44).

Common Requirements for the Major (All Options)

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 110</td>
<td>Biology: Basic Concepts and Biodiversity</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 240W</td>
<td>Biology: Function and Development of Organisms</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 110</td>
<td>Chemical Principles I</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 111</td>
<td>Experimental Chemistry I</td>
<td>1</td>
</tr>
<tr>
<td>CHEM 202</td>
<td>Fundamentals of Organic Chemistry I</td>
<td>3</td>
</tr>
<tr>
<td>ECON 104</td>
<td>Introductory Macroeconomic Analysis and Policy</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 202C</td>
<td>Effective Writing: Technical Writing</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 250</td>
<td>Introductory Physics I</td>
<td>4</td>
</tr>
<tr>
<td>SOILS 101</td>
<td>Introductory Soil Science</td>
<td>3</td>
</tr>
<tr>
<td>WFS 446</td>
<td>Wildlife and Fisheries Population Dynamics</td>
<td>3</td>
</tr>
</tbody>
</table>

Prescribed Courses: Require a grade of C or better

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 220W</td>
<td>Biology: Populations and Communities</td>
<td>4</td>
</tr>
<tr>
<td>WFS 209N</td>
<td>Wildlife and Fisheries Conservation</td>
<td>3</td>
</tr>
</tbody>
</table>
WFS 300  The Vertebrates  2
WFS 301  Vertebrate Laboratory  2
WFS 310  Wildlife and Fisheries Measurements  3

Additional Courses
FOR 350  Forest Ecosystem Monitoring and Data Analysis  3
or STAT 460  Intermediate Applied Statistics
MATH 111  Techniques of Calculus II  2-4
or MATH 141  Calculus With Analytic Geometry II
STAT 240  Introduction to Biometry  3
or STAT 301  Statistical Analysis I
Select 3-4 credits of the following:  3-4
  ANSC 322  Animal Genetics and Selection
  BIOL 133  Genetics and Evolution of the Human Species
  BIOL 222  Genetics
  BIOL 230W  Biology: Molecules and Cells
Select 3 credits of the following:  3
  AEE 440  Communication Methods and Media
  ENGL 416  Science Writing
  ENGL 418  Advanced Technical Writing and Editing

Additional Courses: Require a grade of C or better
MATH 110  Techniques of Calculus I  4
or MATH 140  Calculus With Analytic Geometry I

Supporting Courses and Related Areas
Select 6 credits in natural resource economics, policy, planning, law,
administration, or human dimensions from departmental list  6

Requirements for the Option
Select an option  18-23

Requirements for the Option
Fisheries Option (22-23 credits)

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>WFS 410</td>
<td>General Fishery Science</td>
<td>3</td>
</tr>
<tr>
<td>WFS 452</td>
<td>Ichthyology</td>
<td>2</td>
</tr>
<tr>
<td>WFS 453</td>
<td>Ichthyology Laboratory</td>
<td>2</td>
</tr>
<tr>
<td>WFS 463W</td>
<td>Fishery Management</td>
<td>3</td>
</tr>
</tbody>
</table>

Additional Courses
Select 3-4 credits of the following:  3-4
  ANSC 201  Animal Science
  BIOL 141 & BIOL 142  Introduction to Human Physiology
  and Physiology Laboratory
  BIOL 446  Physiological Ecology
Select 3 credits of the following:  3
  WFS 407 | Ornithology | |
  WFS 408 | Mammalogy | |
  WFS 447W | Wildlife Management | |
Select 3 credits of the following:  3
  ENT 425  Freshwater Entomology
  FOR 470  Watershed Management
  WFS 422 | Ecology of Fishes | |
  WFS/ERM 435 | Limnology | |
Select 3 credits of the following:  3
  GEOG 363  Geographic Information Systems
  GEOC 303  Introduction to Environmental Geology
  GEOSC 340  Geomorphology
  GEOSC 412  Water Resources Geochemistry
  GEOSC 440  Marine Geology
  GEOSC 452  Hydrogeology

Wildlife Option (18-19 credits)

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>FOR 203</td>
<td>Field Dendrology</td>
<td>3</td>
</tr>
<tr>
<td>WFS 407</td>
<td>Ornithology</td>
<td>3</td>
</tr>
<tr>
<td>WFS 408</td>
<td>Mammalogy</td>
<td>3</td>
</tr>
<tr>
<td>WFS 447W</td>
<td>Wildlife Management</td>
<td>3</td>
</tr>
</tbody>
</table>

Additional Courses
WFS 406  Ornithology Laboratory  2
or WFS 409  Mammalogy Laboratory
Select 2-3 credits of the following:  2-3
  WFS 410 | General Fishery Science | |
  WFS 422 | Ecology of Fishes | |
  WFS 452 | Ichthyology | |
  WFS 453 | Ichthyology Laboratory | |
  WFS 463W | Fishery Management | |
Select 3 credits of the following:  3
  BIOL 414  Taxonomy of Seed Plants
  FOR 308  Forest Ecology
  FOR 308  Forest Ecology
  HORT 101 | Horticultural Science | |
  HORT 138  Ornamental Plant Materials
  HORT 445 | Plant Ecology | |
  GEOG 160  Mapping Our Changing World
  GEOG 363  Geographic Information Systems
  GEOC 303  Introduction to Environmental Geology
  GEOSC 340  Geomorphology
  GEOSC 412  Water Resources Geochemistry
  GEOSC 440  Marine Geology
  GEOSC 452  Hydrogeology