# Bachelor of Science in Natural Resources: Wildlife Conservation and Management

<table>
<thead>
<tr>
<th>Course Title</th>
<th>Units</th>
<th>Prerequisite?</th>
<th>Course Title</th>
<th>Units</th>
<th>Prerequisite?</th>
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</thead>
<tbody>
<tr>
<td>Tier 1 Nat Sci – CHEM 151</td>
<td>4</td>
<td>MATH 112 or placement</td>
<td>Tier 1 Nat Sci – CHEM 152</td>
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<td>CHEM 151</td>
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<tr>
<td>ENGL 101 or 109H</td>
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<td>ENGL 102</td>
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<tr>
<td>Tier 1 Traditions and Cultures</td>
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<td>ECOL 182R General Biology Lecture</td>
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<tr>
<td>RNR 230R Field Botany lecture</td>
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<td>ECOL 182L General Biology Lab</td>
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<tr>
<td>RNR 230L Field Botany lab</td>
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<td>MATH 113, 122A/B, or 125 (Calculus)</td>
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<td>MATH 112 or placement test</td>
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<tbody>
<tr>
<td>Tier 2 Ind &amp; Soc – ECON 201a or ECON 200</td>
<td>3</td>
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<td>CHEM 241a, 243a or PHYS 102, 181 or ENVS 200, 201</td>
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<td>varies</td>
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<tr>
<td>(Economics)</td>
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<td>RNR 316 Natural Resources Ecology</td>
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<td>MATH 163 or 263 (Statistics)</td>
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<td>ECOL 182R, ECOL 182L, RNR 230</td>
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<td>ENGL 308, 313, ENVS 415, AGTM 422</td>
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<td>RNR 200 Conservation of Natural Environments</td>
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<td>COMM 119 or Technical Elective</td>
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<td>MCB 181L General Biology Lab</td>
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<td>RNR 384 Natural Resources Management Practices</td>
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<td>MCB 181R General Biology Lecture</td>
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<tr>
<td>Tier 1 Individuals and Societies</td>
<td>3</td>
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<td>RNR 321: Ecological Surveys and Sampling</td>
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<td>MATH 163 or 263</td>
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<td>Tier 2 Arts or Humanities Elect.</td>
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<td>RAM 382 Rangeland Plant Communities</td>
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<td>RNR 230R and RNR 230L</td>
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<td>ECOL “ology” elective (e.g. ECOL 485-</td>
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<td>RNR 316 recommended</td>
<td>ECOL “ology” elective (e.g. ECOL 483-Herp or ECOL 484 Orn)</td>
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<td>Mammology)</td>
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<td>Technical Elective</td>
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<td>RNR 403 or RNR 417 or Technical Elective</td>
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<td>Genetics PLS 312 or ECOL 320</td>
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<td>MCB 181R and MCB 181L; CHEM 151, CHEM 152</td>
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<td>Technical Electives</td>
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<td><strong>TOTAL</strong></td>
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One general education course must have the non-Western Civilization, Gender, Race, Class, Ethnicity designation.

1. Required for certification as a wildlife biologist by the Wildlife Society. If you opt against certification, you must take a technical elective.

2. Students must complete 2 “ology” courses from ECOL 483 (Herpetology), 484 (Ornithology), and 485 (Mammalogy).

2nd semester language proficiency required.

Revised Sept 2015
**Suggested Technical Electives**

**Ecology/Zoology/Animal Health**
- WFSC 447 Wildlife Conservation Behavior
- ACBS 400A/B Animal Anatomy and Physiology
- ECOL 335 Evolution
- ECOL 473 Topics in Behavioral Ecology
- ECOL 487 Animal Behavior
- ECOL 403 Biology of Animal Parasites
- 3rd “Ology” of ECOL 483 (Herpet), 484 (Ornith), 485 (Mammal), 482 (Ichthy)
- ACBS 336A Applied Animal Nutrition
- ACBS 449 Diseases of Wildlife

**Fire Ecology and Natural Resources Management**
- RNR 448 Conservation Planning & Wildland Recreation
- RNR 355 Intro to Wildland Fire
- RNR 438 Wildland Fire Management
- RNR 496B Natural Resources Seminar (1-3)
- RNR 441A - Natural Resource Management in Native Communities
- RNR 448 Conservation Planning & Wildland Recreation
- RNR 438 Wildland Fire Management
- RNR 496B Natural Resources Seminar (1-3)

**Botany/Plant Science**
- RAM 436A Grazing Ecology and Management
- RAM 446 Management + Restoration of Wildland Vegetation
- RAM 456 Rangeland Inventory & Monitoring

**Other Ecology/Conservation**
- RAM 436A Grazing Ecology and Management
- RAM 446 Management + Restoration of Wildland Vegetation
- RAM 456 Rangeland Inventory & Monitoring

**ECON 335 Evolution**
- RNR 438 Biogeography
- ECOL 406R Conservation Biology
- ECOL 404R and L Biology of the Oceans (Fall)
- ECOL 438 Biogeography
- ECOL 406R Conservation Biology
- ECOL 404R and L Biology of the Oceans (Fall)

**ECOL 473 Topics in Behavioral Ecology**
- RNR 438 Biogeography
- ECOL 406R Conservation Biology
- ECOL 404R and L Biology of the Oceans (Fall)
- ECOL 438 Biogeography
- ECOL 406R Conservation Biology
- ECOL 404R and L Biology of the Oceans (Fall)

**Tools/Techniques/Internships**
- WFSC 430 Conservation Genetics
- WFSC 447 Wildlife Conservation Behavior
- ECON 217 Resources and Environmental Management
- AREC 350 Econ, Ethics & Environmental Management
- AREC 375 Econ of Land & Water in the American West
- AREC 377 Econ of Environ. Resource Conservation
- AREC 350 Econ, Ethics & Environmental Management
- AREC 375 Econ of Land & Water in the American West
- AREC 377 Econ of Environ. Resource Conservation
- AREC 350 Econ, Ethics & Environmental Management
- AREC 375 Econ of Land & Water in the American West
- AREC 377 Econ of Environ. Resource Conservation

**Economics/Policy/Planning**
- CHEM 241A and 243A Organic Chemistry (4)
- MATH 263 (3)
- BIOC 384 Foundations in Biochemistry (3)
- PHYS 102 and 181 Physics (4)
- PLS 312 Genetics or ECOL 320 (4)
- CHEM 241A and 243A Organic Chemistry (4)
- MATH 263 (3)
- BIOC 384 Foundations in Biochemistry (3)
- PHYS 102 and 181 Physics (4)
- PLS 312 Genetics or ECOL 320 (4)
- CHEM 241A and 243A Organic Chemistry (4)
- MATH 263 (3)
- BIOC 384 Foundations in Biochemistry (3)
- PHYS 102 and 181 Physics (4)
- PLS 312 Genetics or ECOL 320 (4)

**Courses Required for Certification by the Wildlife Society**

1. Biological Sciences: 36 semester hours; must include subcategories a-e. (Sum of hours in a-e is 33, the other 3 hours may be in any of the 5 subject areas):
   a. Wildlife Management: Courses emphasizing principles and practices of wildlife management. (6 hours)
   b. Wildlife Biology: Biology and behavior of birds, mammals, reptiles, or amphibians; must include 1 course concerning birds or mammals. (6 hours)
   c. Ecology: Courses in general plant or animal ecology (not human ecology). (3 hours)
   d. Zoology: Taxonomy, biology, behavior, physiology, anatomy, and natural history or vertebrates and invertebrates. Courses in genetics, nutrition, physiology or plant taxonomy. (9 hours)
   e. Botany: Courses in general botany, plant genetics, plant morphology, plant physiology, or plant taxonomy (9 hours). Course descriptions, immediately following course listing, are required. One of the following courses – dendrology, silvics, or silviculture are accepted. At least one course must be primarily concerned with plant taxonomy or identification (this course must be taken at a college/university and cannot be substituted by another course or experience). (9 hours)

2. Physical Sciences: 9 semester hours in chemistry, physics, geology, or soils, with at least 2 disciplines represented.

3. Quantitative Sciences: 9 semester hours that must include:
   a. Basic Statistics (3 hours)
   b. Quantitative Sciences: calculus, biometry, advanced algebra, systems analysis, mathematical modeling, sampling, computer science, or other quantitative science (6 hours)

4. Humanities and Social Sciences: 9 semester hours in economics, sociology, psychology, political science, government, history, literature, or foreign language.

5. Communications: 12 semester hours designed to improve communication skills such as English composition, technical writing, journalism, public speaking, or use of mass media.

6. Policy, Administration, and Law: 6 semester hours in courses that focus on natural resource policy and/or administration, wildlife or environmental law, or natural resource/land use planning; and courses that focus on the understanding of social, political and ethical decisions for wildlife or natural resource management. Tools supporting professional practice (e.g., photogrammetry, Land-Sat mapping, GIS) or more general courses such as criminology, political science, and introductory survey courses in conservation will not apply.

*Check each vet school for their specific requirements*