## 2018 - 2019 Major Map

### Applied Biological Sciences (Natural Resource Ecology), BS

**School/College:** College of Integrative Sciences and Arts  
**Location:** Polytechnic campus  
**LSABSNRBS**

### Term 1 - 0 - 14 Credit Hours

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Minimum Grade</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASU 101-UC: The ASU Experience</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BIO 181: General Biology I (SQ)</td>
<td>4</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>MAT 210: Brief Calculus (MA) OR MAT 251: Calculus for Life Sciences (MA)</td>
<td>3</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>ENG 101 or ENG 102: First-Year Composition OR</td>
<td>3</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>ENG 105: Advanced First-Year Composition OR</td>
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<tr>
<td>ENG 107 or ENG 108: First-Year Composition</td>
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<tr>
<td><strong>Social-Behavioral Sciences (SB)</strong></td>
<td>3</td>
<td></td>
<td></td>
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</tbody>
</table>

**Term hours subtotal:** 14

### Term 2 - 14 - 28 Credit Hours

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Minimum Grade</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 182: General Biology II (SG)</td>
<td>4</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>CHM 113: General Chemistry I (SQ)</td>
<td>4</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>ENG 101 or ENG 102: First-Year Composition OR</td>
<td>3</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>ENG 105: Advanced First-Year Composition OR</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ENG 107 or ENG 108: First-Year Composition</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Humanities, Arts and Design (HU)</strong></td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Complete ENG 101 OR ENG 105 OR ENG 107 course(s).</td>
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<td></td>
</tr>
</tbody>
</table>

**Term hours subtotal:** 14

### Term 3 - 28 - 45 Credit Hours

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Minimum Grade</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABS 274: Introduction to Wildlife Management OR ABS 225: Soils (SQ) AND ABS 226: Soils Laboratory (SQ)</td>
<td>4</td>
<td>C</td>
<td>• Students in the Wildlife Track should take ABS 274. Students in the Rangelands/Watershed Track should take ABS 225/226.</td>
</tr>
<tr>
<td>CHM 116: General Chemistry II (SQ)</td>
<td>4</td>
<td>C</td>
<td>• Secure a part-time job or volunteer experience.</td>
</tr>
<tr>
<td>Historical Awareness (H)</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Social-Behavioral Sciences (SB)</strong></td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elective</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Complete Mathematics (MA) requirement.</strong></td>
<td>3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Term hours subtotal:** 17

### Term 4 - 45 - 61 Credit Hours

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Minimum Grade</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABS 207: Applied Plant Taxonomy</td>
<td>3</td>
<td>C</td>
<td>• Students considering Graduate school or health professions should complete the Organic Chemistry Sequence of both CHM 233/237 and CHM 234/238 sequence, using CHM 234/238 in place of electives. All other students will complete CHM 231/235.</td>
</tr>
<tr>
<td>Cultural Diversity in the U.S. (C)</td>
<td>3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Students select one of three Natural Resource Ecology Tracks and complete 12 hours from within that track.

<table>
<thead>
<tr>
<th>Term 5 61 - 77 Credit Hours Necessary course signified by ⭐</th>
<th>Hours</th>
<th>Minimum Grade</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>⭐ ABS 350: Applied Statistics (CS)</td>
<td>3</td>
<td>C</td>
<td>• Students considering Graduate school or health professions should complete the PHY 111/113 and PHY 112/114 sequence, using PHY 112/114 in place of electives. All other students will complete PHY 101.</td>
</tr>
<tr>
<td>⭐ ABS 370: Ecology</td>
<td>3</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>⭐ Upper Division Natural Resource Ecology Track</td>
<td>3</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>PHY 101: Introduction to Physics (SQ) OR PHY 111: General Physics (SQ) AND PHY 113: General Physics Laboratory (SQ)</td>
<td>4</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>Humanities, Arts and Design (HU)</td>
<td>3</td>
<td></td>
<td>• Network in your career interest area.</td>
</tr>
</tbody>
</table>

Term hours subtotal: 16

<table>
<thead>
<tr>
<th>Term 6 77 - 92 Credit Hours Necessary course signified by ⭐</th>
<th>Hours</th>
<th>Minimum Grade</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>⭐ ABS 355: Ecology and Adaptations of Vertebrates OR ABS 430: Watershed Management</td>
<td>3</td>
<td>C</td>
<td>• Students in the Wildlife Track should take ABS 355. Students in the Rangelands/Watershed Track should take ABS 430.</td>
</tr>
<tr>
<td>⭐ BIO 360: Animal Physiology OR ABS 314: Applied Plant Physiology OR ABS 311: Molecular and Cellular Biology</td>
<td>3</td>
<td>C</td>
<td>• Use Handshake to research employment opportunities.</td>
</tr>
<tr>
<td>Upper Division Natural Resource Ecology Track</td>
<td>3</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>Natural Resource Ecology Track</td>
<td>3</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>Upper Division Humanities, Arts and Design (HU) OR Upper Division Social-Behavioral Sciences (SB)</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>⭐ Complete Cultural Diversity in the U.S. (C) AND Global Awareness (G) AND Historical Awareness (H) course(s).</td>
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</tbody>
</table>

Term hours subtotal: 15

<table>
<thead>
<tr>
<th>Term 7 92 - 106 Credit Hours Necessary course signified by ⭐</th>
<th>Hours</th>
<th>Minimum Grade</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>⭐ ABS 490: Applied Biological Sciences Seminar</td>
<td>1</td>
<td>C</td>
<td>• Gather professional references.</td>
</tr>
<tr>
<td>⭐ BIO 340: General Genetics</td>
<td>4</td>
<td>C</td>
<td>• Apply for full-time career opportunities.</td>
</tr>
<tr>
<td>Upper Division Natural Resource Ecology Track</td>
<td>3</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>Complete 2 courses: Upper Division Elective</td>
<td>6</td>
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</table>

Term hours subtotal: 14

<table>
<thead>
<tr>
<th>Term 8 106 - 120 Credit Hours Necessary course signified by ⭐</th>
<th>Hours</th>
<th>Minimum Grade</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>⭐ ABS 479: Ecosystem Management and Planning (L)</td>
<td>3</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>Upper Division Elective OR ABS 484: Internship</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Complete 2 courses: Upper Division Elective</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Complete 2 courses: Elective</td>
<td>4</td>
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</tr>
</tbody>
</table>

Term hours subtotal: 14
### General Track (12 Credits)

- ABS 270: Sustainable Biological Systems
- ABS 312: Structure and Function
- ABS 376: Wildlife Ecology
- ABS 378: Animal Nutrition
- ABS 380: Restoration and Wildlife Plants
- ABS 384: Natural Resources Measurements
- ABS 394: Comparative Immunology
- ABS 394: Unseen Life on Earth
- ABS 434: Soil Ecology
- ABS 440: Ecological Restoration Techniques
- ABS 441: Ecological Restoration Practicum
- ABS 470: Life History of Mammals
- ABS 472: Applied Herpetology
- ABS 473: Applied Ornithology
- ABS 474: Riparian Ecosystem Management
- ABS 475: Habitat Management for Small Wildlife
- ABS 476: Big Game Habitat Management
- ABS 477: Applied Ornithology
- ABS 478: Riparian Ecosystem Management
- ABS 479: Riparian Ecosystem Management
- ABS 481: Riparian and Wetland Restoration
- ABS 482: Riparian and Wetland Restoration
- ABS 483: GIS in Natural Resources
- ABS 484: GIS in Natural Resources
- ABS 485: GIS in Natural Resources
- ABS 486: Introduction to Remote Sensing
- ABS 487: Undergraduate Research
- ABS 488: Undergraduate Research
- ABS 489: Undergraduate Research
- ABS 490: Undergraduate Research
- ABS 491: Undergraduate Research
- ABS 492: Undergraduate Research
- ABS 493: Undergraduate Research
- ABS 494: Emerging Infections & Epidemics
- ABS 495: Emerging Infections & Epidemics
- ABS 496: Emerging Infections & Epidemics
- ABS 497: Emerging Infections & Epidemics
- ABS 498: Emerging Infections & Epidemics
- ABS 499: Emerging Infections & Epidemics

### Wildlife Track (12 Credits)

- ABS 270: Sustainable Biological Systems
- ABS 376: Wildlife Ecology
- ABS 378: Animal Nutrition
- ABS 380: Restoration and Wildlife Plants
- ABS 384: Natural Resources Measurements
- ABS 472: Applied Herpetology
- ABS 473: Applied Ornithology
- ABS 474: Riparian Ecosystem Management
- ABS 475: Habitat Management for Small Wildlife
- ABS 476: Big Game Habitat Management
- ABS 477: Applied Ornithology
- ABS 478: Riparian Ecosystem Management
- ABS 479: Riparian Ecosystem Management
- ABS 481: Riparian and Wetland Restoration
- ABS 482: Riparian and Wetland Restoration
- ABS 483: GIS in Natural Resources
- ABS 484: GIS in Natural Resources
- ABS 485: GIS in Natural Resources
- ABS 486: Introduction to Remote Sensing
- ABS 487: Undergraduate Research
- ABS 488: Undergraduate Research
- ABS 489: Undergraduate Research
- ABS 490: Undergraduate Research
- ABS 491: Undergraduate Research
- ABS 492: Undergraduate Research
- ABS 493: Undergraduate Research
- ABS 494: Emerging Infections & Epidemics
- ABS 495: Emerging Infections & Epidemics
- ABS 496: Emerging Infections & Epidemics
- ABS 497: Emerging Infections & Epidemics
- ABS 498: Emerging Infections & Epidemics
- ABS 499: Emerging Infections & Epidemics

### Rangeland and Watershed Track (12 Credits)

- ABS 270: Sustainable Biological Systems
- ABS 376: Wildlife Ecology
- ABS 378: Animal Nutrition
- ABS 380: Restoration and Wildlife Plants
- ABS 384: Natural Resources Measurements
- ABS 425: Soil Classification and Management
- ABS 434: Soil Ecology
- ABS 440: Ecological Restoration Techniques
- ABS 441: Ecological Restoration Practicum
- ABS 442: Riparian Ecosystem Management
- ABS 443: Riparian Ecosystem Management
- ABS 444: Riparian Ecosystem Management
- ABS 445: Riparian Ecosystem Management
- ABS 446: Riparian Ecosystem Management
- ABS 447: Riparian Ecosystem Management
- ABS 448: Riparian Ecosystem Management
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- ABS 451: Riparian Ecosystem Management
- ABS 452: Riparian Ecosystem Management
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- ABS 462: Riparian Ecosystem Management
- ABS 463: Riparian Ecosystem Management
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- ABS 465: Riparian Ecosystem Management
- ABS 466: Riparian Ecosystem Management
- ABS 467: Riparian Ecosystem Management
- ABS 468: Riparian Ecosystem Management
- ABS 469: Riparian Ecosystem Management
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- ABS 496: Riparian Ecosystem Management
- ABS 497: Riparian Ecosystem Management
- ABS 498: Riparian Ecosystem Management
- ABS 499: Riparian Ecosystem Management

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**Notes:**
- Students must complete a minimum of 12 credit hours of science courses offered by the College of Integrative Sciences and Arts. Select from ABS, CHM, BIO, PHY, and MIC prefixes.

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**General University Requirements Legend**

**General Studies Core Requirements:**
- Literacy and Critical Inquiry (L)
- Mathematical Studies (MA)
- Computer/Statistics/Quantitative Applications (CS)
- Humanities, Arts and Design (HU)
- Social-Behavioral Sciences (SB)
- Natural Science - Quantitative (SQ)
- Natural Science - General (SG)

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**Total Hours:** 120  
**Upper Division Hours:** 45 minimum  
**Major GPA:** 2.00 minimum  
**Cumulative GPA:** 2.00 minimum  
**Total hrs at ASU:** 30 minimum  
**Hrs Resident Credit for Academic Recognition:** 56 minimum  
**Total Community College Hrs:** 64 maximum
• Historical Awareness (H)

First-Year Composition

General Studies designations listed on the major map are current for the 2018 - 2019 academic year.