FORESTRY - BS

The Department of Ecology and Conservation Biology provides one of the most advanced educational opportunities available for developing leaders in the management, conservation and restoration of the world’s diverse forests. Students seeking to study forestry in this department are interested in solving problems related to protecting forest biodiversity, providing wood, water, recreation and wildlife for a growing society, and contributing to the advancement of knowledge about forests. Resolving today’s forest management issues requires a broad education in the biological, physical and social sciences, a solid understanding of the methods used to integrate information from many fields and to solve problems, and an in-depth knowledge of the sophisticated tools and techniques that are an essential part of modern forestry. Curriculum in the Department of Ecology and Conservation Biology incorporates these ideas so that motivated and capable students can become competent forest and resource management professionals and scientists.

Forests cover one-third of the land area of the United States. The products and services derived from forests, and the scenic beauty they provide, have contributed to the well-being of the American people since the founding of this country. These benefits range from lumber and paper to recreation and biological diversity. Forests also are renewable. Under proper stewardship, they yield products and biodiversity indefinitely. Proper management of forests, which is the responsibility of the professional forester, results in healthy, productive forests that are capable of serving human needs and providing a quality environment in rural or urban settings.

The primary objective of the Department of Ecology and Conservation Biology is to educate students in the scientific management of forest resources. Students select a course of study best suited to their educational and career goals. Students also receive help from faculty advisors in their areas of interest. The total number of credit hours required for a degree is 120.

Program Requirements

First Year
Fall
AGEC 105 Introduction to Agricultural Economics 3
ESSM 201 Exploring Ecosystem Science and Management 1
ESSM 203 Forest Trees of North America 3
Communication (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#communication) 3

Spring
CHEM 119 Fundamentals of Chemistry I 4
ESSM 281 Seminar in Ecosystem Science and Management 1
American history (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#american-history) 3

Semester Credit Hours 14

Second Year
Fall
ESSM 309 Forest Ecology 3
ESSM 351/RENR 405 Geographic Information Systems for Resource Management 3
Select one of the following: 4
BIOL 101 Botany
BIOL 113 Essentials in Biology
HORT 201 & HORT 202 Horticultural Science and Practices Laboratory
Mathematics (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#mathematics)

Emphasis area elective 3

Semester Credit Hours 16

Spring
ESSM 300 Field Studies in Forest Ecosystems 3
ESSM 301 Wildland Watershed Management 3
ESSM 313 Vegetation Sampling Methods and Designs in Ecosystems 3
Government/Political science (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#government-political-science)

Emphasis area elective 3

Semester Credit Hours 15

Summer
SCSC 301 Soil Science 4

Third Year
Fall
AGEC 350 Environmental and Natural Resource Economics 3
ESSM 319 Principles of Forestry 4
Creative arts (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#creative-arts) 3
Language, philosophy and culture (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#language-philosophy-culture)

Emphasis area elective 3

Semester Credit Hours 16

Spring
ESSM 306 or ESSM 311 Plant Functional Ecology and Adaptation or Biogeochemistry and Global Change 3
ESSM 310 Forest Tree Improvement and Regeneration 3

Semester Credit Hours 15
<table>
<thead>
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<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>ESSM 406</td>
<td>Natural Resources Policy</td>
<td>3</td>
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<tr>
<td>ESSM 481</td>
<td>Senior Seminar</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Emphasis area elective 2</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Emphasis area elective 2</td>
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<tr>
<td></td>
<td>General elective</td>
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<tr>
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<td>Semester Credit Hours</td>
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### Fall

**esen 307** | Forest Protection                                 | 3            |
| ESSM 324   | Forest Measurements                               | 2            |
| ESSM 405   | Forest Resource Assessment and Management         | 3            |
|            | Emphasis area elective 2                         | 3            |
|            | General elective                                 | 2            |
|            | Semester Credit Hours                            | 13           |

### Spring

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>ESSM 405</td>
<td>Forest Resource Assessment and Management</td>
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<tr>
<td>ESSM 481</td>
<td>Senior Seminar</td>
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<td></td>
<td>Emphasis area elective 2</td>
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<td></td>
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<td>Semester Credit Hours</td>
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**Total Semester Credit Hours** 120

1. Graduation requirements include a requirement for 3 hours of International and Cultural Diversity (http://catalog.tamu.edu/undergraduate/general-information/degree-information/international-cultural-diversity-requirements/) courses and 3 hours of Cultural Discourse (http://catalog.tamu.edu/undergraduate/general-information/degree-information/cultural-discourse-requirements/) courses. A course satisfying a Core category, a college/department requirement, or a free elective can be used to satisfy this requirement. See academic advisor.

2. To be selected from an approved list in consultation with an advisor.

3. Credit by examination may be used to substitute 3 hours of POLS 206 or POLS 207.