RENEWABLE NATURAL RESOURCES - BS

Overview

Professional Fields of Study and Department Heads
Ecosystem Science and Management, Cliff Lamb, Interim Head
Recruitment, Park and Tourism Sciences, Gary D. Ellis, Head
Wildlife and Fisheries Sciences, John B. Carey, Head

General Statement

Three departments offer degrees in specific areas of natural resources management and conservation. Students may select one of these degree programs or a broad approach to natural resource education by pursuing the multi-department degree in Renewable Natural Resources.

Renewable Natural Resources

Renewable Natural Resources (RENR) is for students desiring a rigorous education in the study and management of sustainable ecosystems for a wide variety of resource values. The RENR program of study is comprised of a core of courses and two emphases. The goal of this core/emphasis structure is to provide students with an identity as a renewable natural resources specialist while, at the same time, affording the flexibility for preparation for a variety of career tracks. One emphasis focuses on management and the other on policy. Technical electives prepare the students in chosen educational and career directions. The underlying goal of the RENR degree is to integrate the scientific issues of renewable natural resources. Graduates of this program will be able to articulate these issues verbally and in writing in their chosen career. Therefore, the RENR degree emphasizes verbal presentations and major papers as well as field-oriented activities.

The RENR programs are designed to help students prepare for careers in public and private organizations associated with the planning and use of natural resources and the environment. Possible employment includes areas such as multi-use land management, environmental assessment, resource inventory, natural resource planning, law, policy analysis and land remediation.

An emphasis may be selected in policy or management. The RENR degree consists of 120 credit hours: 42 university core, 42-45 common to both emphasis areas and 24-27 designated by the emphasis area and 9 free elective hours.

RENR Areas of Emphasis

The BS in Renewable Natural Resources includes two emphasis areas for students to select. The directed electives available from advisors are what differentiates the emphases.

Management Emphasis

Designed for an education in the scientific management of integrated natural resources. In today’s world, it is important to have college graduates prepared to deal with integrated systems, accounting for all of the separate aspects of the system. The management emphasis seeks to prepare the student to integrate concerns related to land, water, air, plants and wildlife into the management process. Students select 24 credit hours of directed electives from an approved list in consultation with their advisor. The remaining 9 credit hours are free electives.

Policy Emphasis

Designed for students desiring an education in natural resources policy. This emphasis incorporates knowledge from all renewable natural resources disciplines, which provides a foundation for decision-making related to the environment. Students will obtain an understanding of the behavior of institutions and organizations associated with natural resource management.

Professionals associated with natural resources need to consider legislative mandates, community interests, resource evaluation and competing uses, and conflict management techniques. This emphasis prepares the student for work in private industry, public and non-profit agencies, and graduate school. Students must select 24 hours of restricted electives from an approved list in consultation with their advisor. The remaining nine hours are free electives.

Program Requirements

First Year

**Fall**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Semester Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESSM 102</td>
<td>Introduction to Natural Resources and Ecosystem Management</td>
<td>4</td>
</tr>
<tr>
<td>ESSM 201</td>
<td>Exploring Ecosystem Science and Management</td>
<td>3</td>
</tr>
<tr>
<td>WFSC 101</td>
<td>Introduction to Wildlife and Fisheries</td>
<td>3</td>
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Select one of the following:

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<th>Semester Credit Hours</th>
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</thead>
<tbody>
<tr>
<td>AGEC 105</td>
<td>Introduction to Agricultural Economics</td>
<td>3</td>
</tr>
<tr>
<td>RENR 205</td>
<td>Fundamentals of Ecology</td>
<td>4</td>
</tr>
<tr>
<td>&amp; RENR 215</td>
<td>Fundamentals of Ecology--Laboratory</td>
<td>1</td>
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</tbody>
</table>

**Spring**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Semester Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 119</td>
<td>Fundamentals of Chemistry I</td>
<td>4</td>
</tr>
<tr>
<td>ESSM 281</td>
<td>Seminar in Ecosystem Science and Management</td>
<td>1</td>
</tr>
</tbody>
</table>

Select one of the following:

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<tbody>
<tr>
<td>Communication [link]</td>
<td>[link]</td>
<td>3</td>
</tr>
<tr>
<td>Mathematics [link]</td>
<td>[link]</td>
<td>3</td>
</tr>
</tbody>
</table>

1. An emphasis may be selected in policy or management.
### Second Year

#### Fall
- **ESSM 318** | Coupled Social and Ecological Systems | 3
- Select one of the following: 3-4
  - **SCSC 301** | Soil Science |
  - **ESSM 306** | Plant Functional Ecology and Adaptation |
  - **ESSM 311** | Biogeochemistry and Global Change |
  - **WFSC 414** | Ecology of Lakes and Rivers |
  - **WFSC 428** | Wetland Ecosystem Management |
- **American history** (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#american-history) | 3
- **Mathematics** (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#mathematics) | 3
- **Emphasis area elective** | 2

#### Semester Credit Hours
- 15

#### Spring
- **ESSM 301** | Wildland Watershed Management | 3
- **ESSM 313** | Vegetation Sampling Methods and Designs in Ecosystems | 3
- **ESSM 320** | Ecosystem Restoration and Management or Ecology of the Coastal Zone | 3
- **Government/Political science** (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#government-political-science) | 3
- **Emphasis area elective** | 3

#### Semester Credit Hours
- 15

#### Summer
- Select one of the following: 4
  - **ESSM 484** | Internship |
  - **RPTS 484** | Internship |
  - **WFSC 484** | Internship |

#### Semester Credit Hours
- 3

### Third Year

#### Fall
- **ESSM 351** or **RENR 405** | Geographic Information Systems for Resource Management | 3
- Select one of the following: 3
  - **AGEC 350** | Environmental and Natural Resource Economics |
  - **ESSM 406** | Natural Resources Policy |
  - **RENR 470** | Environmental Impact Assessment |
  - **WFSC 303** | Fish and Wildlife Laws and Administration |

### Fourth Year

#### Fall
- **ESSM 481** or **WFSC 481** | Senior Seminar or Seminar | 1
- **RENR 375** | Conservation of Natural Resources | 3
- **Emphasis area elective** | 2
- **General elective** | 3

#### Semester Credit Hours
- 13

#### Spring
- **RENR 410** | Ecosystem Management | 4
- **Emphasis area elective** | 2
- **General elective** | 3
- **General elective** | 2

#### Semester Credit Hours
- 15

#### Total Semester Credit Hours
- 120

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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. Select in consultation with an academic advisor.

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

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

4. Students will complete an internship, study abroad or independent research experience.