BIOENVIRONMENTAL SCIENCES - BS

Major breakthroughs are taking place locally, regionally and globally concerning environmental awareness. Environmental hazards take many forms, including microbial threats, toxic wastes and the indirect impact of man's activities on a fragile ecosystem. As a result, there is a growing recognition that the solutions to environmental problems require innovative multi-disciplinary perspectives and technologically-intensive approaches. The Bioenvironmental Sciences curriculum (BESC) was designed in consultation with numerous industry representatives in order to comply with the most current thinking on the talents needed for tomorrow's environmental fields. Students will be prepared for a breadth of career choices in the environmental sciences. These choices include such areas as research and development, environmental consulting, remediation of wastes, site assessment and environmental sampling, and environmental law. Graduates from BESC find employment in federal, state and municipal environmental agencies; in industries concerned with the generation and clean-up of hazardous wastes; with environmental advocacy and educational groups. In addition, the strong science base in BESC prepares students for professional and graduate schools in a variety of disciplines.

The curriculum described combines a foundation of required courses of technical and free electives to allow the student the maximum flexibility to design a personalized course of study. Students are advised to focus on an area of emphasis with those electives that come from such categories as conservation/ecology, policy/ethics/regulations, the physical environment, engineering, plant studies, genetics/biotechnology and general environmental. The Department of Plant Pathology and Microbiology also supports the extracurricular activities needed to support a successful environmental professional.

Program Requirements

First Year

Fall

BESC 201 Introduction to Bioenvironmental Sciences 3
Biol 111 Introductory Biology I 4
or Biol 101 or Botany 4
ECCB 205 Fundamentals of Ecology 3
ECCB 215 Fundamentals of Ecology–Laboratory 1
Social and behavioral sciences (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#social-behavioral-sciences) 3

Spring

BIOL 112 Introductory Biology II 4
or BIOL 107 or Zoology 4
Communication (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#communication) 3
Government/Political science (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#government-political-science) 3

Second Year

Fall

CHEM 119 Fundamentals of Chemistry I 4
PLPA 301 Plant Pathology 3
PLPA 303 Plant Pathology Laboratory 1
Government/Political science (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#government-political-science) 3
Bioenvironmental group elective 3

Spring

CHEM 120 Fundamentals of Chemistry II 4
American history (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#american-history) 3
Creative arts (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#creative-arts) 3
Bioenvironmental group elective 3
Technical elective 3

Third Year

Fall

Select one of the following:

CHEM 222 & CHEM 242 Elements of Organic and Biological Chemistry and Elementary Organic Chemistry Laboratory

CHEM 227 & CHEM 237 Organic Chemistry I and Organic Chemistry Laboratory

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
Technical elective 3
General elective 3

Spring

GENE 310 Principles of Heredity 3
Mathematics (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#mathematics) 3
Bioenvironmental group elective 3
Technical elective 3
General elective 3

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<tr>
<th>Semester Credit Hours</th>
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<tr>
<td>Want more information about the Bioenvironmental Sciences program? Please contact the Office of the Chairperson of the Department of Plant Pathology and Microbiology at 1-800-944-7732.</td>
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### Fourth Year

#### Fall

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<td>STAT 201</td>
<td>Elementary Statistical Inference</td>
<td>3</td>
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<td>STAT 301</td>
<td>Introduction to Biometry</td>
<td>3</td>
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<tr>
<td>STAT 302</td>
<td>Statistical Methods</td>
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<td>STAT 303</td>
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<td><a href="http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#communication">Link</a></td>
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<tr>
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<td>Technical elective</td>
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**Semester Credit Hours** 16

#### Spring

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<td>BESC 484</td>
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<tr>
<td>General elective</td>
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**Semester Credit Hours** 13

**Total Semester Credit Hours** 120

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1. Graduation requirements include a requirement for 3 hours of International and Cultural Diversity [Link](http://catalog.tamu.edu/undergraduate/general-information/degree-information/international-cultural-diversity-requirements/) courses and 3 hours of Cultural Discourse [Link](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. Select 18 hours from: BESC 204, BESC 311, BESC 314, BESC 320, BESC 357, BESC 367, BESC 401, BESC 402, BESC 403, BESC 411, BESC 481, BESC 489, SCSC 405, Other courses approved by advisor.