|  |
| --- |
| For Academic Affairs and Research Use Only |
| Proposal Number | SM03 |
| CIP Code:  |  |
| Degree Code: |  |

**Program Modification Form**

**[ X ] Undergraduate Curriculum Council**

**[ ] Graduate Council**

|  |
| --- |
| **Modification Type: [ ]Admissions, [ X ]Curricular Sequence, or [ ]Other**  |

Signed paper copies of proposals submitted for consideration are no longer required. Please type approver name and enter date of approval.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|

|  |  |
| --- | --- |
| Virginie Rolland  | 12/20/2022 |

**Department Curriculum Committee Chair** |

|  |  |
| --- | --- |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Enter date |

**COPE Chair (if applicable)** |
|

|  |  |
| --- | --- |
| Stephen J. Mullin | 12/20/2022 |

**Department Chair**  |

|  |  |
| --- | --- |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Enter date |

**Head of Unit (if applicable)**   |
|

|  |  |
| --- | --- |
| John Hershberger | 1/23/2023 |

**College Curriculum Committee Chair** |

|  |  |
| --- | --- |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Enter date |

**Undergraduate Curriculum Council Chair** |
|

|  |  |
| --- | --- |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Enter date |

**Director of Assessment** *(only for changes impacting assessment)* |

|  |  |
| --- | --- |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Enter date |

**Graduate Curriculum Committee Chair** |
|

|  |  |
| --- | --- |
| Jennifer L. Bouldin | 1/27/2023 |

**College Dean** |

|  |  |
| --- | --- |
| Len Frey | 2/22/2023 |

**Vice Chancellor for Academic Affairs** |
|

|  |  |
| --- | --- |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Enter date |

**General Education Committee Chair (if applicable)**   |  |

1. **Contact Person** (Name, Email Address, Phone Number)

Mullin; smullin@astate.edu; x3082

1. **Proposed Change** (for undergraduate curricular changes please provide an 8-semester plan (appendix A), if applicable)

The following changes are needed for the BS degree in Environmental Sciences:

1. Add BIO 4613 (Conservation Biology) and PSSC 2813 and 2811 (Soils w/ lab) to the Major Requirements section.
2. Under the Major Requirements section, add a choice option for statistics, “Select 1 of the following” to include either BIO 4043 (Biometry) or STAT 3233 (Applied Statistics), to satisfy the statistics requirement for this degree track.
3. Change the phrasing within the lists of courses available in each of the focus areas, such that labs are required with their respective lectures: BIO 3013 and 3011 (Genetics w/ lab), BIO 4373 and 4371 (Animal Ecology w/ lab – this course is currently subject to a modification request, BIO 4374 – Behavioral Ecology), and CHEM 4243 and 4241 (Biochemistry w/ lab).
4. In the lists of courses available in each of the focus areas, add the following as an acceptable option in the Agriculture/Sustainability Focus: GEOG 4623 (Environmental Management).
5. In the Electives section, stated requirement should be 6 semester credit hours of upper-level courses in any subject area (3000- or 4000-level, with any prefix).
6. **Effective Date**

AY23-24

1. **Justification –** *Please provide details as to why this change is necessary.*

These changes will accomplish the following goals:

1. Provide better alignment of the BS-ESCI degree with the core requirements for other undergraduate majors in the Dept. of Biological Sciences, plus adds required courses that increases student breadth of understanding in conservation of biological and geological resources (increasingly important elements of this field, especially in the Delta region).
2. Correct the lack of concordance between the course requirements of this emphasis area as stated in the Bulletin and the DegreeWorks certification platform.
3. Provide an accurate representation of the courses that the departments contributing to this degree are able to offer during a typical rotation of upper-level courses (based on existing personnel in the dept.).
4. Correctly couple lecture and lab components for certain courses such that students are properly trained in the content area.
5. Minimize the number of course substitution requests needed in order to allow students to graduate in a timely fashion.

None of these changes alter the required number of credit hours in gen.ed./core, or lower-level core. None of these changes alter the number of credit hours that must be completed within any given focus area. These changes are simply needed to correctly reflect the options available to the student, as well as increase their content-area knowledge specific to the discipline.

**Bulletin Changes**

|  |
| --- |
| **Instructions**  |
| **Please visit** [**http://www.astate.edu/a/registrar/students/bulletins/index.dot**](http://www.astate.edu/a/registrar/students/bulletins/index.dot) **and select the most recent version of the bulletin. Copy and paste all bulletin pages this proposal affects below. Please include a before (with changed areas highlighted) and after of all affected sections.** **\*Please note: Courses are often listed in multiple sections of the bulletin. To ensure that all affected sections have been located, please search the bulletin (ctrl+F) for the appropriate courses before submission of this form.**  |

Because the AY22-23 version of the Bulletin is not available in .pdf format, it is impossible to cut/paste pages that would accurately reflect the changes. All of the changes have already been discussed with representatives from the Registrar’s office, and are described above in a manner that will enable correct programming within Banner and DegreeWorks. The concerned sections of the [Environmental Science, BS webpage](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+science&returnto=search) within the online Bulletin is presented below in its current version, followed by the version with the needed insertions/changes.

**Before:**

## MAJOR REQUIREMENTS:

* [BIOL 1063 - People and the Environment](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+sciences&returnto=search) **Sem. Hrs:** **3**
* [BIO 1303 - Biology of Animals](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+sciences&returnto=search) **Sem. Hrs:** **3**
* [BIO 1301 - Biology of Animals Laboratory](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+sciences&returnto=search) **Sem. Hrs:** **1**
* [BIO 2013 - Biology of the Cell](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+sciences&returnto=search) **Sem. Hrs:** **3**
* [BIO 2011 - Biology of the Cell Laboratory](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+sciences&returnto=search) **Sem. Hrs:** **1**
* [BIO 3023 - Principles of Ecology](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+sciences&returnto=search) **Sem. Hrs:** **3**
* [BIO 3673 - Human Dimensions of Natural Resources](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+sciences&returnto=search) **Sem. Hrs:** **3**
* [BIO 4021 - Biological Seminar](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+sciences&returnto=search) **Sem. Hrs:** **1**
* [BIO 4643 - Environmental Biology](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+sciences&returnto=search) **Sem. Hrs:** **3**
* [BIO 4641 - Environmental Biology Laboratory](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+sciences&returnto=search) **Sem. Hrs:** **1**
* [CHEM 1023 - General Chemistry II](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+sciences&returnto=search) **Sem. Hrs:** **3**
* [CHEM 1021 - General Chemistry II Laboratory](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+sciences&returnto=search) **Sem. Hrs:** **1**
* [CHEM 3103 - Organic Chemistry I](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+sciences&returnto=search) **Sem. Hrs:** **3**
* [CHEM 3101 - Organic Chemistry I Laboratory](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+sciences&returnto=search) **Sem. Hrs:** **1**
* [CHEM 3113 - Organic Chemistry II](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+sciences&returnto=search) **Sem. Hrs:** **3**
* [CHEM 3111 - Organic Chemistry II Laboratory](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+sciences&returnto=search) **Sem. Hrs:** **1**
* [MATH 2214 - Calculus II](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+sciences&returnto=search) **Sem. Hrs:** **4**
* [PHYS 2034 - University Physics I](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+sciences&returnto=search) **Sem. Hrs:** **4**
* [PHYS 2044 - University Physics II](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+sciences&returnto=search) **Sem. Hrs:** **4**
* [STAT 3233 - Applied Statistics I](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+sciences&returnto=search) **Sem. Hrs:** **3**

###

### Focus Areas

**Choose any of the courses below among the five focus areas. Students can choose to stay within one focus area, or may take courses from any focus area depending on interest and career aspirations:**

#### Biology Focus

* [BIO 3013 - Genetics](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+sciences&returnto=search) **Sem. Hrs:** **3**
* [BIO 3011 - Genetics Laboratory](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+sciences&returnto=search) **Sem. Hrs:** **1**
* [BIO 4083 - Evolution](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+sciences&returnto=search) **Sem. Hrs:** **3**
* [BIO 4104 - Microbiology](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+sciences&returnto=search) **Sem. Hrs:** **4**
* [BIO 4333 - Marine Biology](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+sciences&returnto=search) **Sem. Hrs:** **3**
* [~~BIO 4373 - Animal Ecology~~](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+sciences&returnto=search)**~~Sem. Hrs:~~****~~3~~**
* [~~BIO 4371 - Animal Ecology Laboratory~~](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+sciences&returnto=search)**~~Sem. Hrs:~~****~~1~~**
* [BIO 4623 - Environmental Microbiology](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+sciences&returnto=search) **Sem. Hrs:** **3**
* [BIO 4633 - Environmental Toxicology Mechanisms and Impacts](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+sciences&returnto=search) **Sem. Hrs:** **3**

####

#### Chemistry Focus

* [CHEM 3054 - Quantitative Analysis](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+sciences&returnto=search) **Sem. Hrs:** **4**
* [CHEM 3153 - Survey of Physical Chemistry](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+sciences&returnto=search) **Sem. Hrs:** **3**
* [CHEM 4043 - Environmental Chemistry](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+sciences&returnto=search) **Sem. Hrs:** **3**
* [CHEM 4243 - Biochemistry](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+sciences&returnto=search) **Sem. Hrs:** **3**
* [CHEM 4241 - Biochemistry Laboratory](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+sciences&returnto=search) **Sem. Hrs:** **1**

####

#### Agriculture / Sustainability Focus

* [AGRI 4223 - Agriculture and the Environment](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+sciences&returnto=search) **Sem. Hrs:** **3**
* [CE 3263 - Introduction to Environmental Engineering](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+sciences&returnto=search) **Sem. Hrs:** **3**
* [GEOG 4613 - Conservation of Natural Resources](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+sciences&returnto=search) **Sem. Hrs:** **3**
* [PSSC 4813 - Soil Fertility](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+sciences&returnto=search) **Sem. Hrs:** **3**

####

#### Geospatial Focus

* [AGST 3543 - Fundamentals of GIS/GPS](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+sciences&returnto=search) **Sem. Hrs:** **3**
* [AGST 4543 - Understanding Geographic Information Systems](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+sciences&returnto=search) **Sem. Hrs:** **3**
* [AGST 4773 - Remote Sensing](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+sciences&returnto=search) **Sem. Hrs:** **3**
* [GEOG 3723 - Introduction to Physical Geography Weather and Climate](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+sciences&returnto=search) **Sem. Hrs:** **3**

####

#### Economic / Policy / Social Focus

* [ECON 4363 - Global Environmental Policies](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+sciences&returnto=search) **Sem. Hrs:** **3**
* [GEOG 4113 - Water Resources Planning](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+sciences&returnto=search) **Sem. Hrs:** **3**
* [PHIL 4733 - Environmental Ethics](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+sciences&returnto=search) **Sem. Hrs:** **3**
* [POSC 4633 - Environmental Law and Administration](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+sciences&returnto=search) **Sem. Hrs:** **3**

### Sub-total: ~~72~~

## ELECTIVES:

* Electives **Sem. Hrs: ~~9~~**

**After:**

MAJOR REQUIREMENTS:

* [BIOL 1063 - People and the Environment](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+sciences&returnto=search) **Sem. Hrs:** **3**
* [BIO 1303 - Biology of Animals](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+sciences&returnto=search) **Sem. Hrs:** **3**
* [BIO 1301 - Biology of Animals Laboratory](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+sciences&returnto=search) **Sem. Hrs:** **1**
* [BIO 2013 - Biology of the Cell](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+sciences&returnto=search) **Sem. Hrs:** **3**
* [BIO 2011 - Biology of the Cell Laboratory](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+sciences&returnto=search) **Sem. Hrs:** **1**
* [BIO 3023 - Principles of Ecology](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+sciences&returnto=search) **Sem. Hrs:** **3**
* [BIO 3673 - Human Dimensions of Natural Resources](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+sciences&returnto=search) **Sem. Hrs:** **3**
* **BIO 4613 – Conservation Biology Sem. Hrs: 3**
* [BIO 4021 - Biological Seminar](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+sciences&returnto=search) **Sem. Hrs:** **1**
* [BIO 4643 - Environmental Biology](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+sciences&returnto=search) **Sem. Hrs:** **3**
* [BIO 4641 - Environmental Biology Laboratory](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+sciences&returnto=search) **Sem. Hrs:** **1**
* [CHEM 1023 - General Chemistry II](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+sciences&returnto=search) **Sem. Hrs:** **3**
* [CHEM 1021 - General Chemistry II Laboratory](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+sciences&returnto=search) **Sem. Hrs:** **1**
* [CHEM 3103 - Organic Chemistry I](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+sciences&returnto=search) **Sem. Hrs:** **3**
* [CHEM 3101 - Organic Chemistry I Laboratory](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+sciences&returnto=search) **Sem. Hrs:** **1**
* [CHEM 3113 - Organic Chemistry II](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+sciences&returnto=search) **Sem. Hrs:** **3**
* [CHEM 3111 - Organic Chemistry II Laboratory](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+sciences&returnto=search) **Sem. Hrs:** **1**
* [MATH 2214 - Calculus II](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+sciences&returnto=search) **Sem. Hrs:** **4**
* [PHYS 2034 - University Physics I](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+sciences&returnto=search) **Sem. Hrs:** **4**
* [PHYS 2044 - University Physics II](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+sciences&returnto=search) **Sem. Hrs:** **4**
* PSSC 2811 – Soils Laboratory **Sem. Hrs: 1**
* PSSC 2813 – Soils **Sem. Hrs: 3**

Choose one of the following:

* BIO 4043 – Biometry **Sem. Hrs: 3**
* [STAT 3233 - Applied Statistics I](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+sciences&returnto=search) **Sem. Hrs:** **3**

### Focus Areas

**Choose any of the courses below among the five focus areas to total at least 19 semester credit hours. Students can choose to stay within one focus area, or may take courses from any focus area depending on interest and career aspirations:**

#### Biology Focus

* [BIO 3013 - Genetics](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+sciences&returnto=search) **Sem. Hrs:** **3 *AND***
* [BIO 3011 - Genetics Laboratory](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+sciences&returnto=search) **Sem. Hrs:** **1**
* [BIO 4083 - Evolution](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+sciences&returnto=search) **Sem. Hrs:** **3**
* [BIO 4104 - Microbiology](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+sciences&returnto=search) **Sem. Hrs:** **4**
* [BIO 4333 - Marine Biology](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+sciences&returnto=search) **Sem. Hrs:** **3**
* [~~BIO 4373 - Animal Ecology~~](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+sciences&returnto=search)**~~Sem. Hrs:~~****~~3~~**
* [~~BIO 4371 - Animal Ecology Laboratory~~](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+sciences&returnto=search)**~~Sem. Hrs:~~****~~1~~**
* [BIO 4623 - Environmental Microbiology](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+sciences&returnto=search) **Sem. Hrs:** **3**
* [BIO 4633 - Environmental Toxicology Mechanisms and Impacts](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+sciences&returnto=search) **Sem. Hrs:** **3**
* **BIO 4374 – Behavioral Ecology Sem. Hrs: 4**

#### Chemistry Focus

* [CHEM 3054 - Quantitative Analysis](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+sciences&returnto=search) **Sem. Hrs:** **4**
* [CHEM 3153 - Survey of Physical Chemistry](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+sciences&returnto=search) **Sem. Hrs:** **3**
* [CHEM 4043 - Environmental Chemistry](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+sciences&returnto=search) **Sem. Hrs:** **3**
* [CHEM 4243 - Biochemistry](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+sciences&returnto=search) **Sem. Hrs:** **3 *AND***
* [CHEM 4241 - Biochemistry Laboratory](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+sciences&returnto=search) **Sem. Hrs:** **1**

#### Agriculture / Sustainability Focus

* [AGRI 4223 - Agriculture and the Environment](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+sciences&returnto=search) **Sem. Hrs:** **3**
* [CE 3263 - Introduction to Environmental Engineering](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+sciences&returnto=search) **Sem. Hrs:** **3**
* [GEOG 4613 - Conservation of Natural Resources](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+sciences&returnto=search) **Sem. Hrs:** **3**
* **GEOG 4623 – Environmental Management Sem. Hrs: 3**
* [PSSC 4813 - Soil Fertility](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+sciences&returnto=search) **Sem. Hrs:** **3**

#### Geospatial Focus

* [AGST 3543 - Fundamentals of GIS/GPS](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+sciences&returnto=search) **Sem. Hrs:** **3**
* [AGST 4543 - Understanding Geographic Information Systems](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+sciences&returnto=search) **Sem. Hrs:** **3**
* [AGST 4773 - Remote Sensing](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+sciences&returnto=search) **Sem. Hrs:** **3**
* [GEOG 3723 - Introduction to Physical Geography Weather and Climate](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+sciences&returnto=search) **Sem. Hrs:** **3**

#### Economic / Policy / Social Focus

* [ECON 4363 - Global Environmental Policies](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+sciences&returnto=search) **Sem. Hrs:** **3**
* [GEOG 4113 - Water Resources Planning](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+sciences&returnto=search) **Sem. Hrs:** **3**
* [PHIL 4733 - Environmental Ethics](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+sciences&returnto=search) **Sem. Hrs:** **3**
* [POSC 4633 - Environmental Law and Administration](https://catalog.astate.edu/preview_program.php?catoid=3&poid=703&hl=environmental+sciences&returnto=search) **Sem. Hrs:** **3**

### Sub-total: 75

## ELECTIVES:

Electives must be 3000- or 4000-level **Sem. Hrs: 6**

**Appendix A, 8-Semester Plan**

(**Referenced in #2** - **Undergraduate Proposals Only)**

*Instructions: Please identify new courses in italics*.

|  |
| --- |
| **Arkansas State University-Jonesboro****Degree: Bachelor of Science****Major: Environmental Sciences****Year: 2023-2024** |
| Students requiring developmental course work based on low entrance exam scores (ACT, SAT, ASSET, COMPASS) may not be able to complete this program of study in eight (8) semesters. Developmental courses do not count toward total degree hours. **Students having completed college level courses prior to enrollment will be assisted by their advisor in making appropriate substitutions. In most cases, general education courses may be interchanged between semesters.** A minimum of 45 hours of upper division credit (3000-4000 level) is required for this degree. |
| **Year 1** |  | **Year 1** |
| **Fall Semester** |  | **Spring Semester** |
| **Course No.** | **Course Name** | **Hrs** | **Gen Ed** |  | **Course No.** | **Course Name** | **Hrs** | **Gen Ed** |
| BIO 1013 | Making Connections : Biology | 3 |  |  | BIO 1503 | Biology of Plants  | 3 |  |
| BIO 1303 | Biology of Animals | 3 |  |  | BIO 1501 | Biology of Plants Lab  | 1 |  |
| BIO 1301 | Biology of Animals Lab | 1 |  |  | CHEM 1013 | General Chemistry I  | 3 | X |
| ENG 1003 | Composition I | 3 | X |  | CHEM 1011 | General Chemistry I Lab  | 1 | X |
| MATH 2204  | Calculus I | 4 | x |  | ENG 1013 | Composition II | 3 | x |
|  |  |  |  |  | MATH 2214 | Calculus II | 4 |  |
| **Total Hours** |  | 14 |  |  | **Total Hours** |  | 15 |  |
| **Year 2** |  | **Year 2** |
| **Fall Semester** |  | **Spring Semester** |
| **Course No.** | **Course Name** | **Hrs** | **Gen Ed** |  | **Course No.** | **Course Name** | **Hrs** | **Gen Ed** |
| BIO 2013 | Biology of the Cell | 3 | X |  | BIO 1063 | People & the Environment | 3 |  |
| BIO 2011 | Biology of the Cell Lab | 1 | X |  | CHEM 3103 | Organic Chemistry I  | 3 |  |
| CHEM 1023 | General Chemistry II  | 3 |  |  | CHEM 3101 | Organic Chemistry I Lab  | 1 |  |
| CHEM 1021 | General Chemistry II Lab | 1 |  |  | PHYS 2044 | University Physics II | 4 |  |
| PHYS 2034 | University Physics I | 4 |  |  |  | Social Science  | 3 | X |
|  | Social Science | 3 | x |  |  |  |  |  |
| **Total Hours** |  | 15 |  |  | **Total Hours** |  | 14 |  |
| **Year 3** |  | **Year 3** |
| **Fall Semester** |  | **Spring Semester** |
| **Course No.** | **Course Name** | **Hrs** | **Gen Ed** |  | **Course No.** | **Course Name** | **Hrs** | **Gen Ed** |
| BIO 3673 | Human Dimensions of Natural Resources | 3 |  |  | BIO 3023 | Principles of Ecology | 3 |  |
| CHEM 3113 | Organic Chemistry II  | 3 |  |  | PSSC 2813 | Soils | 3 |  |
| CHEM 3111 | Organic Chemistry II Lab  | 1 |  |  | PSSC 2811 | Soils Lab | 1 |  |
|  | Focus Area elective | 3 |  |  | BIO 4043 | Biometry | 3 |  |
| SCOM 1203 | Oral Communication | 3 | x |  |  | Focus Area elective | 3 |  |
|  | Fine Arts Elective | 3 | X |  |  | History (to/since 1876) or American Government | 3 | x |
| **Total Hours** |  | 16 |  |  | **Total Hours** |  | 16 |  |
| **Year 4** |  | **Year 4** |
| **Fall Semester** |  | **Spring Semester** |
| **Course No.** | **Course Name** | **Hrs** | **Gen Ed** |  | **Course No.** | **Course Name** | **Hrs** | **Gen Ed** |
| BIO 4643 | Environmental Biology | 3 |  |  | BIO 4021 | Biological Seminar  | 1 |  |
| BIO 4641 | Environmental Biology Lab | 1 |  |  | BIO 4613 | Conservation Biology | 3 |  |
|  | Focus Area elective | 3 |  |  |  | Focus Area elective w/ lab | 4 |  |
|  | Focus Area elective | 3 |  |  |  | Focus Area elective | 3 |  |
|  | Humanities elective | 3 | X |  |  | Elective | 3 |  |
|  | Elective | 3 |  |  |  |  |  |  |
| **Total Hours** |  | 16 |  |  | **Total Hours** |  | 14 |  |
| **Total Jr/Sr Hours 50\_\_\_ Total Degree Hours 120\_\_\_** |
| **Graduation Requirements:** |