Environmental Science, BS

Students pursuing a BS in Environmental Science typically have interests in the environment, enjoy outdoor recreation, and appreciate science. The Environmental Science curriculum ensures all of our students have a solid foundation in physical and life sciences and environmental data collection and analysis. Our students will all have hands-on experiences using science to address environmental issues. The curriculum also allows some flexibility so students can tailor the upper-level electives to their own specific interests.

Environmental Science majors have the option to earn a concentration in Natural Resources and Ecosystem Conservation. This concentration follows a more narrowly focused curriculum for students that have specific interests in natural resources management.

Admission into the Major

Students are expected to formally declare a major no later than the fourth semester of full-time enrollment (or at 61 semester hours for transfer students). Students may declare a major by completing the Change of Major/Minor Application online under the Student tab of myBama.

BS Environmental Science

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<tr>
<th>Code and Title</th>
<th>Hours</th>
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**Core Hours**

Select one of the following: 4

- BSC 114 Principles Of Biology I
  & BSC 115 Laboratory Biology I
  or
  BSC 118 Honors General Biology I

Select one of the following: 4

- BSC 116 Principles Biology II
  & BSC 117 Biology II Laboratory
  or
  BSC 120 Honors Gen Biology II

BSC 385 Ecology and Evolution 3

Select one of the following: 4-5

- CH 101 or General Chemistry
  - CH 117 Honors General Chemistry
  or
  CH 100 General Chemistry I - Plus

Select one of the following: 4

- CH 102 or General Chemistry
  - CH 118 Honors General Chemistry

GY 101 Atmospheric Proc & Patterns 4

Select one of the following: 4

- GY 102 or Earth Surface Processes
  - GEO 101 The Dynamic Earth

GEO 105 Sustainable Earth 4

GY 204 Map & Air Photo Interpretation 4

Select one of the following: 3

- GY 339 Natural Resource Envirmn Plang
- GY 441 Land Use Regulations
- GY 452 Environ Decision Making
- GY 453 Environment & Society
- GY 462 Land Use Science

GY 420 or Remote Sensing I (Select one of the following):
  GY 430 Intro Geographic Info Systems

Select one of the following:
  ST 260 or Statistical Data Analysis
  PY 211 Elem Statistical Methods

**Upper Division Electives**

Select 16 hours (see below) 16

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Select one of the following:

- MATH 125 or Calculus I
- MATH 145 Honors Calculus I

**Ancillary Courses**

Grades in ancillary courses are not computed into the major GPA. The major in environmental science requires the successful completion of the following course outside the major:

- MATH 125 or Calculus I 4

**Total Hours** 61-62

Upper Division Electives

Students earning the BS in Environmental Science must complete an additional 16 hours of upper-division electives from the following courses:

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- GY 302 Climatology 3
- GY 363 Geomorphology 3
- GY 385 Watershed Management Plan Development 3
- GY 404 Physical Geography Seast Us 3
- GY 405 Dir Res Physical Geog 1-3
- GY 409 Forest History and Restoration 4
- GY 412 Hydroclimatology 3
- GY 413 Applied Climatology 3
- GY 414 Climate Change and Health 3
- GY 415 The Geography of Extinctions and Endangered Species 3
- GY 444 Field Studies In Africa 6
- GY 450 Field Studies in Belize 6
- GY 454 Costa Rica Field Studies: Tropical Ecology, Conservation, and Development 4
- GY 470 Special Topics 3
- GY 472 Soil Science 4
- GY 477 Water Resources Management 3
- GY 483 Environment Science Internship 3-9
- GY 485 River Hydrology 3
- GY 486 Watershed Dynamics 3
- GY 489 Forest Ecology Veg Analy 4
- GY 491 Fluvial Geomorphology 3
- GY 492 Eastern Forest Communities 4
- GY 494 Forest Measurement & Methods 4
- GY 496 Forest Ecosystems 4
- GEO 306 Hydrogeology 3
- GEO 363 Geomorphology 3
- GEO 399 Undergraduate Research 1-6
Grade Point Average
A 2.0-grade point average in the major is required for completion of the degree. Please see the Grades and Grade Points section of this catalog for an explanation of grade point average calculations.

Upper-level Residency
A minimum of 12 hours of 300- and 400-level courses in the major must be earned on this campus.

Required Minor
The environmental science major does not require a minor.

Additional Major Requirements
Students are responsible for ensuring that they have met all University, College, major and minor requirements. However, each student must meet with an adviser in the major department for academic planning and to be approved for registration each semester. College advisers are also available for additional assistance with minor, College, and University requirements.

Natural Resources and Ecosystem Conservation Concentration

Required courses
EC 110 Principles of Microeconomics 3
COM 123 Public Speaking 3
PHL 292 Introduction to Ethics 3
EN 319 Technical Writing 3
GY 339 Natural Resource Envirmn Plang 3

General Management and Planning Course (Choose 1) 3
GY 452 Environ Decision Making
GY 453 Environment & Society
GY 441 Land Use Regulations
GY 462 Land Use Science

Thematic Management and Planning Course (Choose 2) 6-8
GY 385 Watershed Management Plan Development
GY 409 Forest History and Restoration
GY 415 The Geography of Extinctions and Endangered Species
GY 477 Water Resources Management
GY 492 Eastern Forest Communities
GY 496 Forest Ecosystems
BSC 482 Conservation Biology
GE 410 Soil & Groundwater Restoration

Measurements Course (Choose 1) 3-4
GY 488 Digital Terrain and Watershed
GY 494 Forest Measurement & Methods
BSC 380 Intro Stats Biology
BSC 417 Environmental Modeling

Ecological Processes (Choose 2) 6-8
GY 489 Forest Ecology Veg Analy
BSC 303 Field Zoology
BSC 314 Dendrology
BSC 320 Freshwater Studies
BSC 325 Tropical Plant Diversity
BSC 360 Plant Biology
BSC 373 Vertebrate Zoology
BSC 400 Vertebrate Funct Morphol
BSC 412 Limnology
BSC 415 Wetland Ecology
BSC 428 Biology Of Fishes
BSC 434 Plant Systematics
BSC 448 Animal Behavior
BSC 456 Microbial Ecology
BSC 471 Plant Physiology
BSC 472 Mycology
BSC 475 General Entomology
BSC 476 Aquatic Insects
BSC 480 Plant Ecology
BSC 490 Stream Ecology

Earth Surface Processes (Choose 1) 3-4
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**Total Hours**: 36-42

A BS in Environmental Science prepares students for a wide range of employment opportunities in the fields of natural resources management, environmental monitoring and assessment, and environmental education. Students are also prepared to continue their education in graduate schools in a variety of academic fields.

**Types of Jobs Accepted**

**Jobs of Experienced Alumni**
Experienced alumni hold positions such as hydrologist, land manager, forester, planner, consultant, professor, land steward, conservation programs manager, arborist, ecologist, environmental analyst, ranger, silviculturist, senior analyst, environmental coordinator, recycling and green wastes coordinator, realtor, estate manager, guide, outdoor educator, and environmental inspector.

Learn more about opportunities in this field at the Career Center

**Faculty**
**Professor**
Justin Hart