

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

Code and Title	Hours
Core Hours	
Select one of the following:	4
GY 100 or Environmental Science	
GEO 105 Sustainable Earth	
Select one of the following:	4
BSC 114 Principles Of Biology I & BSC 115 and Laboratory Biology I or	
BSC 118 Honors General Biology I	
Select one of the following:	4
BSC 116 Principles Biology II & BSC 117 and Laboratory Biology II or	
BSC 120 Honors Gen Biology II	
BSC 385 Ecology and Evolution	3
Select one of the following:	4-5
CH 100 General Chemistry I - Plus	0 or 5
CH 101 or General Chemistry	
CH 117 Honors General Chemistry	
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	
GY 204 Maps and Spatial Reasoning	4
Select one of the following:	3-4
GY 339 or Natural Resource Environm Plang	
GY 441 Land Use Regulations or	

GY 452 Environ Decision Making or	
GY 453 Environment & Society or	
GY 462 Land Use Science	

Select one of the following: 3-4

GY 420 or Remote Sensing I	
GY 430 Intro Geographic Info Systems	

Select one of the following: 3

ST 260 or Statistical Data Analysis	
PY 211 Elem Statistical Methods or	
BER 345 Educational Statistics	

Upper Division Electives

Select 16 hours (see below) 16

Credit Hours Subtotal: 60-68

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
MATH 145 Honors Calculus I	

Total Hours 64-72

Upper Division Electives

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

Code and Title	Hours
GY 302 Climatology	3
GY 363 Geomorphology	3
GY 385 Watershed Management Plan	3
GY 404 Physical Geography SE US	3
GY 405 Dir Res Physical Geog	1-3
GY 409 Forest Ecosystem Restoration	4
GY 412 Hydroclimatology	3
GY 413 Applied Climatology	3
GY 415 Endangered Species	3
GY 444 Field Studies In Africa	6
GY 449 Field Studies: Ireland	6
GY 450 Field Studies in Belize	6
GY 451 Global Environmental Change	3
GY 454 Field Studies in Costa Rica	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 Science and Managmnt	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
GEO 401	Paleoclimatology	3
GEO 406	Organic Geochemistry	3
GEO 410	Soil & Groundwater Restoration	3
GEO 411	Contaminant Transport	3
GEO 424	Topics In Geology	1-4
BSC 303	Field Zoology	3
BSC 314	Dendrology	3
BSC 315	Genetics	3
BSC 320	Freshwater Studies	4
BSC 325	Tropical Plant Diversity	4
BSC 360	Plant Biology	4
BSC 371	Biology of Lower Plants	4
BSC 373	Vertebrate Zoology	4
BSC 380	Intro Stats Biology	3
BSC 386	General Ecology Lab	3
BSC 398	Undergraduate Research	1-4
BSC 412	Limnology	3
BSC 415	Wetland Ecology	3
BSC 417	Environmental Modeling	3
BSC 428	Biology Of Fishes	4
BSC 434	Plant Systematics	4
BSC 446	Honors Animal Behavior	3
BSC 448	Animal Behavior	3
BSC 456	Microbial Ecology	3
BSC 461	Ecohydrology	3
BSC 464	Biology Of Algae	4
BSC 470	Prin Pop Genetics	3
BSC 471	Plant Physiology	3
BSC 472	Mycology	4
BSC 473	Bioinformatics	3
BSC 475	General Entomology	4
BSC 476	Aquatic Insects	4
BSC 480	Plant Ecology	3
BSC 481	Adv Biostatistics with R	3
BSC 482	Conservation Biology	3
BSC 483	Evolution	3
BSC 484	Aquatic Biology Seminar	1
BSC 490	Stream Ecology	4
BSC 497	Special Topics	1-4
BSC 465	Prin Of Toxicology	3
BSC 487	Biogeography	3

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 **Hours**

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 Environm 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
GY 409	Forest Ecosystem Restoration
GY 415	Endangered Species
GY 477	Water Resources Management
GY 492	Eastern Forest Communities
GY 496	Forest Ecosystems
BSC 482	Conservation Biology
GEO 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 448	Animal Behavior	
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
GY 363	Geomorphology	
GY 472	Soil Science	
GY 485	River Hydrology	
GY 486	Watershed Science and Managmnt	
GY 491	Fluvial Geomorphology	
BSC 461	Ecohydrology	
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

Recent graduates have accepted positions with the US Forest Service, US Geological Survey, Alabama Geological Survey, US Bureau of Land Management, National Oceanic and Atmospheric Administration, electric utility holding companies, private consulting firms in natural resources and geotechnical fields, and land trusts and other non-profit agencies.

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