

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
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 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 Envrirn 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: 3

ST 260 or Statistical Data Analysis

PY 211 Elem Statistical Methods

Upper Division Electives

Select 16 hours (see below)

16

Credit Hours Subtotal: 57-58

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

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:

Code and Title	Hours
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

GEO 401	Paleoclimatology	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 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 456	Microbial Ecology	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	Foundations in Advanced Biostatistics with Applications to 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 448	Animal Behavior	3
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 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	
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 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

GY 363	Geomorphology
GY 404	Physical Geography Seast Us
GY 472	Soil Science
GY 485	River Hydrology
GY 486	Watershed Dynamics
GY 491	Fluvial Geomorphology
GEO 306	Hydrogeology

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

Faculty

Professor

Justin Hart