

# ENVIRONMENTAL RESOURCES, B.S.

## Juneau

The Bachelor of Science in Environmental Resources integrates and synthesizes courses in environmental science, climate change, physical and biological sciences, geographic information sciences, and human-environment interactions. This degree provides students with an interdisciplinary background in geospatial science and Earth system processes and prepares students for science-based careers in environmental research, management, and consulting as well as graduate studies in related fields of geography and environmental science. Senior practicum courses serve as integrating capstone experiences that enable students to apply what they have learned in real-world settings.

## Admission Requirements

Students are admitted to the program after declaring an Environmental Resources major and will then be assigned an academic advisor. Students should consult with their advisor for course selection and sequencing.

Candidates must complete all UAS General Education Requirements (GERs) (<http://catalog.uas.alaska.edu/general-education-requirements/>), the Alaska Native Knowledge Graduation Requirement (<http://catalog.uas.alaska.edu/certificate-degree-programs/bachelors-degrees/#alaskanativeknowledgegraduationrequirementtext>), and the specific program requirements listed below for a minimum of 120 credit hours. Major requirements can be used to satisfy the Lab Natural Science, Non-lab Natural Science, and Math GERs. 42 of the 120 credit hours must be at the upper-division level (300 or above), of which 24 must be completed at UAS.

Requirement	Hours
<b>Minimum Credit Hours</b>	<b>120</b>
General Education Requirements	36
Alaska Native Knowledge Graduation Requirement	3
Program on the Environment Core	9
Major Requirements	23
Interdisciplinary and Field Courses	6
Human Environment	6
Environmental Processes	14
Quantitative and Geographic Analysis	8
Electives	30

Code	Title	Credits
<b>General Education Requirements</b>		
Complete all General Education Requirements. The Lab Natural Science, Non-lab Natural Science, and Math GERs are satisfied by degree requirements.		36

## Program on the Environment Core

ENVI S120	*Cultures and Environments	3
ENVS S102	*Earth and Environment (satisfies Lab Science GER)	4

Select at least two credits of capstone experience:

ENVS S491	Environmental Science Internship	
ENVS S492	Environmental Science Seminar	
ENVS S498	Research in Environmental Science	

## Major Requirements

ENVI S313	Sustainable Resource Management	3
ENVS S338	Introduction to Geographic Information Systems (GIS)	3
ENVS S375	Current Topics in Earth and Ecosystem Research <sup>1</sup>	2
GEOL S320	Mineral, Energy, and Renewable Resources	3
MATH S251	*Calculus I	4
One of the following Science sequences:		8

BIOL S115 & BIOL S116	*Fundamentals of Biology I and *Fundamentals of Biology II	
CHEM S105 & S105L & CHEM S106 & CHEM S106L	*General Chemistry I and General Chemistry I Laboratory and *General Chemistry II and General Chemistry II Laboratory	
PHYS S123 & PHYS S124	*College Physics I and *College Physics II	
PHYS S211 & PHYS S212	*General Physics I and *General Physics II	

## Interdisciplinary and Field Courses

Select six credits of the following:		6
ANS S320	AK Native Ecological Knowledge	3
ENVI S350	Interdisciplinary Perspectives on Climate Change	3
ENVS S475	Field Studies in Environmental Science	1-4
HUM S372	Salmon, Sport, and Society	3
ODS S372	Mountain Studies: Philosophy, Literature, and Practice	4
ODS S373	Ocean Studies: Images of the Environment	4

## Human Environment

Select six credits of the following:		6
ANTH S312	Humans and the Environment	3
ENGL S303	Literature and the Environment	3
ENVI S360	Alaska: A Contested Geography	3
GEOG S390	Critical Geography	3
PHIL S371	Perspectives on the Natural World	3
PS S458	Environmental Politics	3
SOC S404	Environmental Sociology	3

Or other advisor approved courses

### Environmental Processes

Select 14 credits of the following:	14
BIOL S271 Ecology	4
BIOL S373 Conservation Biology	4
BIOL S480 Aquatic Pollution	3
CHEM S350 Environmental Chemistry	4
ENVI S210 Temperate Rainforest Ecosystems	3
ENVS S302 Glaciology	3
ENVS S380 Natural Disasters	3
ENVS S407 Snow Hydrology	4
ENVS S414 Biogeochemistry	3
ENVS S416 Biogeography and Landscape Ecology	4
ENVS S422 Earth's Climate System	3
GEOL S301 Geomorphology	4
GEOL S302 Hydrology	4

### Quantitative and Geographic Analysis

Select eight credits of the following:	8
ENVS S111 Introduction to Differential GPS	1
ENVS S309 Mobile GIS Technology and Applications	2
ENVS S406 Remote Sensing	3
ENVS S410 Advanced Geographic Information Systems	3
MATH S460 Mathematical Modeling	3
STAT S200 *Elementary Statistics	3
STAT S401 Regression and Analysis of Variance	4

### Electives

To include upper division courses as needed to meet 42 upper division credits required for degree.	30
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Students in the Environmental Resources program can:

1. Describe the fundamental Earth system components, their organization, and how they interrelate.
2. Collect and quantitatively analyze environmental data.
3. Convey technical concepts in environmental science to other scientists and the public.
4. Explain how environmental science is incorporated into different professional fields.
5. Relate environmental science to broader societal issues and solutions.
6. Conduct research in an environmental field and/or provide support for environmental resource management.