

INTERDISCIPLINARY CLIMATE SCIENCE - MINOR

This program provides a path for undergraduate students to obtain an interdisciplinary and cross-department education in the science of climate. Students will acquire a foundation in how Earth's climate works, evolves, and impacts other aspects of the Earth and society.

Requirements

Prerequisites

Code	Title	Credit Hours
PHYS 1110	General Physics 1	
or PHYS 1115	General Physics 1 for Majors	
APPM 1350	Calculus 1 for Engineers	
or MATH 1300	Calculus 1	
CHEM 1400	Foundations of Chemistry	
or CHEM 1113	General Chemistry 1	
or CHEN 1201	General Chemistry for Engineers 1	
or CHEN 1211	Accelerated Chemistry for Engineers	

Students must complete 18 credits hours in climate science coursework, including a minimum of 9 upper-division credit hours. All coursework applied to the minor must be completed with a grade of C- or better; no pass/fail work may be applied. The grade point average in all climate science coursework must be equal to 2.0 (C) or higher.

Students may apply no more than 9 credit hours from their major to the climate science minor.

Students may apply no more than 9 credit hours, including 6 upper-division credit hours, of transfer work toward the minor.

Students will select courses from a curated and predetermined menu. All students will take an introductory course (Group 1); then 3 courses in Group 2: Science of Climate, with no more than 2 courses within one of the subgroups (A-C); 1 course from Group 3: Quantitative Methods; and 1 course from Group 4: Climate Impacts and Solutions.

Required Courses and Credits

Code	Title	Credit Hours
Group 1: Introductory Course		
Choose one of the following:		3
ATOC 1060	Our Changing Environment: El Nino, Ozone, and Climate	
GEOL 1060		
ATOC 2050	Introduction to Atmospheric Research	
Group 2: Science of Climate		
3 courses from Group 2, with at least 1 courses from 2 different subgroups (A-C)		9-11
<i>Group 2A: Air and Water</i>		
ASTR 3720	Planets and Their Atmospheres	
ATOC 3070	Introduction to Oceanography	
ATOC 3300	Analysis of Climate and Weather Observations	

or GEOG 3301	Analysis of Climate and Weather Observations	
ATOC 3600	Principles of Climate	
or ENVS 3600	Principles of Climate	
or GEOG 3601	Principles of Climate	
ATOC 4770	Renewable Energy Meteorology	
ATOC 4730	Physical Oceanography and Climate	
GEOG 4271	The Arctic Climate System	
<i>Group 2B: Ice, Land, and Past Climate</i>		
ATOC 4780	Ice Sheets and Climate	
GEOG 4261	Glaciers and Permafrost	
GEOL 3040		
GEOL 4070	Paleoclimatology	
GEOL 4341		
GEOL 4675	Stable Isotopes in Paleoclimate and Paleoecology	
<i>Group 2C: The Impact of Climate on Earth's Environment</i>		
GEOG 1001	Our Changing Planet: Climate and Vegetation	
EBIO 3170	Mountain Ecology and Conservation	
GEOG 2271	Introduction to the Arctic Environment	
GEOG 4241	Earth Surface Processes	
or GEOL 4241		
Group 3: Quantitative Methods		
Choose one course from Group 3		3-4
ASTR 2600	Introduction to Scientific Programming	
ATOC 4815	Scientific Programming, Data Analysis and Visualization Laboratory	
GEOL 3600		
PHYS 2600	Introduction to Programming and Scientific Computing	
STAT 2600	Introduction to Data Science	
Group 4: Climate Impacts and Solutions		
Choose one course from Group 4:		3
ANTH 1155	Exploring Global Cultural Diversity (Anthropology of Climate Change)	
ATLS 3173	Creative Climate Communication	
or ENVS 3173	Creative Climate Communication	
or THTR 4173		
EBIO 3523	The Art and Strategy of Science Communication: Branding Climate Change	
ENVS 3022	Climate and Energy Justice	
ENVS 3520	Energy and Climate Change: An Interdisciplinary Approach	
or GEOL 3520		
ENVS 3525	Intermediate Environmental Problem Analysis: Topical Cornerstones (Confronting Environmental Racism)	
ENVS 3621	Energy Policy and Society	
ENVS 4030	Sociology of Climate Change	
or SOCY 4030	Sociology of Climate Change	

GEOG 1982 Global Geographies: Societies, Places,
Connections

Total Credit Hours

18-21

Learning Outcomes

Upon completing the program, students will understand and be able to articulate:

- How climate works.
- How the climate has evolved and how we know this.
- How climate impacts Earth's landscapes and environments.
- How the changing climate impacts society.