

Geography H410
Global Climate and Environmental Change (GCEC)
An Undergraduate Honors Course
Professor Ellen Mosley-Thompson

Description of and Goals for Geography H410

This 5-credit hour class is intended for honors (and scholars if space allows) students who wish to learn more about (1) how Earth's climate system works, (2) how human activities are now affecting both the climate and their environment, (3) how anthropogenic factors are likely to change over the 21st century and (4) possible solutions with the potential to create a more sustainable Earth for all its inhabitants.

The course is designed to provide students the opportunity to experience the excitement of scientific inquiry while learning more about a contemporary topic that cuts across all physical, social, political and economic boundaries. The course meets two GEC requirements and provides an opportunity for students to learn about the science of climate change (often called climate science) from a framework in which the concepts are accessible to both science and to non-science majors.

Students will learn the basics of climate science. What factors govern the character of the climate regimes on Earth? How has Earth's climate changed in the past? How is our climate changing now, both regionally and globally? How are human activities contributing to these changes and thus, modifying our environment? Are there viable solutions that might mitigate ongoing impacts? How can individual actions make a difference in both the short and the longer term? The goal is to excite students about a critical global-scale problem and prepare them to become involved in the design and implementation of solutions.

The class will be taught in a combination lecture / seminar format and is designed to familiarize students with the "scientific method." Assigned readings on current climate and environmental issues reported in *Science* and *Nature* are used to highlight how scientists identify problems, and design approaches to solve them and how they report their results once the study has reached a publishable stage. The course will provide experience conducting literature-based research, preparing papers, presenting a summary of the results and participating in debates. This course includes several campus field trips.

For more information please contact [Dr. Ellen Mosley-Thompson](mailto:thompson.4@osu.edu) (thompson.4@osu.edu).