

Climate Change Certificate

Program Description

Human alteration of Earth's climate is an accepted scientific fact (Anderegg et al., 2010; IPCC, 2007; Oreskes, 2004). As a result of the politicization of the issue and poor communication by the scientific community, the public and private sectors have gained limited knowledge of how the climate system operates, the science of climate change research, and societal impacts of these changes. As the impacts of climate change become more severe over the coming years and decades, companies, government agencies, and non-governmental organizations will be required to adapt and respond to climate change. Scientifically-based, up-to-date knowledge is essential to formulating adaption and response strategies. A certificate in climate change is marketable evidence of this essential knowledge.

This program will provide students with cutting edge knowledge about climate, climate change, impacts and relevance. By taking earning the certificate, the students will:

- Understand the fundamentals of climate systems.
- Understand the fundamentals and scientific background of climate change.
- Understand the science of global warming.
- Learn about mitigation and adaptation strategies for dealing with climate change.
- Learn how climate change permeates nearly every aspect of our lives.

This certificate would be valuable to a wide range of career options including but not limited to:

- land managers, governmental employees, environmental and social equity advocates, and environmental consultants;
- local, state, and federal government administrators;
- natural and geological science researchers, scientists, planners, and policy-makers; as well as
- individuals looking to be better global citizens by understand the science behind climate change.

Program Curriculum

All Program Courses

All courses for the certificate must be taken for a letter grade and completed with a C or better

Required

- ATMOS 5400 The Climate System (3.0) **-OR-**
- GEOG 5205 Regional and Global Climates (3.0)
- **-AND-**
- GEOG 5210 Global Climate Change (3.0)
- GEOG 5215 Climate Change and Its Impacts (3.0)

Sub-Total 9

3 Elective Courses

- ATMOS 3100 Atmospheric Chemistry & Air Pollution (3.0)
- ATMOS 3200 Mountain Weather and Climate (3.0)
- BIOL 3440/3460 Global Change Ecology/ Global Issues (3.0)
- BIOL 5440 Urban Ecology (3.0)
- BIOL 5490 Ecosystem Ecology (3.0)
- ENVST 3365 Environmental Justice (3.0)
- GEO 3300 Water Planet (3.0)
- GEOG 5090 Medical Geography (3.0)
- GEOG 5270 Biogeography: Global Patterns of Life (4.)
- GEOG 5275 Vegetation and Climate Change (3.0)
- GEOG 5375 Sustainable Transportation (3.0)
- GEOG 5410 Paleoclimatology (3.0)
- GEOG 5460 Popular Literature on Climate Change (3.0)
- COMM 5365 Communicating Climate Change (3.0)
- GEO 5675 Paleoclimate Reconstruction (3.0)

Sub-Total (minimum) 9

Certificate Total 18-19 credits

Model Schedule

The core courses are offered so that the sequence can be completed in 3 semesters (fall, spring, fall sequence). Electives may be taken throughout the sequence, however we advise that they be taken after the initial core course has been completed.

Semester 1

Fall (first core course)

- GEOG 5205: Regional and Global Climates
- *or*
- ATMOS 5400: The Climate System

Semester 2

Spring (second core course + 1 elective)

- GEOG 5210: Global Climate Change
- XXXX: Elective 1

Semester 3

Fall (third core course + 2 electives)

- GEOG 5215: Climate Change and Its Impacts
- XXXX: Elective 2
- XXXX: Elective 3

Students that declare a certificate with the Geography Advisor should be aware that the certificate will NOT show up on their CIS page with their other degree declarations. For all questions, scheduling, and declaring: book an advising appointment with the Geography undergraduate advisor by clicking the "Book Now" bubble on the Home page.

It is the responsibility of the student to submit an Application for Certificate Completion form for any and all certificates pursued through the Geography Department during the student's last semester before graduation (or during the last semester of coursework to complete the certificate for non-matriculated students or students who have already graduated). The Certificate Completion form can be picked up in the Geography Main Office or from the Geography Advisor and must be submitted to the Geography Advisor before grades are posted.

The Certificate is mailed to the address shown on the student's CIS page. It is the student's responsibility to make sure the mailing address on their CIS page is correct. It can take up to 90 days after grades are posted for the certificate to be mailed to the student. The certificate is mailed from the Graduation Division at the University of Utah.

