

CLIMATE CHANGE, CERTIFICATE

Climate change represents one of the most controversial and least understood threats to human, economic and environmental well-being on a global scale. The study of climate change offers an opportunity to develop the skills and effective policies to reduce risk and better adapt to a changing environment. In this 4-course, 4 course unit certificate you gain an understanding of the Earth's climate system and how and why it has changed over time. Within the disciplines of oceanic and atmospheric science, you focus on the mechanisms that drive climate change, both natural and the result of human actions. You also develop the communication skills to more effectively share an understanding of climate change and its relevant policy implications with a broad audience.

Penn LPS Online courses in the Certificate in Climate Change are offered on an accelerated (8-week) schedule. Courses in the certificate program are largely asynchronous with some optional synchronous sessions to be scheduled by the instructors. For more information about specific course dates, please visit the Course Schedule (<https://lpsonline.sas.upenn.edu/academics/course-schedule/>) page.

You have the option to enroll in individual courses without committing to the entire certificate, enjoying the flexibility and expertise offered by Penn LPS Online to suit your schedule and interests.

For more information: <https://lpsonline.sas.upenn.edu/academics/certificates/climate-change> (<https://lpsonline.sas.upenn.edu/academics/certificates/climate-change/>)

The Certificate in Climate Change prepares you to:

- Reconstruct the history and scales of climate changes
- Learn basic atmospheric and ocean dynamics to understand fundamental climatic processes and future changes
- Examine the mechanisms that act to drive climate change
- Analyze long-term natural climate variability on a global and regional scale
- Understand the importance of natural environmental change as a benchmark against which to assess human impacts, recent climate change, and future environmental change
- Deepen insights into methods of scientific inquiry
- Refine communication skills to effectively share an understanding of climate change, with a focus on both science and policy implications

Curriculum

Students must complete all four course from the list below to earn a Certificate in Climate Change.

Code	Title	Course Units
Climate Change Certificate		
CLCH 1600	Oceanography	1
CLCH 2200	Atmospheric Science	1
CLCH 2300	Climate Change	1

CLCH 3000	Communicating Science	1
Total Course Units		4

Courses are subject to change.

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2022 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.