Climate Science

Climate Science Minor

Climate science has immense importance for society and is central to the fundamental understanding of Earth and other planets. The minor in Climate Science provides undergraduates from a broad range of majors with a coherent program of study in the fundamental mechanisms that control planetary climate. Human-caused climate change is a major emphasis, but students can additionally choose to focus on the much larger range of climate states that have occurred in Earth's past or that exist on other planets. Although the socioeconomic impacts of climate variability, the political systems that govern human interaction with climate, and the technology to remediate human-caused climate change are all important topics, this minor retains focus on the basic scientific processes that govern climate.

Worldwide, many students who pursue graduate study in the atmosphere, ocean, and climate sciences come from undergraduate majors in Physics, Chemistry, Math, Biology, or Engineering. Increasingly, students from those and other majors are also doing work in industry and government that requires knowledge of Earth's climate system. The Climate Science minor allows students to continue pursuing a non-Earth Science major while completing and receiving recognition for a coherent program of study in climate.

There is no major in Climate Science; students interested in a relevant major should consider the Atmospheric Science, Environmental Earth Science, or Marine Science majors.

Declaring the Minor

For more information or to declare the Climate Science minor, contact the EPS undergraduate advisor at epsua@berkeley.edu and see the EPS Climate Science Minor Form (https://forms.gle/ZK7nxFyMtzFxowMz6/) for details about the required courses and units. A minor must be declared no later than one semester prior to a student's Expected Graduation Term (EGT). The deadline is the last day of RRR week.

Other Majors and Minors Offered by the Department of Earth and Planetary Science

Atmospheric Science (http://guide.berkeley.edu/archive/2023-24/undergraduate/degree-programs/atmospheric-science/) (Major and Minor)
Environmental Earth Science (http://guide.berkeley.edu/archive/2023-24/undergraduate/degree-programs/environmental-earth-science/) (Major and Minor)
Geology (http://guide.berkeley.edu/archive/2023-24/undergraduate/degree-programs/geology/) (Major and Minor)
Geophysics (http://guide.berkeley.edu/archive/2023-24/undergraduate/degree-programs/geophysics/) (Major and Minor)
Marine Science (http://guide.berkeley.edu/archive/2023-24/undergraduate/degree-programs/marine-science/) (Major and Minor)
Planetary Science (http://guide.berkeley.edu/archive/2023-24/undergraduate/degree-programs/planetary-science/) (Major and Minor)

General Guidelines

1. All minors must be declared before the first day of classes in your Expected Graduation Term (EGT). For summer graduates, minors must be declared prior to the first day of Summer Session A.
2. All upper-division courses must be taken for a letter grade.
3. A minimum of three of the upper-division courses taken to fulfill the minor requirements must be completed at UC Berkeley.
4. A minimum grade point average (GPA) of 2.0 is required in the upper-division courses to fulfill the minor requirements.
5. Courses used to fulfill the minor requirements may be applied toward the Seven-Course Breadth requirement, for Letters & Science students.
6. No more than one upper division course may be used to simultaneously fulfill requirements for a student's major and minor programs.
7. All minor requirements must be completed prior to the last day of finals during the semester in which the student plans to graduate. If students cannot finish all courses required for the minor by that time, they should see a College of Letters & Science adviser.
8. All minor requirements must be completed within the unit ceiling. (For further information regarding the unit ceiling, please see the College Requirements tab.)

Requirements

The Climate Science minor requires students to take an introductory lower-division course and five upper-division courses.

Lower Division Requirements

Choose one of the following:

EPS 7	Introduction to Climate Change	3
EPS 81	Extreme Weather and Climate	3
(Both courses introduce the atmospheric greenhouse effect, radiative feedbacks, and controls on planetary mean temperature.)		

Upper Division Requirements

Select five of the following (at least three must be EPS courses):

EPS 102	History and Evolution of Planet Earth (the prerequisite of EPS 50 is expected to be waived for students who have taken EPS 7 or EPS 81 and introductory physics and calculus)	4
EPS C180	Air Pollution	3
EPS C181	Atmosphere, Ocean, and Climate Dynamics	3
EPS C182	Atmospheric Chemistry and Physics Laboratory	3
EPS C183/ ESPM C170	Carbon Cycle Dynamics	3
EPS 115	Stratigraphy and Earth History	4
EPS 124	Isotopic Geochemistry	4
EPS/ESPM C129	Biometeorology	3
EPS 103	Introduction to Aquatic and Marine Geochemistry	4
GEOG 142	Global Climate Variability and Change	4
GEOG 143	Global Change Biogeochemistry	3
GEOG 185	Earth System Remote Sensing	3
ENE,RES 102	Quantitative Aspects of Global Environmental Problems	4
CIV ENG 107	Climate Change Mitigation	3

EPS 229	Introduction to Climate Modeling (graduate level course, can be taken with permission of instructor)	3
EPS 230	Radiation and Its Interactions with Climate (graduate level course, can be taken with permission of instructor)	3
EPS C242	Glaciology (graduate level course, can be taken with permission of instructor)	4