



Program on Climate Change
UNIVERSITY OF WASHINGTON

Interested in learning about climate from many different angles? The climate minor guides you through an exploration of the science of climate through coursework in oceanography, atmospheric sciences, earth and space sciences and beyond. The minor was envisioned and is supported by the UW Program on Climate Change in the College of the Environment. Take a look at the courses required and contact us to identify your pathway.

For more information visit: <https://pcc.uw.edu/education/undergraduate-minor/>

Subscribe to the list serve: <https://mailman13.u.washington.edu/mailman/listinfo/climateminor>

Climate Minor Advising and information:
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Requirements in brief:

1. Core climate course (3-5 cr) and skills course (3-5 cr); 2. Integrative capstone course (3 cr) 3. Science Electives (at least 12 cr) 4. Applications Elective (to reach a total of 25 cr). More detail below.

CORE COURSEWORK (6–10 credits) (notes on most recent or planned quarter shown; classes in *italics* currently require exception be made by an advisor)

One of...

- ESS 201: The Earth System and Climate (3) Spr 2019
Prerequisites: MATH 124 or 144, or Q SCI 291
- ATM S 211: Climate and Climate Change (5) Spr 2018, Aut 2018
Prerequisites: None
- ATM S 321: Science of Climate (3) Spr 2018
Prerequisites: 2.0 in MATH 124 & 125 & 126, and 2.0 in PHYS 121 & 122 & 123

One of...

- OCEAN/FISH 452: Spatial Information Technology in Ecosystem Sciences (3) Aut 2018
Prerequisites: None
- AMATH 301: Beginning Scientific Computing (4) Aut, Win, Spr
Prerequisites: MATH 125 or 135, or Q SCI 292
- Q SCI 381: Introduction to Probability and Statistics (5) Aut, Win, Spr, Summer
Prerequisites: MATH 120, 124, 125, or 126, or Q SCI 190 or 291
- STAT 311: Elements Of Statistical Methods (5) Aut, Win, Spr, Summer
Prerequisites: MATH 120, 124, 125, or 126, or Q SCI 190
- CSE 160: Data Programming (4) Spr 2018, Win 2019
Prerequisites: None
- OCEAN 215: Ocean Data Analysis (4) Aut 2018
Prerequisite: MATH 125

INTEGRATIVE CAPSTONE EXPERIENCE

- ATM S/ESS/OCEAN 475: Current Research in Climate Science Seminar (3) Win 2019
Prerequisites: ESS 201 OR ATM S 211 or 321

SCIENCE ELECTIVES: At least one course from each of ATM S, ESS, and OCEAN. (minimum 12 credits). See next page for list.

APPLICATION ELECTIVE: One approved social science, policy, or energy course to reach 25 credits. See next page for list.

APPROVED SCIENCE ELECTIVES, students must take at least one course from each of ATM S, ESS, and OCEAN for at least 12 credits.

Atmospheric Sciences (one class)

- ATM S 301: Introduction to Atmospheric Sciences (5) Aut 2018
Prerequisites: 2.0 in PHYS 121, 122, & 123, AND 2.0 in MATH 124, 125, & 126
- ATM S 340: Introduction to Thermodynamics and Cloud Processes (3) Win 2019
Prerequisites: ATM S 301
- ATM S 341: Atmospheric Radiative Transfer (3) Spr 2018
Prerequisites: ATM S 301
- ATM S 350: *Ecological Climatology* (3) Aut 2018
Prerequisites: None, Recommended: MATH 120 or equivalent; and either PHYS 114; PHYS 115; PHYS 116, or PHYS 121; PHYS 122; PHYS 123
- ATM S 370: Atmospheric Structure and Analysis (5) Win 2019
Prerequisites: ATMS 301
- ATM S 380: Weather and Climate Prediction (3) Win 2019
Prerequisites: MATH 126, PHYS 122 & ESS 201 OR ATM S 101, 111, 150, 211, 301, 321
- ATM S 431: Boundary-Layer Meteorology (3) Aut 2018
Prerequisites: PHYS 121, Recommended: ESS 310
- ATM S 358: Fundamentals of Atmospheric Chemistry (3) Spr 2018
Prerequisites: None, Recommended: CHEM 142 & MATH 126 & PHYS 123
- ATM S 458: Global Atmospheric Chemistry (4) Aut 2017
Prerequisites: None, Recommended: MATH 126 & PHYS 124 & ATMS 358 OR CHEM 162
- ATM S 487: Fundamentals of Climate Change (3) Aut 2018
Prerequisites: ATMS 321

Earth and Space Sciences (one class)

- ESS 315/ENVIR 313: Environmental Earth Science (5) Win 2019
Prerequisite: one of ESS 101, ESS 105, ESS 210 OR ESS 211.
- ESS 408: Great Geologic Issues (3) Aut 2017
Prerequisites: None
- ESS 431: Principles of Glaciology (4) Aut 2018
Prerequisites: PHYS 121, Recommended: ESS 310
- ESS 450: Paleobiology (3) Aut 2017
Prerequisites: None
- ESS 433: Environmental Change in the Glacial Ages (5) Spr 2018
Prerequisites: None

Oceanography (one class)

- OCEAN 330: Marine Biogeochemical Cycles (5) Spr 2019
Prerequisites: OCEAN 210; OCEAN 295; BIOL 200.
- OCEAN 409: Marine Pollution (3) Spr 2019
Prerequisite: either OCEAN 200 or OCEAN 250; OCEAN 210.
- OCEAN 423: Ocean Circulation and Climate (3) Spr 2019
Prerequisites: PHYS 123 AND MATH 125, Recommended: OCEAN 210
- OCEAN 450: Climatic Extremes (4) Win 2019
Prerequisites: None

APPLICATION OPTIONS (as needed to complete 25 credits, other courses may be acceptable):

- BIOL 315: Biological Impacts of Climate Change (3) Spr 2018 (difficult to get into if not a Bio student)
Prerequisites: BIOL 180, or B BIO 180, or TESC 120
- CHEM E/M E 341: Energy and Environment (3) Aut 2017
Prerequisites: MATH 112 or 114 OR Q SCI 291, AND CHEM 120 or 142, OR PHYS 114 or 121
- ARCTIC 391 Climate Change - An International Perspective: Science, Art, and Activism (5) Offered: jointly with JSIS B 391, Honors 391; Wi 2018
Prerequisites: None
- ARCTIC 400 Integrating Policy and Science in Arctic Studies (3) I&S/NW Spr 2018
Prerequisites: None
- CHEM E/M E 442: Renewable Energy (4) Win 2018
Prerequisites: ME 323, CHEM E 325, AA 260, or EE 351
- ESRM/ENVIR 362: Introduction to Restoration Ecology (5) Aut 2018
Prerequisites: None
- FISH 464: Arctic Marine Vertebrate Ecology (4) Win 2019 (taught alt years)
Prerequisites: BIOL 180

Other Details:

1. Minimum 2.00 cumulative GPA in courses applied to the minor
2. Minimum 15 credits taken through the UW
3. Minimum 18 credits outside student's major
4. Minimum 15 upper division credits