

ATMOSPHERIC AND OCEANIC SCIENCES - MINOR

The Department of Atmospheric and Oceanic Sciences (ATOC) offers an undergraduate minor for students pursuing a bachelor's degree in another academic department. Students who successfully complete a major at CU Boulder in a quantitative field, such as physics or chemistry, and a minor in ATOC, will be prepared for graduate work in atmospheric and oceanic sciences. The ATOC minor is offered through the College of Arts and Sciences and is noted on the official CU Boulder transcript.

Although the ATOC minor is primarily designed for students who are interested in developing a knowledge base in atmospheric and oceanic sciences with an emphasis on the earth's climate, there is considerable latitude within the minor program for students to design a course of study that is tailored to their individual interests.

Students who wish to declare the ATOC minor should contact the ATOC Undergraduate & Graduate Program Assistant by email at atocasst@colorado.edu or by phone at 303-492-6633. Questions regarding coursework or advising should be directed to the ATOC minor advisor, Dr. Kris Karnauskas, at kristopher.karnauskas@colorado.edu (katja.friedrich@colorado.edu).

Requirements

A minimum of 18 credits is required for the minor, at least 9 of which must be upper-division (see list below). The other 9 may be lower-division, upper-division or a combination of both.

All coursework applied to the minor must be completed with a grade of C- or better; no pass/fail work may be applied. Students must have at least a C (2.00) average for all attempted work in atmospheric and oceanic sciences.

Courses toward a minor may also be applied toward graduation requirements, as well as the major requirements for a non-ATOC major. Students are allowed to apply no more than 9 credit hours, including 6 upper-division credit hours, of transfer work to a minor.

Available Courses

Code	Title	Credit Hours
Lower-Division		
FYSM 1000	First Year Seminar (Stratospheric Explorations)	
ATOC 1050	Weather and the Atmosphere	
ATOC 1060	Our Changing Environment: El Nino, Ozone, and Climate	
ATOC 2050	Introduction to Atmospheric Research	
ATOC 2500	Special Topics in Atmospheric and Oceanic Sciences - Lower Division	
Upper-Division		
ATOC 3050	Principles of Weather	
ATOC/GEOL 3070	Introduction to Oceanography	
ATOC 3180	Aviation Meteorology	
ATOC 3300	Analysis of Climate and Weather Observations	

ATOC 3500/ CHEM 3151	Air Chemistry and Pollution
ATOC/ENVS 3600/ GEOG 3601	Principles of Climate
ATOC 3700	Course-Based ATOC Research Experience
ATOC/ASTR 3720	Planets and Their Atmospheres
ATOC 4200	Biogeochemical Oceanography
ATOC 4215	Descriptive Physical Oceanography
ATOC 4500	Special Topics in Atmospheric and Oceanic Sciences - Upper Division
ATOC 4550	Mountain Meteorology
ATOC 4700	Weather Analysis & Forecasting
ATOC 4710	Introduction to Atmospheric Physics
ATOC 4720	Atmospheric Dynamics
ATOC 4730	Physical Oceanography and Climate
ATOC 4740	Dynamics of Past Climate Changes: Lessons for the Future
ATOC 4750	Desert Meteorology and Climate
ATOC 4760	Physics and Chemistry of Clouds and Aerosols
ATOC 4770	Renewable Energy Meteorology
ATOC 4780	Ice Sheets and Climate
ATOC 4800	Policy Implications of Climate Controversies
ATOC 4815	Scientific Programming, Data Analysis and Visualization Laboratory
ATOC 4830	Remote Sensing Lab
ATOC 4840	Field Observations and Measurements Laboratory
ATOC 4850	Numerical Methods Laboratory
ATOC 4860	Data Science Lab
ATOC 4870	Climate Modeling Laboratory
ATOC 4875	Weather Modeling Laboratory
ATOC 4880	Mesoscale Meteorology
ATOC 4890	Synoptic Dynamic Meteorology
ATOC 4900	Independent Study
ATOC 4950	Honors Thesis
ATOC 4990	Internship