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. Katja Friedrich, at 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

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td><strong>Lower-Division</strong></td>
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<tr>
<td>FYSM 1000</td>
<td>First Year Seminar (Stratospheric Explorations)</td>
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<tr>
<td>ATOC 1050</td>
<td>Weather and the Atmosphere</td>
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<td>ATOC 1060</td>
<td>Our Changing Environment: El Nino, Ozone, and Climate</td>
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<tr>
<td>ATOC 2050</td>
<td>Introduction to Atmospheric Research</td>
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<tr>
<td>ATOC 2500</td>
<td>Special Topics in Atmospheric and Oceanic Sciences - Lower Division</td>
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<tr>
<td><strong>Upper-Division</strong></td>
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<tr>
<td>ATOC 3050</td>
<td>Principles of Weather</td>
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<tr>
<td>ATOC/GEOL 3070</td>
<td>Introduction to Oceanography</td>
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<td>ATOC 3180</td>
<td>Aviation Meteorology</td>
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<tr>
<td>ATOC 3300</td>
<td>Analysis of Climate and Weather Observations</td>
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<tr>
<td>ATOC 3500/ CHEM 3151</td>
<td>Air Chemistry and Pollution</td>
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ATOC/ENVS 3600/ Principles of Climate
GEOG 3601
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