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>Lower-Division</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>Upper-Division</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/ CHM 3150</td>
<td>Air Chemistry and Pollution</td>
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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 |