DEPARTMENT OF
GEOGRAPHY

THE OHIO STATE UNIVERSITY
COLLEGE OF ARTS AND SCIENCES

Atmospheric Sciences (Bachelor of Science)

Requires 121 Minimum Total Credit Hours; 32 Major Credit Hours; GE Requirements;
Declared major between AU22 and SU26. General education requirements for degree completion can be found at https://artsandsciences.osu.edu/advising/general-education-requirements

Major Requirements

Several major courses are offered only one term per year. Careful schedule planning is required to complete course sequences in a timely manner. Note: course references have changed (AU26). Former course references indicated below in italics for current major.

Required Prerequisite or Supplemental Courses:

Prerequisites are specific to courses within the major. There are no prerequisites that must be completed before declaring the Atmospheric Sciences major. A student may declare the major by meeting a Department of Geography academic advisor.

Course	Title	Hours
Math 1151	Calculus I	5
Math 1152	Calculus II	5
Math 2153	Calculus III	4
Math 2255	Differential Equations and Their Applications	3
Physics 1250	Mechanics, Work, Energy, Thermal Physics	5
Physics 1251 >	E&M, Waves, Optics, Modern Physics	5
Chemistry 1210 >	General Chemistry I	5
Statistics 2450.01 >	Introduction to Statistical Analysis I	3

> Indicates supplemental course not required as a prerequisite to any courses in the major

Required Courses: (9 courses/ 26 credit hours)

Course	Title	Hours	Required Prerequisite	Semester Offered
GEOG 5900 **OR** ATMOSSC 2940	Weather, Climate and Global Warming OR Basic Meteorology	3 **OR** 3	None MATH 1151 & PHYSICS 1250	Autumn and Spring Spring Only
ATMOSSC 5201 *(formerly GEOG 5940)*	Weather Observations, Analysis and Forecasting *(formerly Synoptic Meteorology Lab)*	2	GEOG 5900 or ATMOSSC 2940	Spring Only
ATMOSSC 5202 *(formerly GEOG 5941)*	Synoptic Meteorology [2] *(formerly Synoptic Meteorology: Synoptic Analysis and Forecasting)*	3	ATMOSSC 5201 *(GEOG 5940)*, MATH 1151 & PHYSICS 1250	Autumn Only
ATMOSSC 5203 *(formerly GEOG 5942)*	Mesoscale Meteorology[2] *(Formerly Synoptic Meteorology: Severe Storm Forecasting)*	3	ATMOSSC 5202 *(GEOG 5941)*	Spring Only
ATMOSSC 5301 *(formerly GEOG 5921)*	Boundary Layer Meteorology[1] *(formerly Miroclimatology: Boundary Layer Climatology)*	3	ATMOSSC 5201* *(GEOG 5940)* & MATH 1151	Spring Only
ATMOSSC 5302 *(formerly GEOG 5922)*	Measurements in Atmospheric Sciences[3] *(formerly Microclimatology: Microclimatological Measurements)*	3	ATMOSSC 5301 *(GEOG 5921)*	Autumn Only

[1] Indicates a Data Analysis Embedded Literacy (EL) Course; [2] Indicates an Advanced Writing EL Course; and [3] Indicates a Technology EL Course

Course	Title	Hours	Required Prerequisite	Semester Offered
ATMOSSC 5501 *(formerly ATMOSSC 5950)*	Atmospheric Thermodynamics	3	ATMOSSC 5201* *(GEOG 5940)*, MATH 1152 & PHYSICS 1250	Autumn Only
ATMOSSC 5601 *(formerly ATMOSSC 5951)*	Dynamic Meteorology I	3	ATMOSSC 5501 *(ATMOSSC 5950)*, MATH 2153 & PHYSICS 1250	Autumn Only
ATMOSSC 5602 *(formerly ATMOSSC 5952)*	Dynamic Meteorology II	3	ATMOSSC 5601 *(ATMOSSC 5951)* & MATH 2255 **OR** MATH 2174	Spring Only

Elective Courses: Choose two of the following courses (6 credit hours).

Course	Title	Hours	Required Prerequisite
ATMOSSC 4191	Internship in Atmospheric Sciences	1-6	Instructor Approval
ATMOSSC 4998	Research in Atmospheric Sciences	1-9	Instructor Approval
ATMOSSC 4999	Thesis Research	1-9	Instructor Approval
ATMOSSC 5401	Practical Data Processing and Analysis for Atmospheric Sciences[1]	3	GEOG 5900 **OR** ATMOSSC 2940
ATMOSSC 5502	Physical Meteorology	3	ATMOSSC 5501 *(ATMOSSC 5950)* & MATH 2153
ATMOSSC 5940	Introduction to Meteorological Radar Systems, Observations and Techniquies	3	ATMOSSC 5201 *(GEOG 5940)*, 5401, & PHYSICS 1250
ATMOSSC 5701	Field Observations of Severe Convective Storms	3	ATMOSSC 5201 *(GEOG 5940)* and Instructor Approval
ATMOSSC 5901	Climate System Modeling: Basics and Applications	3	GEOG 5900 **OR** ATMOSSC 2940 & GEOG 4911*
GEOG 3597.02	Integrated Earth Systems: Confronting Global Change	3	None
GEOG 3900.01 **OR** GEOG 3900.02 **OR** GEOG 3901H	Global Climate Change: Causes and Consequences **OR** Global Climate Change: Causes and Consequences **OR** Global Climate and Environmental Change	3 **OR** 4 **OR** 3	None None Honors Standing (for 3901H)
GEOG 4911	Earth's Climate: Past and Future	3	None
GEOG 5200	Cartography and Map Design	3	None
GEOG 5210	Fundamentals of Geographic Information Systems	3	None
GEOG 5225	Geographic Applications of Remote Sensing	3	None
EARTHSCI 2206	Principles of Oceanography	3	None
CIVILEN 5130	Applied Hydrology	3	CIVILEN 3160
CIVILEN 5420	Remote Sensing of Environment	3	CIVILEN 2410

**Indicates new course prerequisites implemented for course enrollment AU26 and beyond and [1] Indicates a Data Analysis EL Course*

Major Requirement Notations

The following requirements for the major apply to all Arts and Sciences degrees.

Major requirements comprise at least 30 semester hours and can be substantially higher. Major courses must be at the 2000 level or above. At least 20 hours of the major must be in courses offered by the department of the major. Note: Some interdisciplinary majors are excluded from the 20-hour rule.

Students must earn at least a C- in a course for the course to apply to the major. However, students must receive a 2.0 cumulative grade point average (GPA) for all major course work. If a D+, D, or an E is earned in a course needed for the major, the course cannot be counted on the major. The major advisor will decide if the course should be repeated or if another course should be substituted. Courses taken on a pass/non-pass basis cannot be used on the major.

The department must approve all courses in the major. Some departments require a "major program form," a document that must be signed by the academic advisor and submitted with the graduation application. Some departments do not require such a form because the academic advisors use an automated version on the degree audit report. Some departments require both. In any case, students should meet with the academic advisor early to plan the major; during your meeting, it can be determined whether the department requires a paper major program form. Any changes or adjustments to the major should be made in consultation with the academic advisor.

If a student transferred from another institution, no more than half of the credit hours on the major program may consist of transfer credit. The academic advisor, the chairperson of the department, and the appropriate assistant dean must approve any request for a variation in this policy.

For Honors students, the GE curriculum and major must be approved by the assigned Honors advisor. Information about the honors curriculum and requirements and how to schedule an appointment with an honors advisor is available on the College of Arts and Sciences Honors Program website: http://aschonors.osu.edu/advising. Students will also be assigned a faculty advisor in the department of study to help the student choose courses and co-curricular opportunities that align with academic and professional goals.

For more information about internship and career opportunities, visit the College of Arts and Sciences Career Services Office. Their website is http://asccareerservices.osu.edu/ .