

Atmospheric Sciences (Bachelor of Science)

Requires 121 Minimum Total Credit Hours; 43 Major Credit Hours; GE New Requirements;

Declared major AU26 and beyond. 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.

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 a major in Atmospheric Sciences by meeting with an academic advisor in the Department of Geography.

Course	Title	Hours
GEOG 1900 OR 1900H	Extreme Weather and Climate	4
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 OR 1250H	Mechanics, Work, Energy, Thermal Physics	5
PHYSICS 1251 OR 1250H	E&M, Waves, Optics, Modern Physics	5
CHEM 1210	General Chemistry I	5
STAT 2450.01, OR 2450.02	Introduction to Statistical Analysis I	3

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

Required Courses: (12 courses/ 34 credit hours)

Course	Title	Hours	Required Prerequisite
GEOG 4911	Earth's Climate: Past, Present and Future	3	None
ATMOSSC 5201	Weather Observations, Analysis and Forecasting	2	A grade of C- or above in GEOG 1900OR GEOG 1900H or GEOG 5900
ATMOSSC 5202	Synoptic Meteorology	3	A grade of C- or above in ATMOSSC 5201, MATH 1151, and PHYSICS 1250(H).
ATMOSSC 5203	Mesoscale Meteorology	3	A grade of C- or above in ATMOSSC 5202
ATMOSSC 5301	Boundary Layer Meteorology	3	A grade of C- or above in ATMOSSC 5201 and MATH 1151
ATMOSSC 5302	Measurements in Atmospheric Sciences	3	A grade of C- or above in ATMOSSC 5301
ATMOSSC 5401	Practical Data Processing and Analysis for Atmospheric Sciences	3	A grade of C- or above in GEOG 1900 or GEOG 5900
ATMOSSC 5501	Atmospheric Thermodynamics	3	A grade of C- or above in ATMOSSC 5201, MATH 1152, and PHYSICS 1250 (H)
ATMOSSC 5502	Physical Meteorology	3	A grade of C- or above in ATMOSSC 5501 or equivalent and MATH 2153
ATMOSSC 5601	Dynamic Meteorology I	3	A grade of C- or above in ATMOSSC 5501, MATH 2153, and PHYSICS 1250(H)
ATMOSSC 5602	Dynamic Meteorology II	3	A grade of C- or above in ATMOSSC 5601 and MATH 2255 or 2174
ATMOSSC 4981	Atmospheric Sciences Capstone	2	Senior Standing and enrolled in Atmospheric Sciences major program

Elective Courses: Choose three of the following courses (3 courses / 9 credit hours).

Course	Title	Hours	Required Prerequisite
ATMOSSC 2193	Individual Studies in Atmospheric Sciences	1-9	Instructor permission
ATMOSSC 2194	Group Studies in Atmospheric Sciences	1-3	None
ATMOSSC 4191	Internship in Atmospheric Sciences	1-5	Completion of 12 cr hrs in major program; and CPHR 3.00 or above; and instructor permission
ATMOSSC 4193	Individual Studies in Atmospheric Sciences	1-9	Instructor permission
ATMOSSC 4194	Group Studies in Atmospheric Sciences	1-3	None
ATMOSSC 4998	Research in Atmospheric Sciences	1-9	Instructor permission
ATMOSSC 4999	Thesis Research	1-9	Instructor permission
ATMOSSC 4999H	Honors Thesis Research	1-9	Honors Standing & Instructor permission
ATMOSSC 5450	Introduction to Meteorological Radar Systems, Observations, and Techniques	3	Prereq: A grade of C- or above in ATMOSSC 5201, ATMOSSC 5401, and PHYSICS 1250(H)
ATMOSSC 5701	Field Observations of Severe Convection Storms	2	A grade of C- or above in ATMOSSC 5201 and permission of instructor.
ATMOSSC 5901	Climate System Modeling: Basics and Applications	3	A grade of C- or higher in GEOG 1900(H) or 5900 and GEOG 4911.
GEOG 3900.01 OR GEOG 3900.02	Global Climate Change: Causes and Consequences	3	None
	Global Climate Change: Causes and Consequences	4	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
EARTHSCI 5206	Advanced Oceanography	3	Jr standing or above, and enrollment in any STEM major; or Grad standing; or permission of instructor.
CIVILEN 5130	Applied Hydrology	3	CIVILEN 3160

General Education (NEW) Requirements

Requirement	Course Options	Hours
GE Launch Seminar	GENED 1201	1
Foundations: Writing and Information Literacy	Student Choice	3
Foundations: Mathematical & Quantitative Reasoning/Data Analysis	MATH 1151 (recommended)	4-5
Foundations: Literary, Visual and Performing Arts	Student Choice	3
Foundations: Historical & Cultural Studies	Student Choice	3
Foundations: Natural Sciences	GEOG 1900 (recommended)	3-5
Foundations: Social & Behavioral Sciences	Student Choice	3
Foundations: Race, Ethnicity and Gender Diversity	Student Choice	3
Theme: Citizenship for a Diverse & Just World	Student Choice	4-6
Second Theme: Student Choice (<i>Sustainability Recommended</i>)	Student Choice	4-6
GE Reflection Seminar	GENED 4001	1
TOTAL GE CREDIT HOURS		32-39

College Requirements

Requirement	Course Options	Hours
University Survey	ARTSSCI 1100.14	1
World Language Foundation: 1101-1103 in any language	Student Choice	12
TOTAL COLLEGE CREDIT HOURS		13

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.

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 auditing system. 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/>.