

Atmospheric Sciences (Bachelor of Science)

Atmospheric Sciences Major (GEN)

Requires 121 Total Credit Hours; 32 Major Credit Hours

GENERAL EDUCATION

College of Arts & Sciences Bachelor of Science general education requirements apply.

Please visit <https://artsandsciences.osu.edu/advising/general-education-requirements>

MAJOR REQUIREMENTS

Required Prerequisite or Supplemental Courses in the Major

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
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, Thermal Physics, Waves	5
Physics 1251	E&M, Optics, Modern Physics	5
Chemistry 1210	General Chemistry I	5
Statistics 2450	Introduction to Statistical Analysis I	3
Geography 3597.03	Environmental Citizenship EL:Advanced Writing	3

Required Courses (9 courses/26 hours)

Course	Title	Hours	Required Prerequisite	Semester Offered
AtmosSc 2940 OR GEOG 5900	Basic Meteorology (recommended course)	3	Math 1151 & Physics 1250	Spring
	OR Weather, Climate and Global Warming	3	None	Autumn
GEOG 5921 *	Miroclimatology: Boundary Layer Climatology	3	AtmosSc 2940 & Physics 1250 OR GEOG 5900 & Physics 1250	Spring Only
GEOG 5922 *	Microclimatology: Microclimatological Measurements	3	GEOG 5921	Autumn Only
AtmosSc/GEOG 5940*	Synoptic Meteorology Laboratory	2	AtmosSc 2940 & Physics 1250 OR GEOG 5900 & Physics 1250	Spring Only
GEOG 5941 *	Synoptic Meteorology: Synoptic Analysis and Forecasting	3	GEOG 5940 & Math 2153	Autumn Only
GEOG 5942 *	Synoptic Meteorology: Severe Storm Forecasting	3	GEOG 5941	Spring Only
AtmosSc 5950	Atmospheric Thermodynamics	3	Math 1152	Autumn Only
AtmosSc 5951 *	Dynamic Meteorology I	3	AtmosSc 5950 (or co-req) & Math 2153	Autumn Only
AtmosSc 5952 *	Dynamic Meteorology II	3	AtmosSc 5951 & Math 2255	Spring Only

*Indicates course is offered one time per academic year.

Elective Courses

Choose two of the following courses (6 hours).

Course	Title	Hours	Required Prerequisite
AtmosSc 5901 *	Climate System Modeling: Basics and Applications	3	AtmosSc 2940 OR GEOG 5900
GEOG 3900 OR GEOG 3901H	Global Climate Change: Causes and Consequences OR Global Climate and Environmental Change	3	None
GEOG 3597.02	Integrated Earth Systems: Confronting Global Change	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

General Education Requirements			<p>*Students complete either one 4-credit course or two 3-credit courses in each of two General Education Theme areas: Citizenship for a Diverse & Just World (required), and the student's choice of available GE Themes. If major courses are approved as a GE Theme course, one course in each GE Theme area may double count in the GE and major hours.</p> <p>**Students must demonstrate proficiency in a language other than English at a level equivalent to 3 semesters of university coursework. Proficiency may be demonstrated by satisfactory completion of coursework, appropriate testing, or language validation. Please see https://cllc.osu.edu/validation-foreign-language-0 and your Academic Advisor for more details.</p> <p>***Major Pre-Requisites and Co-Requisites may overlap freely with GE Foundations, GE Themes, minors, or certificates when appropriate.</p>
Requirement	Course Options	Hours	
GE Launch Seminar	AcadAff 1201	1	
Foundations: Writing and Information Literacy	<i>Student Choice</i>	3	
Foundations: Mathematical & Quantitative Reasoning/Data Analysis	<i>Math 1151</i>	3-5	
Foundations: Literary, Visual and Performing Arts	<i>Student Choice</i>	3	
Foundations: Historical & Cultural Studies	<i>Student Choice</i>	3	
Foundations: Natural Sciences	<i>Student Choice</i>	4-5	
Foundations: Social & Behavioral Sciences	<i>Student Choice</i>	3	
Foundations: Race, Ethnicity and Gender Diversity	<i>Student Choice</i>	3	
Theme: Citizenship for a Diverse & Just World*	<i>Student Choice</i>	4-6	
Theme: Student Choice*	<i>Student Choice</i>	4-6	
GE Reflection	AcadAff 4001	1	
General Education Credit Hours:		32-39	
College Requirements			
Requirement	Course Options	Hours	
University Survey	ASC 1100.xx(H)	1	
World Language Foundation	1101-1103 in any language or equivalent proficiency**	0-12	
Credit Hours:		1-13	