

Geography: Physical Geography (Bachelor of Science)

Physical Geography Major

Requires 121 Total Credit Hours; 33-35 Major Credit Hours

GENERAL EDUCATION

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

Please visit <https://artsandsciences.osu.edu/academics/current-students/advising/ge>

MAJOR REQUIREMENTS

NOTE: 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 in the Major

Course	Title	Hours
Math 1151	Calculus I	5
Math 1152	Calculus II	5
Physics 1250	Mechanics, Thermal Physics, Waves	5
Statistics 2450 >	Introduction to Statistical Analysis I	3

> Indicates courses are supplemental to study and not required as prerequisites to other courses in the major.

Required Courses (6 courses/19-20 hours)

Course	Title	Hours	Required Prerequisite
AtmosSc 2940 OR GEOG 5900	Basic Meteorology (recommended course) OR Weather, Climate and Global Warming	3	Math 1151 & Physics 1250
GEOG 2800 OR GEOG 2960	Our Global Environment OR Introduction to Physical Geography	3 4	None
GEOG 3900 OR GEOG 3901H	Global Climate Change: Causes and Consequences OR Global Climate and Environmental Change	3 3	None
GEOG 3980	Biogeography: An Introduction to Life on Earth	3	None
GEOG 4103 OR GEOG 5200 OR GEOG 5210	Spatial Data Analysis (previously GEOG 5100) OR Cartography and Map Design OR Fundamentals of Geographic Information Systems	3 3 3	Math 1116 or above None None
EARTHSC 5550	Geomorphology <i>*if not offered, see list of approved substitute courses</i>	4	EARTHSC 1121 & EARTHSC 1122

Elective Courses

Choose five of the following courses (14-15 hours).

Course	Title	Hours	Required Prerequisite
AtmosSc 5901 *	Climate System Modeling: Basics and Applications	3	AtmosSc 2940 OR GEOG 5900
AtmosSc 5950	Atmospheric Thermodynamics	3	Math 1152
AtmosSc 5951 *	Dynamic Meteorology I	3	AtmosSc 5950 (or co-req) & Math 2153
AtmosSc 5952 *	Dynamic Meteorology II	3	AtmosSc 5951 & Math 2255
Choice	One Human Geography course at 4000-level or higher	3	None
GEOG 3597.02	Integrated Earth Systems: Confronting Global Change	3	None
GEOG 4101	Undergraduate Research & Professionalization Seminar	3	3 credit hours in Geography
GEOG 4103	Introductory Spatial Data Analysis <i>(previously GEOG 5100)</i> <i>(if not taken as required course)</i>	3	Math 1115 or above
GEOG 5200	Cartography and Map Design <i>(if not taken as required course)</i>	3	None
GEOG 5201 *	GeoVisualization	3	GEOG 5200
GEOG 5210	Fundamentals of Geographic Information Systems <i>(if not taken as required course)</i>	3	None
GEOG 5212 *	Spatial Database Design for GIS	3	GEOG 5210
GEOG 5222 *	GIS Algorithms and Programming	3	GEOG 5212 GEOG 5222 None
OR GEOG 5223 *	Design and Implementation of GIS	3	
OR GEOG 5226	Spatial Simulation and Modeling	3	
GEOG 5225	Geographic Applications of Remote Sensing	3	
GEOG 5803	Sustainable Energy Geographies	3	None
GEOG 5921 *	Miroclimatology: Boundary Layer Climatology	3	AtmosSc 2940 & Physics 1250 OR GEOG 5900 & Physics 1250
GEOG 5922 *	Microclimatology: Microclimatological Measurements	3	GEOG 5921
AtmosSc/GEOG 5940*	Synoptic Meteorology Laboratory	2	AtmosSc 2940 & Physics 1250 OR GEOG 5900 & Physics 1250
GEOG 5941 *	Synoptic Meteorology: Synoptic Analysis & Forecasting	3	GEOG 5940 & Math 2153
GEOG 5942 *	Synoptic Meteorology: Severe Storm Forecasting	3	GEOG 5941
EARTHSC 2206	Principles of Oceanography	3	None
EARTHSC 4450	Water, Ice, & Energy in the Earth System	3	EARTHSC 1121 & Physics 1250

* Part of major course sequence. Major course(s) must be completed with a "C-" or above as prerequisite to enroll.

Major Requirements

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 be applied 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.

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/>.