



GEOGRAPHY

Option

at
Montana State University

What is the Geography Option in Earth Sciences?

The Geography Option offers students a liberal university education with an emphasis in geography. Geography offers a unique perspective that emphasizes 1) the importance of place and space in understanding the human and physical world, 2) the intricate interactions that link people with their environment, and 3) the value and utility of geographical techniques and tools such as cartography, aerial photo interpretation, remote sensing, and Geographic Information Systems (GIS). With these strengths, Geography is ideally suited to meet the complex, interdisciplinary demands of the twenty-first-century world. The student, with the help of an adviser, develops a program in Geography to meet his or her own particular needs. The Geography Option provides a general education in the Earth Sciences (with coursework in both physical and human geography) and then allows the student to specialize in areas of particular interest.

What courses would I take in the Geography curriculum?

The Geography Option introduces students to lower division coursework in world regional, physical, and human geography. These courses emphasize the importance of basic spatial relationships, the global distributions of physical and cultural phenomena, the complex interplay between natural and human systems, and the factors involved in the evolution of the earth's varied landscapes. Basic courses in a modern language and in math and statistics offer additional tools that are useful to every geographer. Upper division coursework includes a variety of more specialized offerings in topics such as water resources, geomorphology, urban geography, and cultural/regional geography. Students are required to take 4 or 5 upper division thematic electives as well as 1 or 2 methods courses in skills such as aerial photo interpretation, GIS and remote sensing. A Capstone course is required in the student's senior year and offers an overview of the discipline and opportunities to complete more advanced research. All Geography majors must also complete an approved minor OR complete a physical or human "Emphasis" within the curriculum. Each Emphasis requires approximately 11-12 lower-division credits in relevant topics (such as soils, biology, and political science) as well as 9-12 credits of adviser-approved electives.

What opportunities for fieldwork are there in Geography?

A variety of fieldwork opportunities are available in the Option, taking advantage of the great regional laboratory in the northern Rocky Mountains. Several upper division courses include extensive fieldwork exercises. Classes such as Geomorphology, Snow Dynamics, and Mountain Geography expose students to the varied natural and human environments of the region. In addition, juniors and seniors are strongly encouraged to take advantage of internship opportunities that allow them to work in local and regional settings that include fieldwork experience.

How does the Geography Option prepare me for more advanced training and employment?

A B.S. Degree in Earth Sciences with an option in Geography offers students outstanding employment and educational opportunities. In fact, many of our graduates hold professional jobs in geography-related positions within Montana and the region while others have successfully relocated elsewhere after graduation. Geographers find professional jobs in urban and land use planning, locational analysis in both the public and private sector, area studies analysis, natural resources and environmental



management, as well as skills-oriented positions in cartography, remote sensing, and GIS. Geography also offers excellent preparation for more advanced education in environmental law, international business, resource planning, and other more specialized graduate school opportunities.

What are the requirements for the M.S. Degree in Earth Sciences (Geography option) and what career opportunities might it offer?

More advanced training is offered by the master's program in Earth Sciences (Geography option). The M.S. degree is a

two-year program that produces broadly-trained professional earth scientists. A limited number of teaching and research assistantships are available to qualified graduate students in the program. The required thesis involves the student in an independent research and writing project. Specialized graduate-level coursework builds upon an undergraduate background in Geography. Students lacking a bachelor's degree in Geography may make up their deficiencies before or during their graduate program of study. A minimum of 30 graduate-level credits (including at least 10 thesis credits) is required for the M.S. degree, including several 500-level courses and seminars as selected by the student and their major adviser. Classes in Research Design (ESCI 500-1-credit) and Geographical Thought (GEOG 405-3 credits) are also required. All students will take an oral comprehensive exam in two selected subject areas in geography and present a public defense of their thesis project.

A graduate degree in Earth Sciences opens up many career options. More specialized training and experience gained in completing thesis projects prepares students for professional-grade positions in planning, resource management, environmental assessment, locational analysis, and GIS-related fields. Opportunities to continue at the Ph.D. level also offer opportunities in university-based teaching and research. Many graduates successfully utilize their thesis-related research directly in training for subsequent career opportunities. Many department graduates have successfully found professional positions in the northern Rockies while others have readily transferred their skills to settings outside the region.

For more information, visit our website!

www.montana.edu/wwwes



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