Geography

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College of Family, Home, and Social Sciences Advisement Center
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Admission to Degree Program

All degree programs in the Department of Geography are open enrollment. However, special limitations apply for teaching majors.

The Discipline

Geography offers a variety of programs centered around spatial analysis and tailored, so far as possible, to meet the future needs of individual students. Our modern computer laboratory allows students to gain practical experience with geographical information systems (GIS), remote sensing, cartography, and other programs in planning, urban, travel, and population studies.

Career Opportunities

Graduates are employed in a wide range of both private and governmental positions. Job titles include geographer; teacher of geography; city or regional planner; cartographer; photo interpreter; commodities and industrial location analyst; intelligence, travel industry, or environmental and GIS specialist; and many others.

Skills in spatial analysis make geography a valuable minor or supporting field for many other disciplines.

Graduation Requirements

To receive a BYU bachelor's degree a student must complete, in addition to all requirements for a specific major, the following university requirements:

- The university core, consisting of requirements in general and religious education (See the University Core section of this catalog for details. For a complete listing of courses that meet university core requirements, see the current class schedule.)
- A minimum of 30 credit hours in residence
- A minimum of 120 credit hours
- A cumulative GPA of at least 2.0

Undergraduate Programs and Degrees

BS Geography
  Emphases
    Geographic Information Systems
    Geospatial Intelligence
    Global Studies
    Physical Environment Studies
    Travel and Tourism Studies
    Urban, Rural, and Environmental Planning
BS Geography Teaching
Minors Geographic Information Systems
  Geography
  Geography Teaching
  Travel and Tourism Studies
  Urban, Rural, and Environmental Planning

Students should see their college advisement center for help or information concerning the undergraduate programs.

Graduate Programs and Degrees

MS Geography

For more information, see the BYU 2007–2008 Graduate Catalog.

General Information

1. The Department of Geography offers one major with seven emphases. The emphases are designed to enable students to gain an appreciation of our world as well as prepare them for either a career or graduate school. All students are required to take a set of core courses that emphasize basic geographic concepts and ways of knowing that are common to all seven emphases. These courses prepare students for specialization in upper-division courses. Required core courses include Geog 100, 101, 120, 130, 211, 212, 222, and Stat 221.

   Geography at Brigham Young University focuses on our interdependent world: the spatial relationships between the physical landscape, diverse societies, and current events. The geography major at Brigham Young University nourishes a sense of curiosity about the world around us, a desire to serve our local and global communities, and the skills necessary to solve significant problems that are inherently spatial.

   Hundreds of students major in geography to prepare for a professional career or graduate study, or just because of an interest in exploring and understanding the world around them. We emphasize both technical and critical thinking skills, including geographic information systems (GIS) and remote sensing, statistics, data collection, interpretation, and communication using the written and spoken word and visual data display (maps, charts, and graphs).
2. Prerequisite: all students admitted to one of the geography majors listed above must complete the following courses within one year of declaring a major:
   Geog 100, 101, 120, 130, 211.
3. Exit assessment and exit interview: Students must complete an exit assessment and exit interview during their final semester no later than one month before graduating. Both are offered online. The assessment is meant to evaluate the department's program goals and student learning outcome. The interview is a set of qualitative questions about the student's experience in the department. Although both the interview and assessment are formal requirements, the results are anonymous and will not be part of the student's academic records.

BS Geography: Geographic Information Systems Emphasis (61–62 hours*)

Major Requirements

1. Complete the following core courses:
   Geog 100, 101, 120, 130, 211, 212, 222.
   Stat 221.
2. Complete one physical geography course from the following:
   Geog 303, 304, 305.
3. Complete one regional course from the following:
   Geog 245, 250, 255, 260, 265, 271, 272, 273, 285.
4. Complete one human geography course from the following:
   Geog 306, 331, 336, 341, 346, 347.
5. Complete the following major courses:
   Geog 213, 217, 219, 311, 312, 313.
6. Complete one course from the following:
   CHum 287.
   C S 142.
7. Complete two courses from the following:
   Geog 317, 411, 412, 413, 414.
8. With the approval of an advisor, complete a capstone course from the following (2 hours minimum required):
   Geog 399R, 415R, 495R, 501R, 510, 521R.

9. Complete exit assessment and exit interview during final semester, no later than one month before graduation.

*Hours include courses that may fulfill university core requirements.

BS Geography: Geospatial Intelligence Emphasis (60–62 hours*)

Major Requirements

1. Complete the following core courses:
   Geog 100, 101, 120, 130, 211, 212, 213, 222, 271, 313, 331, 341.
   Stat 221.
2. Complete one course from the following GIS courses:
   Geog 217, 219, 311, 312, 317, 412, 413.
3. Complete 6 hours from the following regional courses:
   Geog 255, 265, 272, 273, 285.
4. Complete 6 hours from the following physical geography courses:
   Geog 303, 304, 305.
5. Complete 6 hours from the following:
   Aeros 410, 411.
   Hist 240, 241, 331, 342, 346, 348.
   MESA 201, 350.
   Pl Sc 348, 350, 357, 377, 378, 381, 385, 388, 452, 458, 471, 474.
6. Complete the following:
   Geog 441R.
7. Complete exit assessment and exit interview during final semester, no later than one month before graduation.

*Hours include courses that may fulfill university core requirements.

BS Geography: Global Studies Emphasis (37 hours*)

Major Requirements

1. Complete the following core courses:
   Geog 100, 101, 120, 130, 211, 212.
2. Complete one physical geography course from the following:
   Geog 303, 304, 305.
3. Complete three regional courses from the following:
   Geog 245, 250, 255, 260, 265, 271, 272, 273, 285.
4. Complete three human geography courses from the following:
   Geog 306, 331, 336, 341, 346, 348.
5. Complete exit assessment and exit interview during final semester, no later than one month before graduation.

*Hours include courses that may fulfill university core requirements.

BS Geography: Physical Environment Studies Emphasis (54–56 hours*)

Major Requirements

1. Complete the following core courses:
   Geog 100, 101, 120, 130, 211, 212, 222.
   Stat 221.
2. Complete one regional course from the following:
   Geog 245, 250, 255, 260, 265, 271, 272, 273, 285.
3. Complete one human geography course from the following:
   Geog 331, 336, 341, 346.
4. Complete the following major courses:
   Biol 150.
   Geog 303, 304, 307, 313.
5. Complete one course from the following:
   Geog 305.
   Geol 411.
6. Complete two courses from the following:
   Biol 350.
   Geog 306, 310, 311, 312, 414, 423.
7. With the approval of an advisor, complete a capstone course from the following:
   Geog 399R, 415R, 495R, 501R, 510, 521R.
8. Complete exit assessment and exit interview during final semester, no later than one month before graduation.

*Hours include courses that may fulfill university core requirements.

BS Geography: Travel and Tourism Studies Emphasis (43 hours*)

Major Requirements

1. Complete the following core courses:
   Geog 100, 101, 120, 130, 211, 212, 250.
   Stat 221.
2. Complete one regional course from the following:
   Geog 245, 255, 260, 265, 271, 272, 273, 285.
3. Complete the following major courses:
   Bus M 340.
   Geog 347, 348.
   RMYL 304.
4. Complete two courses (6 hours) from the following:
   Geog 306, 310, 349, 399R, 495R.
   Hist 369.
   RMYL 320 (or 371).

   Note: Only one RMYL course may be used to fill this requirement.
5. Complete exit assessment and exit interview during final semester, no later than one month before graduation.

*Hours include courses that may fulfill university core requirements.

BS Geography: Urban, Rural, and Environmental Planning Emphasis (54–59 hours*)

Major Requirements

1. Complete the following core courses:
   Geog 100, 101, 120, 130, 211, 212, 222.
   Stat 221.
2. Complete one physical geography course from the following:
   Geog 303, 304, 305.
3. Complete one regional course from the following:
   Geog 245, 250, 255, 260, 265, 271, 272, 273, 285.
4. Complete the following major courses:
   Geog 306, 310, 336, 346, 410.
5. In consultation with an advisor, complete a minimum of four courses from the following:
   Geog 213, 219, 307, 311, 312, 313, 414, 421R, 422, 423.

   Note: Some courses may require prerequisites.

6. With the approval of an advisor, complete a capstone course from the following:
   Geog 399R, 415R, 421R, 495R, 501R, 510, 521R.
7. Complete exit assessment and exit interview during final semester, no later than one month before graduation.

*Hours include courses that may fulfill university core requirements.

BS Geography Teaching (87–93 hours*, including licensure hours)

Major Requirements

1. A teaching minor is required for licensure (approximately 16–21 hours).
2. Prerequisites: Complete the following core courses:
   Geog 100, 101, 120, 130, 211, 212, 222, 250, 331.
   Stat 221.
3. Complete two regional courses from the following:
   Geog 245, 255, 260, 265, 271, 272, 285.
4. Complete three systematic courses from the following:
   Geog 303, 304, 305, 306, 310, 312, 313, 336, 341, 346, 347, 348, 501R.
5. Complete the Professional Education Component:
   a. Complete the following:
      CPSE 402.
      IP&T 286.
      Sc Ed 276R, 350, 353, 377R, 378, 379.

      Note: Fingerprinting and FBI clearance must be completed prior to enrollment in ScEd 276R.
   b. Complete 12 hours of one of the following:
      Sc Ed 476R, 496R.
6. Complete exit assessment and exit interview during final semester, no later than one month before graduation.

*Hours include courses that may fulfill university core requirements.

Minor Geographic Information Systems (20–23 hours)

Minor Requirements

1. Complete the following:
   Geog 211, 212, 312, 412.
2. Complete three courses from the following:
   Geog 213, 217, 219, 313, 411, 413.

Minor Geography (18 hours)

Minor Requirements

1. Complete the following :
   Geog 101, 120, 130, 211, 212.
2. Complete 3 hours of electives. Electives cannot include Geog 222, 399R, 493R, or any Geog 500 or above courses.

Minor Geography Teaching (18 hours)

Minor Requirements

1. Complete the following:
   Geog 101, 120, 130, 211, 250.
2. Complete 3 hours of electives. Electives cannot include Geog 222 ~~or 223~~; 399R, 493R, or any Geog 500 or above courses.

Note: The geography teaching minor is intended for students who are pursuing secondary education licensure through the David O. McKay School of Education.

Minor Travel and Tourism Studies (19 hours)

Minor Requirements

1. Complete the following:
   Geog 120, 347, 348.
2. Complete two courses from the following:
   Bus M 340.
   Geog 130.
   Hist 369.
   RMYL 304, 371.
3. Complete one regional course from the following:
   Geog 245, 250, 255, 260, 265, 271, 272, 285.

Minor Urban, Rural, and Environmental Planning (19 hours)

Minor Requirements

1. Complete the following core courses:
   Geog 212, 310, 410.
2. Complete two of the following systematic courses:
   Geog 306, 307, 336, 346.
3. Complete two of the following applied planning courses:
   Geog 421R, 422, 423.

Geography (Geog)

Undergraduate Courses

100. The Geographic Approach. (1:1:0) Prerequisite: major status.
Overview of the discipline of geography and the faculty and geography major at BYU.

101. Global Environment: Understanding Physical Geography. (3:3:0) F, W, Sp, Su Independent Study also.
Physical environment, distribution and interrelationships of climates, landforms, ecosystems and their human significance.

110. Landscapes of Disaster: An Introduction to Natural Hazards. (3:3:0) F, W, Sp
Exploring natural and social science of disturbances by analyzing causes, consequences, and role of human behavior in causing and mitigating natural disasters.

120. Geography and World Affairs. (3:3:0) F, W, Sp, Su Independent Study also. Honors also.
Survey of the world, stressing geography of major political regions.

130. Introduction to Human Geography. (3:3:0) F, W, Alt. Sp, Su term
Culture distributions and their relationship to existing geographic phenomena.

211. Map Use and Interpretation. (3:2:2) F, W, Sp or Su
Maps as tools for spatial analysis of problems in physical and cultural geography.

212. Introduction to Geographic Information Systems. (3:2:1) F, W, Sp or Su
Concepts in the use of small- and large-scale digital map data, emphasizing landscape interpretation and feature description.

213. Earth Observation and Image Interpretation. (3:2:2) F, W
Principles of earth observation: primarily air photo/large-scale satellite imagery interpretation, basic field methods, photogrammetry.

217. Programming for Geographers. (4:4:0) F Prerequisite: C S 142 or equivalent.
Object-oriented analysis of geographic information using Visual Basic.

219. Global Positioning Systems and Geodesy. (2:2:0) F Prerequisite: Geog 211 or instructor's consent.
Earth coordinate systems, map projections, and global positioning system methods.

222. Quantitative Research and Reasoning. (3:3:0) F, W Prerequisite: Stat 221.
Organizing, acquiring, and using quantitative geographic data for research purposes within the context of the scientific method; learning and applying research techniques and statistical methods in individual geographic projects.

245. Geography of Utah. (3:3:0) W
Exploring geography of Utah. Topics include land forms, climate, agricultural and recreational economics, historical migration, Mormon cultural landscape, ethnic patterns, and rural-urban contrasts.

250. United States and Canada. (3:3:0) F, W Independent Study also.
Analysis of the natural environment, historical development, cultural patterns, economic systems, and political structures of geographic regions.

255. Middle and South America. (3:3:0) W
Environmental, cultural, economic, and political parameters of Latin American societies.

260. Europe. (3:3:0) F
Systematic approach to physical base, social and political problems, economic issues, and regional summary.

265. Russia and the Former Soviet Union. (3:3:0) W
Physical features, resources, political issues, economy and industries, population concerns, and role in world affairs.

271. Middle East. (3:3:0) F even yr.
Physical and cultural geography of Southwest Asia and North Africa, emphasizing the cultural mosaic, geopolitics, environment, and resources of the region.

272. East Asia. (3:3:0) W odd yr.
Region of monsoon Asia and its basic human (demographics, nations and ethnic groups, settlement patterns, religious beliefs, transportation and communication systems, political structures) and physical geographic characteristics (land forms, physiography, climatic characteristics, and natural resources).

273. Southeast Asia. (3:3:0) W alt yr.
Fundamental issues of geography relating to Southeast Asia, including the extraction and marketing of natural resources, economic development, neighborly relations, and how diffusion has influenced the unique cultural, religious, and linguistic characteristics of the region.

285. Africa South of the Sahara. (3:3:0) F
Geographical analysis focusing on resource management, political issues, development, environmental problems, economic development, and urban-rural change; case studies from selected countries.

303. Biogeography. (3:3:0) Prerequisite: Geog 101 or instructor's consent.
Broad-scale distribution of plants and animals. Theoretical and practical applications to conservation and effects of global environmental change.

304. Geography of Climates. (3:3:0) W Prerequisite: Geog 101 or instructor's consent.
Elements, controls, distribution, and classification of the earth's climates.

305. Geography of Landforms. (3:3:0) Prerequisite: Geog 101 or instructor's consent.
Elements of landforms: distributions and cultural significance.

306. Public Land Conservation. (3:3:0) F Prerequisite: Geog 101 or instructor's consent.
Environmental and social geography of public lands; analyzing historical, planning, management, and ecological issues.

307. Landscape Ecology. (3:3:0) Prerequisite: Geog 101 or instructor's consent.
Interaction between spatial patterns and spatial processes in an ecological context. Methods, theories, and practical applications of landscapes at various scales.

310. Principles of Land Use Planning. (3:3:0) F
Land use concepts, practical and theoretical problems, activities, and techniques.

311. Geographic Data Management. (3:3:0) W Prerequisite: Geog 212 or equivalent.
Nature of geographic information and its practical management in GIS; design of GIS databases, data collection from primary and secondary sources, manipulating data in preparation for analysis, and data exploration.

312. Cartographic Design. (4:2:4) F Prerequisite: Geog 211.
Graphic perception, layout, typography, color, statistical methods, and symbolization of thematic maps through computer-aided techniques.

313. Remote Sensing I. (3:3:0) Prerequisite: Geog 211, 212.
Introduction to airborne and spaceborne sensors, including characteristics and image acquisition. Emphasizes land cover mapping applications appropriate for environmental monitoring.

317. Analytical Cartography. (4:4:0) W Prerequisite: Geog 217.
Geocoding, spatial data representation, spatial algorithms, and map-based transformations.

331. Economic Geography. (3:3:0) F, Alt. Sp, Su term
Introduction to economic processes and spatial patterns, emphasizing theoretical approaches, locational strategies, and changing economic land-use patterns.

336. Geography of Urban Environment. (3:3:0) F
Urban patterns, city structures, and spatial analysis of cities as they affect their residents.

341. Political Geography. (3:3:0) F, W
Spatial analysis of global politics; focus on geopolitics, territory and conflict, nationalism, and the politics of resources.

346. Population Geography. (3:3:0)
Spatial perspective on wide field of population studies, focusing on distribution, development, structure, and movement of populations, emphasizing basic demographic measures.

347. Tourism: A Conceptual Framework. (3:3:0) F, Sp Independent Study also.
Introduction to tourism as a field of study; four elements of tourism: dynamic, service, functional, and consequential.

348. Tourism: Patterns and Analysis. (3:3:0) Independent Study also.
Patterns in domestic and international tourism; interrelationship between geography and tourism in understanding the patterns and their impact.

349. Global Adventure Travel. (3:3:0) F
Historical and emerging trends in global adventure travel and tourism. Detailed case studies selected from across world regions.

399R. Academic Internship. (1–6:Arr.:Arr. ea.) F, W, Sp, Su
On-the-job experience. No more than 3 hours total in cooperative education may be counted in major.

410. Practices of Land Use Planning. (3:3:0) W Prerequisite: Geog 310.
Applications of methods and techniques commonly used in the land use planning process, emphasizing data collection and analysis, fieldwork, and writing skills.

411. Issues in Computer Cartography. (3:3:0) W Prerequisite: Geog 312 or equivalent.
Current techniques for compilation, integration, and display of digital map data.

412. Problem Solving with Geographic Information Systems. (3:3:1) F Prerequisite: Geog 311 or instructor's consent.
Solving practical geographic problems and performing scientific research using raster and vector analysis tools in GIS.

413. Remote Sensing 2. (3:3:0) Prerequisite: Geog 313.
Computer processing of low-altitude and satellite images for geographic analysis of physical and cultural phenomena on earth.

414. Applied Urban Environmental Modeling. (3:3:0) W Prerequisite: Geog 212, 213, 313.
Complexities of urban environment through use of geographic techniques, including remote sensing, GIS, GPS, aerial photo and map interpretation, and fieldwork. Modeling human impact on the physical environment by examining local case studies and completing group projects. Developing and building technical skills as tools in understanding the urban environment.

415R. Geographic Field Methods. (1–3:Arr.:0 ea.)
Learning different methods used by geographers in the field through hands-on involvement in real faculty research.

421R. Comprehensive Planning. (2–3:Arr.:0 ea.) W Prerequisite: Geog 310, 410.
Assessing problem and issue identification, goal formulation, data gathering, synthesis and summary, plan concept and format, and public policy adoption while writing a general plan for a rural community in Utah.

422. Principles of Urban Design. (2:2:0) F Prerequisite: Geog 310, 410.
Theories and principles of urban design emphasizing specific design criteria. Planning and design tools used within the U.S. by local government. Basic principles of architecture and landscape architecture. Field trips.

423. Planning for Unique and Sensitive Lands. (2:2:0) W Prerequisite: Geog 310, 410.
Unique aspects of land affecting land-use planning positively or negatively depending on sensitivity of design. Landscape ecological principles introduced and examined for usefulness in land-use planning.

441R. Seminar in Geography and Geospatial Intelligence. (1–3:Arr.:0 ea.) F, W
Capstone seminar for students in geospatial intelligence emphasis, emphasizing synthesis of material learned in the major and applying such knowledge and skills through a research project.

493R. Special Problems. (1–3:Arr.:0 ea.) F, W, Sp, Su Prerequisite: geography major or departmental approval.

495R. Mentored Research. (1–3:Arr.:0 ea.) F, W, Sp, Su
Participating in research integrating material learned in major. Emphasizes individual or collaborative research and creative thinking through active learning and reflective analysis.

500-Level Graduate Courses (available to advanced undergraduates)

501R. Seminar in Geography. (1–3:Arr.:0 ea.)
Detailed investigation of selected systematic and regional geographic topics.

503. Geographic Information Systems. (4:3:1) For nonmajors who have not taken Geog 211 or 212 or equivalent. Prerequisite: graduate standing.
Using geographic information for solving advanced spatial problems. Introduction to using and producing maps and computer-based geographic information systems (GIS) as geographic tools. Hands-on research applications in the students' disciplines.

510. Advanced Urban Dynamics and Planning. (3:3:0) W even yr. Prerequisite: Geog 310, 410, or equivalent.
Urban geography and land use planning, emphasizing urban morphology, land use patterns, and spatial analysis; critical evaluation of models and theories.

521R. Geographic Information Practicum. (3:3:0) F, W, Sp Prerequisite: GIS major status; Geog 311, 312, 313, 317; Geog 222 or 223; one 400-level GIS course.
Integration of various geographic technologies to solve a practical problem. Advanced topics in GIS, remote sensing, cartography, and programming as needed.

599R. Academic Internship. (1–3:Arr.:Arr. ea.)
On-the-job experience. No more than 3 hours in cooperative education may count toward major requirements.

Graduate Courses

For 600- and 700-level courses, see the BYU 2007–2008 Graduate Catalog.

Geography Faculty

Professors
Jackson, Richard H (1969) BS, MS, Brigham Young U., 1965, 1966; PhD, Clark U., 1970.
Shumway, J. Matthew (1991) BS, MA, Brigham Young U., 1984, 1987; PhD, Indiana U., Bloomington, 1991.

Associate Professors
Davis, James A. (1990) BS, Brigham Young U., 1978; MA, California State U., Fullerton, 1987; PhD, Arizona State U., 1993.
Emmett, Chad F. (1992) BA, Utah State U., 1979, MA, Brigham Young U., 1983; PhD, U. of Chicago, 1991.
Hardin, Perry J. (1988) BS, MA, Brigham Young U., 1982, 1984; PhD, U. of Utah, 1989.
Otterstrom, Samuel M. (1997) BS, MS, Brigham Young U., 1990, 1994; PhD, Louisiana State U., 1997.

Assistant Professors
Bekker, Matthew F. (2001) BA, Brigham Young U., 1994; MA, Penn State U., 1996; PhD, U. of Iowa, 2002.
Durrant, Jeffrey O. (1999) BS, MS, Brigham Young U., 1995, 1996; PhD, U. of Hawaii, 2001.
Gluch, Renee (2001) BS, MA, PhD, U. of Utah, 1990, 1998, 2003.
Jackson, Mark W. (2000) BS, MS, Brigham Young U., 1996, 1997; PhD, U. of South Carolina, 2001.
Plewe, Brandon S. (1997) BS, Brigham Young U., 1992; MS, PhD, State U. of New York at Buffalo, 1995, 1997.

Emeriti
Grey, Alan H. (1964) BA, Brigham Young U., 1959; MA, PhD, U. of Wisconsin, Madison, 1960, 1963.
Hinckley, Thomas K. (1972) BA, Brigham Young U., 1958; MA, U. of Pittsburgh, 1960; PhD, U. of Western Ontario, Canada, 1979.
Horiuchi, Russell N. (1961) BA, Brigham Young U., 1953; MA, U. of California, Berkeley, 1958; PhD, U. of Washington, 1975.
Hudman, Lloyd E. (1970) BS, U. of Utah, 1964; MS, PhD, U. of Kansas, 1968, 1970.
Layton, Robert L. (1954) BS, MS, U. of Utah, 1951, 1952; PhD, Syracuse U., 1962.