## REQUIREMENTS FOR THE BACHELOR OF ARTS IN GEOGRAPHIC INFORMATION SCIENCE

**COLLEGE OF ATMOSPHERIC AND GEOGRAPHIC SCIENCES**

**THE UNIVERSITY OF OKLAHOMA**

**GENERAL REQUIREMENTS**

- Total Credit Hours: 124
- Total Upper-Division Credit Hours: 48
- Minimum Retention/Graduation Grade Point Averages:
  - Minimum in OU Coursework: 2.00
  - Minimum in Major Coursework: Combined and OU 2.00
  - Overall - Combined and OU 2.00

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### For Students Entering the Oklahoma State System for Higher Education

**Summer 2009 through Spring 2010**

**Bachelor of Arts in Geographic Information Science**

OU encourages students to complete at least 30 hours of applicable coursework each year to have the opportunity to graduate in four years.

<table>
<thead>
<tr>
<th>Year</th>
<th>FIRST SEMESTER</th>
<th>Hours</th>
<th>SECOND SEMESTER</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FRESHMAN</strong></td>
<td>ENGL 1113, Principles of English Composition (Core I)</td>
<td>3</td>
<td>ENGL 1213, Principles of English Composition (Core I), or</td>
<td>3</td>
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<tr>
<td></td>
<td>HIST 1483 or 1493, U.S. (Core IV)</td>
<td>3</td>
<td>HIST 1213, Expository Writing (Core I)</td>
<td>3</td>
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<tr>
<td></td>
<td>General Education Math (Core I)</td>
<td>3</td>
<td>PSC 1113, American Federal Government (Core III)</td>
<td>3</td>
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<tr>
<td></td>
<td>General Education Social Science (Core III)</td>
<td>3</td>
<td>General Education Natural Science with lab (Core II)</td>
<td>4-5</td>
</tr>
<tr>
<td></td>
<td>Beginning Foreign Language (Core I)</td>
<td>5</td>
<td>Beginning Foreign Language continued (Core I)</td>
<td>5</td>
</tr>
</tbody>
</table>

**TOTAL CREDIT HOURS** 17 15-16

| **Sophomore** | GEOG 2453, Introduction to Computer Mapping and Analysis | 3 | GEOG 3023, Principles of Physical Geography | 3 |
| | GEOG 3001, Dialogue on the Discipline of Geography | 1 | GEOG 3924, Analytic Methods in Geography | 4 |
| | General Education Natural Science (Core II) | 3-4 | College Elective–Intermediate Foreign Language | 3 |
| | General Education Western Civ. & Culture (Core IV) | 3 | General Education Understanding Artistic Forms (Core IV) | 3 |
| | College Elective–Intermediate Foreign Language | 3 | Humanities Elective | 3 |
| | Free Elective | 3 | | |

**TOTAL CREDIT HOURS** 16-17 16

| **Junior** | GEOG 3213, Principles of Human Geography | 3 | GEOG 3243, Principles of Economic Geography | 3 |
| | GEOG 4133, Fundamentals of Remote Sensing | 3 | GEOG 4233, Digital Image Processing | 3 |
| | GEOG 4453, Geographic Information Systems | 3 | GEOG 4553, GIS Applications | 3 |
| | General Education Non-Western Culture (Core IV) | 3 | Natural Science Elective | 3-4 |
| | College Elective | 3 | College Elective | 3 |

**TOTAL CREDIT HOURS** 15 15-16

| **Senior** | GEOG 4200, Internship in Geography, or | 3 | GEOG 4953, Proseminar in Geography (Capstone) | 3 |
| | Free Elective | | | |
| | College Elective | 3 | College Elective | 3 |
| | College Elective | 3 | College Elective | 3 |
| | College Elective | 3 | Free Elective | 3 |
| | Free Elective | 3 | | |

**TOTAL CREDIT HOURS** 15 15

1 = To be chosen from the University-Wide General Education Approved Course List. Three hours of general education must be upper-division outside the major. At least one General Education approved math course must be completed.

2 = Thirty hours of advisor-approved coursework relevant to the student’s field(s) of study. These 30 hours are to be outside the student’s major School or Department, and must include two intermediate-level foreign language courses, or the student must demonstrate competency at the intermediate level. At least six hours must be upper-division (3000-4000) chosen from CS or MIS, or statistics courses from Meteorology, Psychology, Sociology, Political Science, Botany or Microbiology.

* = This course fulfills the Computer Literacy Requirement for graduation as required by the Oklahoma State Regents for Higher Education.

**NOTE:**

**University-Wide General Education Requirements (minimum 40 hours)**

Courses designated as Core I, II, III, IV, or Capstone are part of the General Education curriculum. Students must complete a minimum of 40 hours of General Education courses, chosen from the approved list, including at least one upper-division Gen. Ed. course outside of the student’s major. Courses graded S/U or P/NP will not apply.

**Core I**
- Symbolic and Oral Communication (9–19 hours, 3–5 courses)
  - English Composition–6 hours, 2 courses
  - Mathematics–3 hours, 1 course
  - Foreign Language–0–10 hours, 2 courses in the same language, (which can be met by successfully completing two years of the same foreign language in high school)
  - Other (courses such as communication, logic or public speaking)

**Core II**
- Natural Science (7 hours, 2 courses)
  - Courses must be taken from different disciplines in the biological and/or physical sciences; one of which must include a laboratory.

**Core III**
- Social Science (6 hours, 2 courses)
  - One course must be PSC 1113, "American Federal Government"
  - Non-Western Cultures–3 hours, 1 course

**Core IV**
- Humanities (12 hours, 4 courses)
  - Understanding Artistic Forms–3 hours, 1 course
  - Western Civilization and Culture–6 hours, 2 courses, including HIST 1483 or HIST 1493
  - Non-Western Cultures–3 hours, 1 course

**Senior Capstone Experience (3 hours, 1 course)**
3933 Interpretation of Aerial Photographs. Prerequisite: 1114 or permission. An introduction to the photogeographic inventory of physical and cultural land resources including current processes of change, and to the use of aerial photographs in evaluating present land use, potential alternatives, and associated risks. (Irreg.)

4003 The Global City and Planning Issues (Crosslisted with Regional and City Planning 4003; Slashed with 5003). Prerequisite: English 1213 and junior standing. An introduction to the concept of globalization and its effects on cities, and the city planning issues related to those effects. Characteristics, theories, and strategies of city development are reviewed. Cities are observed from several perspectives: natural and built environment, governance, society, economics, and history. No student may earn credit for both 4003 and 5003. (IRREG)

G4203 Geomorphology. Prerequisite: 1114, or comparable work in earth sciences, junior standing. Development and modification of land-surface form by atmospheric, fluvial, glacial, mass-wasting, volcanic and tectonic agents. Emphasis is placed on spatial aspects of the interactions at the interfaces of land, air and water. (Irreg.)

4243 Geomorphology of Asia. Prerequisite: junior standing or permission of instructor. A survey of the Middle East and central, south, southeast and east Asia. The course includes overview of the continent’s physical, social, and economic characteristics, but it treats primarily of the evolution of Asia’s contemporary cultural landscapes as an expression of Asian cultures. SPS [NW-VC]

4253 Latin America Geography. Prerequisite: junior standing or permission of instructor. An exploration of the ways in which natural, cultural, and historical processes have combined to shape a unique region of the world. Special emphasis will be placed on the legacies of colonialism, cultural landscapes, social movements, and environmental degradation and resource conservation. (SPS) [VC-WC]

G4273 Regional Climatology. Prerequisite: junior or senior standing, or permission of instructor. Investigates the nature of Earth’s climate and presents a synthesis of contemporary scientific ideas about atmospheric circulation. Topics include radiation, the hydrologic cycle, general circulation, local and regional climates, and global climate change. Specific attention is focused on the climatic water budget, its utility in evaluating local and regional climates, the emerging role of climate models, and issues in global climate change. (Irreg.) [W-NL]

4283 Biogeography (Slashed with 5283). Prerequisite: 1114 and junior standing. A survey of spatial patterns and processes in plant populations, plant communities, and vegetated landscapes. Emphasis is placed on the contemporary patterns of species and communities as determined by a combination of factors: climatic, geologic, tectonic, human influence, evolution, and dispersal. Field and laboratory techniques used in biogeographic research are also discussed. No student may earn credit for both 4283 and 5283. (Alt. Sp)

4293 Hydrologic Science (Slashed with 5293). Prerequisite: Math 1823 and either Physics 2414, 2513, or 2514. For students in environmental sciences, physical geographers, hydrologists, and those interested in the hydrologic cycle. An introduction to the science of water. Emphasis will be given on the hydrologic cycle of regional, global, and local scales. The emphasis is on the land portion of the hydrologic cycle, and includes the study of processes such as infiltration, soil water flow in the saturated and unsaturated zone, rainfall/runoff and evaporation. Lab sections include exercises on a computer in the field and in soils lab. No student may earn credit for both 4293 and 5293. (Sp)

4343 Climate, History, and Society (Slashed with 5343). Prerequisite: junior standing or permission of instructor. This course is an overview of the mutual interactions of climate and human activities, and examines historical examples of significant climatic impacts. The course includes investigation of the nature of earth’s climate and a synthesis of contemporary scientific ideas about the climate and its environmental and societal impacts. No student may earn credit for both 4343 and 5343. (Irreg.)

4353 Introduction to Geospatial Information Technologies. Prerequisite: junior standing or permission of instructor. Overview of theories, applications, and practices of modern geospatial information technologies, including global positioning systems (GPS), remote sensing (RS), and geographic information systems (GIS). Course includes lectures, discussions, interactive and hands-on component ideas, projects, and field sites, and student visits to OU research centers, local governments, and private geospatial information technology companies. (Su)

4433 Cultural and Political Ecology. Prerequisite: junior standing or permission of instructor. An introduction to the historical, economic, and cultural factors that shape human-environmental relations among pastoral and indigenous societies around the world. Special attention is placed on how people negotiate decisions about resource use within and belief systems that vary in response to changing social and environmental contexts. (Sp) [NW-SC]

4443 Urban Ecology (Slashed with 5443). Prerequisite: junior standing and permission of instructor. An interdisciplinary course that examines how cities acquire, utilize, and modify environmental inputs such as land, water, and energy, and in the process generate a complex set of waste streams and environmental impacts such as solid wastes, atmospheric emissions, and habitat modification. No student may earn credit for both 4443 and 5443. (Irreg.)

4453 Geographic Information Systems (Slashed with 5453). Prerequisite: junior standing or permission of instructor. An introduction to the nature and applications of geographic information systems (GIS) including the categories of geographic data, data input, data models, spatial analysis, output, and the uses of GIS in socio-economic and environmental studies. No student may receive credit for both 4453 and 5453. (F, Sp)

4553 GIS Applications (Slashed with 5553). Prerequisite: 4453. Emphasizes technical and application practices in geographic information systems (GIS). Through weekly exercises and two projects, students will gain experience with applications and utilities of Geographic Information Systems, and learn to design and implement a GIS project. No student may earn credit for both 4553 and 5553. (Laboratory)

4563 American Indian Geography. Prerequisite: upper-level standing. A survey of the geographical knowledge among Indians in North America. Historical and contemporary topics are covered in a cross-cultural perspective including land use, environmental perception, concepts of space and place, symbolic landscapes, sacred land, and the idea of resources. (SPS) [NW-VW]

4953 Proseminar in Geography. Prerequisite: 1103, 1114, 1213, 3123, 3353, 3924, and an upper-level physical geography course 3353 and 3924 may be taken concurrently with permission of instructor. History and character of the discipline of geography, with particular attention to changing theoretical paradigms and methods, the discipline’s relations with its neighbors, and current trends in the discipline. (Sp) [V]