

**REQUIREMENTS FOR THE BACHELOR OF SCIENCE IN GEOGRAPHIC INFORMATION SCIENCE**  
**COLLEGE OF ATMOSPHERIC AND GEOGRAPHIC SCIENCES**  
 THE UNIVERSITY OF OKLAHOMA

For Students Entering the Oklahoma State System for Higher Education:  
**Summer 2017 through Spring 2018**

| GENERAL REQUIREMENTS                                      |      |
|---|------|
| Total Credit Hours . . . . .                              | 121  |
| Total Upper-Division Credit Hours . . . . .               | 40   |
| <b>Minimum Retention/Graduation Grade Point Averages:</b> |      |
| Minimum in OU Coursework . . . . .                        | 2.25 |
| Minimum in Major Coursework – Combined and OU . . . . .   | 2.25 |
| Overall – Combined and OU . . . . .                       | 2.25 |

Geographic Information Science  
**B452**  
 Bachelor of Science 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.  |   |  |
|---|---|--|
| GENERAL EDUCATION AND COLLEGE REQUIREMENTS<br>Courses graded P/NP will not apply.   | Courses required for the major support may <u>not</u> also fulfill University-Wide General Education Requirements   |  |
| <p>Courses for fulfillment of General Education and College of Atmospheric &amp; Geographic Sciences requirements must be from the approved General Education course list at <a href="http://www.ou.edu/content/gened/courses.html">http://www.ou.edu/content/gened/courses.html</a>.</p> <p style="text-align: center;"><b>University-Wide General Education (minimum 40 hours) and College of Atmospheric and Geographic Sciences Requirements</b><br/>                     Courses graded P/NP will not apply</p> <p><b>Core Area I: Symbolic and Oral Communication</b> (9-19 hours, 3-5 courses)<br/>                     A. <b>English Composition</b> (6 hours, 2 courses)<br/>                     1. English 1113, Principles of English Composition<br/>                     2. English 1213, Principles of English Composition, or EXPO 1213, Expository Writing</p> <p>B. <b>Foreign Language</b> (0-10 hours in the same language)<br/>                     Students who have not completed two years of the same foreign language in high school are required to take two college courses in the same foreign language. This additional coursework may add 6-10 hours to the minimum hours required for graduation.<br/>                     1. Beginning Course (0-5 hours) _____<br/>                     2. Beginning Course, continued (0-5 hours) _____</p> <p>C. <b>Mathematics</b> (3 hours, 1 course). *MATH 1914, Differential &amp; Integral Calculus I</p> <p><b>Core Area II: Natural Science</b> (7 hours, 2 courses) including one laboratory component.</p> <p>1. <b>Science with Lab:</b> *CHEM 1315, General Chemistry<br/>                     2. <b>Science without Lab:</b> *PHYS 2514, General Physics for Engr. &amp; Science Majors</p> <p><b>Core Area III: Social Science</b> (6 hours, 2 courses)<br/>                     1. Political Science 1113, American Federal Government<br/>                     2. _____</p> <p><b>Core Area IV: Humanities</b> (12 hours, 4 courses)<br/>                     a. <b>Understanding Artistic Forms</b> (3 hours, 1 course) _____<br/>                     b. <b>Western Civilization and Culture</b> (6 hours, 2 courses)<br/>                     1. History 1483, U.S., 1492-1865, or History 1493, U.S., 1865-Present,<br/>                     2. _____ (excluding HIST 1483 and 1493)<br/>                     c. <b>Non-Western Culture</b> (3 hours, 1 course): _____</p> <p><b>Core Area V: Senior Capstone Experience</b> (3 hours, 1 course): _____</p> <p>At least three hours of Upper-Division General Education coursework must be completed outside the major.</p> <p>*College of Atmospheric and Geographic Sciences requirements</p> | MAJOR REQUIREMENTS  | MAJOR SUPPORT REQUIREMENTS   |
|   | <p><b>CORE (27 hours, 9 courses)</b></p> <p>GEOG 1113, The Language of Maps 3<br/>                     GIS 2023, Intro. to Spatial Thinking 3<br/>                     GEOG 3773, Geography of the U.S. 3<br/>                     GIS 4013, Fundamentals of GIS 3<br/>                     GIS 4253, GIS Applications 3<br/>                     GIS 4453, Adv. GIS and Spatial Analysis 3<br/>                     GIS 4653, Spatial Programming 3<br/>                     GEOG 4893, Research Methods and Professional Development 3<br/>                     GEOG 4953, Geoinformatics Capstone Seminar 3</p> <p><b>Remote Sensing (6 hours, 2 courses)</b></p> <p>GIS 4133, Fund. of Remote Sensing<br/>                     GIS 4233, Digital Image Processing<br/>                     GIS 4393, Automated Analysis of Spatial Grids<br/>                     GIS 4970, Topics (Remote Sensing)</p> <p>_____ 3<br/>                     _____ 3</p> <p><b>Statistics (7 hours, 2 courses)</b></p> <p>GEOG 3924, Quantitative Methods 4<br/>                     GIS 4923, Spatial Statistics 3</p> <p><b>Computer-Related (6 hours, 2 courses)</b></p> <p>Two from the following:<br/>                     C S 1313, Programming for Non-Majors<br/>                     MIS 2113, Computer-Based Info. Sys.<br/>                     MIS 3013, Intro. to Programming</p> <p>_____ 3<br/>                     _____ 3</p> | <p><b>Cognate</b></p> <p>Twelve hours (12 hours, 4 courses) in the same area, to be chosen from the following: economics, geography, geology, journalism, meteorology, political science, psychology, regional &amp; city planning, sociology, or another adviser-approved area.</p> <p>_____ 3<br/>                     _____ 3<br/>                     _____ 3<br/>                     _____ 3</p> <p><b>Upper-Division Science Electives</b></p> <p>A minimum of 15 hours of 3000-4000-level courses in botany, chemistry, computer science, engineering, geology, geophysics, mathematics, management information systems, meteorology, microbiology or physics.</p> <p>_____ 3<br/>                     _____ 3<br/>                     _____ 3<br/>                     _____ 3</p> |
|   |   | <b>Free Electives</b>  |
|   |   | <p>Electives to bring total applicable hours to 121 including 40 upper-division hours.</p>   |
| <p><b>Additional College of Atmospheric and Geographic Sciences Bachelor of Science Requirements:</b></p> <p>1. MATH 1914, Differential &amp; Integral Calculus I<br/>                     2. MATH 2924, Differential &amp; Integral Calculus II<br/>                     3. PHYS 2524, General Physics for Engr. &amp; Science Majors<br/>                     4. METR 1313, Programming for Meteorology</p> <p>MATH 1823, 2423, and 2433 will also fulfill the College's calculus requirement.</p>  |   |  |

## INFORMATION CONCERNING GENERAL RULES, REGULATIONS AND MINIMUM REQUIREMENTS

**TOTAL HOURS:** A minimum of 126 semester hours acceptable toward graduation must be completed.

**UPPER-DIVISION HOURS:** A minimum of 40 upper-division semester hours acceptable toward graduation must be completed. OU courses numbered 3000 or above are upper-division. Transfer work is counted as lower-division or upper-division credit depending on the level at which it was offered at the institution where it was earned. Two-year college work is accepted only as lower-division credit.

**SENIOR INSTITUTION HOURS:** A minimum of 60 semester hours applied toward graduation must be earned at senior (4-year) institutions.

**RESIDENCY:**

- A minimum of two semesters must be spent in residence in the College of Atmospheric and Geographic Sciences.
- At least 36 of the last 48 hours must be completed in residence at OU.

**INDIVIDUAL STUDIES:** No more than six hours of independent study or directed readings may be applied toward degree requirements.

**GRADEPOINT AVERAGES:** Students must earn a minimum overall 2.25 for each of the following: Combined Retention GPA (all college grades), OU Retention GPA, GPA for all major courses, and GPA for all major courses taken at OU.

**Refer to the OU General Catalog for more complete information.**

### Suggested Semester Plan of Study — Bachelor of Science in Geographic Information Science (B452)

This plan shows one possible grouping of courses that would allow students to graduate in four years. Please refer to the front of the degree checklist for official requirements. Students must consult with College of Atmospheric and Geographic Sciences and/or Geoinformatics Program academic advisers to verify that courses selected each semester fulfill the recommended plan and satisfy university, College of Atmospheric & Geographic Sciences, and Geographic Information Science major requirements.

| Year             | FIRST SEMESTER   | Hours     | SECOND SEMESTER   | Hours     |
|------------------|--|-----------|---|-----------|
| <b>FRESHMAN</b>  | ENGL 1113, Principles of English Composition (Core I)  | 3         | ENGL 1213, Principles of English Composition (Core I), or | 3         |
|                  | CHEM 1315, General Chemistry (Core II)                 | 5         | EXPO 1213, Expository Writing (Core I)                    | 4         |
|                  | HIST 1483, United States 1492-1865, or                 | 3         | MATH 2924, Differential & Integral Calculus II            | 3         |
|                  | 1493, United States 1865-Present (Core IV)             | 4         | METR 1313, Programming for Meteorology                    | 3         |
|                  | MATH 1914, Differential & Integral Calculus I (Core I) | 4         | P SC 1113, American Federal Government (Core III)         | 3         |
|                  |  |           | GEOG 1113, The Language of Maps                           | 3         |
|                  | <b>TOTAL CREDIT HOURS</b>                              | <b>15</b> | <b>TOTAL CREDIT HOURS</b>                                 | <b>16</b> |
| <b>SOPHOMORE</b> | PHYS 2514, General Physics for Science & Engr. Majors  | 4         | PHYS 2524, General Physics for Science & Engr. Majors     | 4         |
|                  | GIS 2023, Intro. to Spatial Thinking                   | 3         | GEOG 3773, Geography of the U.S.                          | 3         |
|                  | Computer Related Course                                | 3         | Cognate Course  | 3         |
|                  | Social Science (Core III)                              | 3         | Computer Related Course                                   | 3         |
|                  | Understanding Artistic Forms (Core IV)                 | 3         | Western Civilization & Culture (Core IV)                  | 3         |
|                  | <b>TOTAL CREDIT HOURS</b>                              | <b>16</b> | <b>TOTAL CREDIT HOURS</b>                                 | <b>16</b> |
| <b>JUNIOR</b>    | GIS 3924, Quantitative Methods                         | 4         | GIS 4253, GIS Applications                                | 3         |
|                  | GIS 4013, Fundamentals of GIS                          | 3         | Remote-Sensing Course Requirement                         | 3         |
|                  | Remote-Sensing Course Requirement                      | 3         | Cognate Course  | 3         |
|                  | Cognate Course   | 3         | Upper-Division Science Elective                           | 3         |
|                  | Upper-Division Science elective                        | 3         | Non-Western Culture (Core IV)                             | 3         |
|                  | <b>TOTAL CREDIT HOURS</b>                              | <b>16</b> | <b>TOTAL CREDIT HOURS</b>                                 | <b>15</b> |
| <b>SENIOR</b>    | GIS 4653, Spatial Programming                          | 3         | GEOG 4953, Capstone                                       | 3         |
|                  | GIS 4923, Spatial Statistics                           | 3         | GIS 4453, Adv. GIS and Spatial Analysis                   | 3         |
|                  | GEOG 4893, Research Methods                            | 3         | Upper-Division Science Elective                           | 3         |
|                  | Cognate Course   | 3         | Upper-Division Science Elective                           | 3         |
|                  | Upper-Division Science Elective                        | 3         |   | 3         |
|                  | <b>TOTAL CREDIT HOURS</b>                              | <b>15</b> | <b>TOTAL CREDIT HOURS</b>                                 | <b>12</b> |

**Bachelor's degrees require a minimum of 40 hours of upper-division (3000-4000) coursework.** This plan of study should not be used in lieu of academic advisement.

| Remote-Sensing (6 hours, 2 courses)  | Statistics (7 hours, 2 courses) | Computer-Related (6 hours, 2 courses)   |  |
|--|---------------------------------|---|--|
| GIS 4133, Fund. of Remote Sensing  | GEOG 3924, Quantitative Methods | C S 1313, Programming for Non-Majors  |  |
| GIS 4233, Digital Image Processing   | GIS 4923, Spatial Statistics    | MIS 2113, Computer-Based Info. Systems  |  |
| GIS 4393, Automated Analysis of Spatial Grids  |                                 | MIS 3013, Intro. to Programming   |  |
| GIS 4970, Topics (Remote Sensing)  |                                 |   |  |
| <b>Cognate Courses</b>   |                                 | <b>Upper-Division Science Electives</b>   |  |
| Twelve hours (12 hours, 4 courses) in the same area, to be chosen from the following: economics, geography, geology, journalism, meteorology, political science, psychology, regional & city planning, sociology, or an adviser-approved area. |                                 | A minimum of 15 hours of 3000-4000 -level courses in botany, chemistry, computer science, engineering, geology, geophysics, mathematics, management information systems, meteorology, microbiology, or physics. |  |
| _____  |                                 | _____   |  |
| _____  |                                 | _____   |  |
| _____  |                                 | _____   |  |