Undergraduate GIScience Certificate (CTGISU)

The ability to think spatially, interpret maps, and creatively use geospatial technologies is a fundamental skill expected in a wide variety of careers today. Maps and mapping technologies also underlie a significant proportion of everyday decision making. Acquiring such skills requires formal training in many topics related to the interdisciplinary field of Geographic Information Science (GIScience). The Certificate in GIScience is designed for students to complement their major with knowledge of mapping and geospatial technologies. The curriculum ensures a balanced background in the three core areas of GIScience: i) theoretical foundations of mapping and geospatial analysis, ii) use of geospatial technologies for creating, mapping, and analyzing geographic information, and iii) general computational and information analysis skills. The certificate is open to all undergraduates except those enrolled in the GIScience major.

Complete a minimum of 17 credit hours (with at least 6 outside the department of your major) from the following list of courses. Note: Only one course from each Specialization Elective Subgroup may count toward the Certificate.

### Core Courses (8 credits)
- GEOG 2680 - Introduction to GIS & Mapping Sciences (4)
- GEOG 4730 - Principals of GIS (4)

### Core Elective (choose one, 4 credits)
- GEOG 3600 - Cartography I (4)
- GEOG 4660 - Principles of Remote Sensing (4)
- GEOG 4740 - GIS Design & Application Dev (4)
- GEOG 4750 - GIS Modeling & Computation (4)
- GEOG 4760 - Geographic Info Analysis (4)

### Specialization Electives (choose two, 5 – 8 credits)

#### Specialization Elective Subgroup 1 – choose no more than one course
- MIS 2010 - Introduction to Information Analysis and Design (3)
- MIS 2011 - Introduction to Information Analysis and Design Nonmajor (3)

#### Specialization Elective Subgroup 2 – choose no more than one course
- ISE 4350 - Database Information Systems (3)
- MIS 2020 - Business Information Systems (3)
- MIS 2021 - Business Information Systems Nonmajor (3)

#### Specialization Elective Subgroup 3 – choose no more than one course
- VICO 2161 - Interactive I: Web Design (3)
- VICO 2561 - Introduction to Basic Web Design (3)

#### Specialization Elective Subgroup 4 – choose no more than one course
- GEOG 2710 - Introduction to Statistics in Geography (3)
- GEOL 3050 - Statistical Methods in Geology (4)
- ISE 3040 - Fundamentals of Statistics (3)
- ISE 3200 - Engineering Statistics (3)
- MATH 2500 - Introduction to Statistics (4)
- PBIO 3150 - Statistical Methods in Plant Biology (4)
- PSY 2110 - Statistics for the Behavioral Sciences (3)
- QBA 2010 - Intro to Business Statistics (3)

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