

Graduate Certificate in Geographic Information Science

"Everything is related to everything else, but near things are more related than distant things," said renowned geographer and cartographer Waldo Tobler. A certificate in Geographic Information Science (GIS) capitalizes on this by blending field equipment, computer hardware and software, data, and people to capture, manage, display, analyze, and distribute all forms of geographically referenced information. Through the application of GIS and its principles, you can perform quantitative analyses to make informed decisions and provide logistical support in virtually any field. Effective use of GIS has evolved into a requisite skill for most agencies in both the public and private sectors, and provides a transformative tool to address academic research. Students from such diverse disciplines as geography, atmospheric science, biology, engineering, economics, urban planning, landscape architecture, and sociology benefit from applying GIS and related technologies such as global positioning systems (GPS), remote sensing, spatial statistics, and computer programming to use location-based data. GIS has found wide applications in the sciences and engineering, as well as in business, government, military, and consumer areas. The director of the certificate program is available to meet with each student and design a curriculum that best meets your interests, goals, and academic level.

The certificate program is designed to provide graduate students with the knowledge and skills necessary to succeed in the rapidly expanding field of geographic information science (GIScience) or apply GIScience concepts in their own field of study. Attaining the certificate shows employers you have the critical skills necessary to perform in public, private, and academic settings. It complements the existing M.A., M.S., and Ph.D. degrees and builds upon the existing graduate concentrations in GIScience within the department.

The University of Kansas is a member of University Consortium for Geographic Information Science (UCGIS).

Admission to Graduate Studies

An applicant seeking to pursue graduate study in the College may be admitted as either a degree-seeking or non-degree seeking student. Policies and procedures of Graduate Studies govern the process of Graduate admission. These may be found in the Graduate Studies (<https://catalog.ku.edu/archives/2024-25/graduate-studies/>) section of the online catalog.

Please consult the Departments & Programs (<https://catalog.ku.edu/archives/2024-25/liberal-arts-sciences/>) section of the online catalog for information regarding program-specific admissions criteria and requirements. Special admissions requirements pertain to Interdisciplinary Studies degrees, which may be found in the Graduate Studies section of the online catalog.

The director of the certificate program, Professor Xingong Li (<https://geog.ku.edu/people/xingong-li/>), will be available to meet with each student and design a curriculum that best meets the student's needs. Each student will have a personalized plan depending on their interests and, if applicable, current enrollment in a graduate program. All prospective students must complete the online application (<https://gradapply.ku.edu/apply/>) for the GIScience Graduate Certificate Program and include a statement of interest.

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All current graduate students not housed in the Department of Geography & Atmospheric Science entering the certificate program must speak with their academic advisor before entering the certificate program. Application requirements for those **currently enrolled at KU**:

1. A completed online application for the GIScience Graduate Certificate Program.
2. Statement of Interest.
3. A letter of support from your graduate program.
4. A current Degree Progress Report (DPR) if applicable.

Application requirements for those **not currently enrolled at KU**:

1. A completed online application for the GIScience Graduate Certificate Program.
2. A statement of interest.
3. A copy of official transcripts from all previous post-secondary educational institutions.
4. A letter of recommendation from persons familiar with their academic work or potential for graduate school.

Please see the policy on Graduate Certificate Programs - Eligibility and Admission Criteria (<http://catalog.ku.edu/graduate-studies/#certificatetext>) for more information on minimum requirements for graduate certificate admission.

Submit your graduate application online (<https://gradapply.ku.edu/apply/>). For questions, contact:

The Graduate Program Coordinator

A total of 12 credit hours are required to earn the certificate. Only one course outside of the Department of Geography and Atmospheric Science may be included in these 12 credit hours. At least 50% of coursework taken must be at the 700 level or above. Course requirements include the following:

Select 2 of the 3 core GIS courses (6-7 credit hours) listed below:

| Code | Title | Hours |
|----------|-----------------------------|-------|
| GEOG 528 | Spatial Databases | 3 |
| GEOG 558 | Spatial Data Analysis * | 4 |
| GEOG 560 | GIS Application Programming | 3 |

Core courses may be waived and replaced with approved electives in cases where students have completed the same course for undergraduate credit.

*Because at least 50% of coursework must be at the 700 level or above, if GEOG 558 is a chosen requirement, the student must complete 7 hours of electives for a total of 14 credit hours.

Select an additional 6-7 credit hours of electives from the following:

| Code | Title | Hours |
|----------|----------------------------------|-------|
| GEOG 716 | Advanced Geostatistics | 3 |
| GEOG 726 | Remote Sensing of Environment II | 4 |
| GEOG 748 | Location Modeling | 3 |
| GEOG 898 | Readings in Geography | 1-4 |

Any graduate-level (700+) GIS application course from another department/school (in consultation with advisor)

At least once per year students are required to meet with the certificate Director to discuss progress in the program.

A student can take no longer than 4 years to pursue the certificate unless a leave of absence or other extenuating circumstances are present. In either event a petition letter must be submitted to the Director during the 4th year of enrollment.