NKU offers two certificates in Geographic Information Systems:

- **Undergraduate Certificate** – for students who have not completed a bachelor’s degree.
- **Graduate Certificate** – for students who already have earned a bachelor’s degree.

“NKU courses in GIS have given me an edge when looking for employment. I feel that my background in GIS made me a top candidate for a position at CostQuest Associates. I find that GIS is a good marriage of both applied and theoretical science.”

– Jesse Amundsen, NKU alumnus, GIS Developer, CostQuest Associates

“Learning GIS at NKU has enabled me to better analyze medical care data and broadened my study scope in health informatics. The medical industry is currently undergoing a digital transformation amassing vast amounts of spatial data.”

– Pamela Atkinson, NKU graduate student, Intern at HealthBridge

For information on these exciting certificate programs:

**Please contact:**

NKU Department of Computer Science  
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(800) 637-9948  
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www.nku.edu
Certificates in Geographic Information Systems

A Geographic Information System is a computer-based system for managing and processing geographically referenced data. It helps manage and process locations and characteristics of spatial features, such as roads and land parcels. It also allows for visual display and spatial analysis of demographic, economic and other data. GIS is a fast-growing area with a broad range of applications in government agencies, nonprofit organizations and for-profit companies.

The NKU undergraduate and graduate certificates in GIS are designed for individuals who seek careers in the exciting and fast-growing field. They provide students with a solid grounding in GIS, including both theories and relevant applied skills. They also allow students to pursue education specifically oriented to their desired career paths by including a variety of electives.

Students learn and practice GIS skills in a specially equipped computer lab on NKU’s campus.

Course Requirements – Undergraduate Certificate in Geographic Information Systems

Two fundamental courses
GEO 415 - CARTOGRAPHY
GEO 418 - GEOGRAPHIC INFORMATION SYSTEMS

One technical breadth course
GEO 419 - INTRODUCTION TO REMOTE SENSING
GEO 452 - GEOGRAPHIC DATABASES (ALSO CIT 352)
GEO 518 - GEOGRAPHIC INFORMATION ANALYSIS

Two elective courses from the following offerings in geography, computer science, computer information technology and public administration
GEO 518 - GEOGRAPHIC INFORMATION ANALYSIS
GEO 519 - ADVANCED REMOTE SENSING
GEO 419 - INTRODUCTION TO REMOTE SENSING
GEO 314 - MAPS AND MAP INTERPRETATION
GEO 452 - GEOGRAPHIC DATABASES (ALSO CIT 352)
GEO 592 - DIRECTED STUDY IN GIS (ALSO GEO 492, CSC 499)
CSC 440 - SOFTWARE ENGINEERING
CSC 450 - DATABASE MANAGEMENT SYSTEMS
CSC 480 - COMPUTER GRAPHICS
CIT 472 - DATABASE ADMINISTRATION
BIS 330 - IT PROJECT MANAGEMENT

Course Requirements – Graduate Certificate in Geographic Information Systems

Two fundamental courses
PAD 515 - CARTOGRAPHY
PAD 650 - GEOGRAPHIC INFORMATION SYSTEMS

One technical breadth course
PAD 519 - INTRODUCTION TO REMOTE SENSING
PAD 651 - ADVANCED GIS

Two elective courses from the following offerings in geography, computer science, computer information technology and public administration
PAD 651 - ADVANCED GIS
PAD 519 - INTRODUCTION TO REMOTE SENSING
PAD 650 - DATABASE MANAGEMENT SYSTEMS
PAD 699 - DIRECTED STUDY IN GIS (ALSO CSC 699)
CSC 540 - SOFTWARE ENGINEERING
CSC 640 - ADVANCED SOFTWARE ENGINEERING
CSC 550 - DATABASE MANAGEMENT SYSTEMS
CSC 650 - ADVANCED DATABASE SYSTEMS
CSC 580 - COMPUTER GRAPHICS
CIT 572 - DATABASE ADMINISTRATION
CIT 672 - ADVANCED DATABASE ADMINISTRATION
MBI 650 - IT PROJECT MANAGEMENT