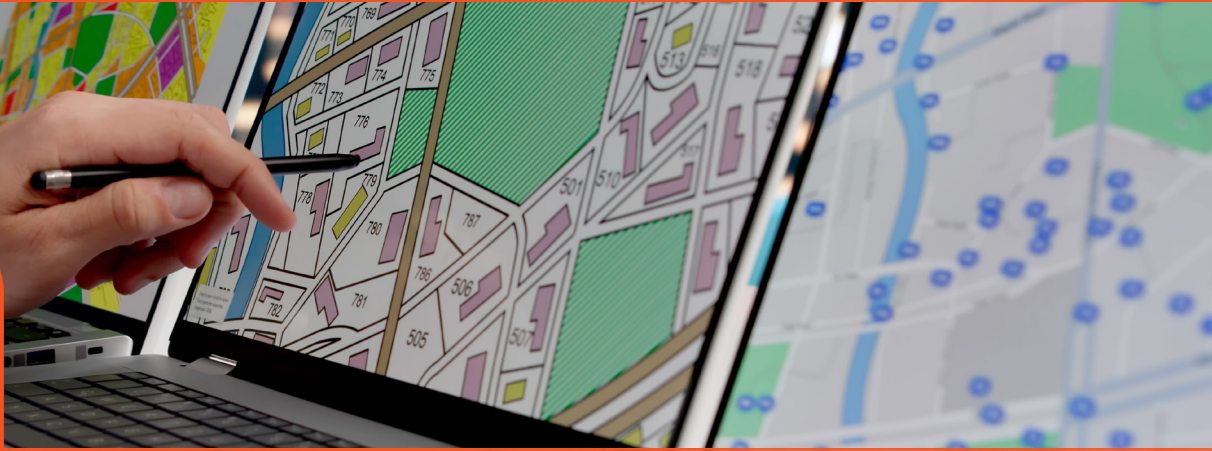




GIS CERTIFICATE PROGRAM

DEPT OF BIOLOGICAL & ENVIRONMENTAL SCIENCES



Career Pathways with GIS training:

**GIS Analyst
Cartographer
Remote Sensing Specialist
Environmental Consultant
Urban and Regional Planner
Geospatial Data Scientist
GIS Technician**

Skill-enhancements across multiple fields:

**Students from a wide-range
of disciplines, including:
Environmental Health
Geography
Urban and Regional Planning
Biology and Ecology
Computer Science
Business and Marketing
Public Health**

Show Me the Money!

Depending on experience and location,
GIS professionals can earn
competitive salaries, with entry-level
positions starting around \$40,000
and more senior roles reaching over
\$100,000. In combination with a
college degree, you can earn an
average of 75% more than those with
only a high school degree per

The Chicago Tribune!

(NACE 2022 Salary Report)

> What is GIS?

A Geospatial Information System, or GIS, is a computer-based system that develops, manages, and analyzes data. By integrating this data to a map a GIS creates geospatial data. These systems consist of hardware, software, geospatial data, and the human interface.

> Program Overview

The Undergraduate GIS Certificate Program is a comprehensive, four-semester undergraduate course designed for students and professionals looking to develop in-demand skills in Geographic Information Systems (GIS). Whether you're new to GIS or enhancing existing skills, this program provides immersive experience with industry-standard tools and software, preparing you for careers in environmental management, urban planning, geospatial analysis, and more.

> Program Outcomes

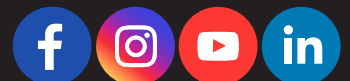
The Undergraduate GIS Certificate Program is a comprehensive, four-semester undergraduate course.



East Central University

1100 E. 14th St.

Ada, Oklahoma 74820



www.ecok.edu/GOLD • 580-559-5105

GIS CERTIFICATE

PROGRAM DETAILS

> Skill-based Training

In this program, students will gain proficiency in:

- ArcGIS Pro: Master the latest ESRI software for geospatial data manipulation, visualization and analysis.
- ESRI-Based GIS Solutions: Learn how to leverage ESRI's suite of tools, including ArcGIS Online, StoryMaps, Dashboards and mobile apps for data collection and sharing.
- Cartography: The art and science of creating accurate and visually compelling maps using ArcGIS Pro's advanced cartographic tools.
- Python for ArcGIS Pro: Automate workflows, customize GIS applications, and perform advanced spatial analysis with Python scripting in ArcGIS Pro.
- Geospatial Database Management: Use ArcGIS Pro's geodatabase tools for effective spatial data storage and management.
- GPS Data Collection & Integration: Hands-on experience collecting field data with GPS and integrating it into ArcGIS Pro for analysis and mapping.

> The ECU Advantage

As a student in the UG GIS Certificate Program at East Central University, you'll benefit from:

- Proven Expertise: ECU is recognized for its leadership in environmental health sciences and cartography.
- Course Flexibility: available in many formats (online, hybrid or face-to-face) to fit best to your learning goals and situation.
- Cutting-Edge Tools: Access to GIS software and the latest data collection technology.
- Industry Connections: Our faculty members bring years of experience from industry, government, and research organizations.

> Coursework

> FOUNDATIONS OF GIS

> DIGITAL MAPPING

> SPATIAL ANALYSIS

> WORKFLOW AUTOMATION

> You have questions? We have answers!

Professional usage/training and software type expertise courses:

Use of GIS in professional usage/training and software type expertise:



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254 PES

To prepare students for tomorrow's world through a dynamic & diverse learning experience.



College of Health & Sciences

Dean: Dr. Ken Andrews

BES Department

Chair: Dr. Alisha Howard

Degree: Bachelor of Science

Programs: 2

Concentrations: 7

Minors: 4

Organizations: 4

Location: 160 PES Building

Scholarships Available

ECU at a Glance

Undergraduate Enrollment: 3,300

Undergraduate Majors: 58

Student to Faculty Ratio: 17 to 1

Average Class Size: 22

Faculty with PhDs: 65%

States Represented: 28

Countries Represented: 30+

Year Founded: 1909

Campus Size: 140 acres

Area Location: Ada, Oklahoma

Tiger Spirit

Mascot: Roary the Tiger

School Colors: Orange & Black

Student Organizations: 35+

Athletics: NCAA Division II

Men's:

Football
Baseball
Basketball
Cross Country
Track & Field
Golf

Women's:

Basketball
Volleyball
Softball
Soccer
Cross Country
Track & Field
Golf



GIS CERTIFICATE

PROGRAM DETAILS



The GIS field is experiencing significant growth, with a need for professionals to manage and analyze geospatial data in diverse sectors like urban planning, environmental science, utilities, and emergency management, many GIS jobs can be performed remotely, providing flexibility for work-life balance. GIS skills can be applied in various, including GIS Analyst, GIS Technician, GIS Developer, GIS Manager, Cartographer, and Geointelligence Analyst, allowing for career flexibility.

> Highlights

- Four-Semester Undergraduate Certificate Program
- GIS Software Provided: Access to state-of-the-art GIS software
- Real-World Projects: Work on community and/or industry-based problems
- Career Support: Dedicated career advisors to help you transition into GIS-related roles
- Faculty with Industry Experience: Learn from instructors with professional GIS and geospatial expertise.
- Digital Portfolio: Graduates will complete the program with a digital portfolio showcasing their work
- Comprehensive Coverage: Students receive a well-rounded preparation across required GIS professional categories skills

> Curriculum Breakdown

Pre-work or knowledge: Basic understanding of mapping concepts (directions, length measurements, latitude and longitude), computer literacy (Microsoft Office Suite specifically Word and Excel), and an introduction to file management and formats (File Managers, hierarchy, file extensions, compression/extraction)

Foundations of Geographic Information Systems

An introduction to the concepts, principles, and theories of GIS, with emphasis on the nature and communication of geographic information. Data collection, storage, manipulation and basic spatial analysis methods are covered.

Spatial Analysis

Methods to spatial problems with an emphasis on geospatial dataset management and control. Exploration of how to identify change, distance, density, and distribution of geospatial data.

Digital Mapping

Application of cartographic principles for complex and efficient mapping tasks including atlas production, creation of online and interactive maps, animated mapping, terrain mapping, and perspective graphics.

Workflow Automation

Presentation on advanced digital data structures and the use of software applications for maintaining and utilizing geographic information. Each student will develop and implement a GIS and analysis model.

Drone Fleet

ECU's applied learning mission gives hands-on experience and guided learning.

From data collection techniques such as drone, remote and databanks to integration and analysis.

To prepare students for tomorrow's world through a dynamic & diverse learning experience.