

Geospatial Analysis

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DEPARTMENT HIGHLIGHTS

The minor in Geospatial Analysis offered at D&E prepares students to apply the science of geographic information with the applications and technologies of geographic information systems (GIS), cartography and remote sensing to various disciplines. Geospatial technologies

portray and analyze geographic location and characteristics of physical and human environments.

Applying these software technologies, geospatial data are layered and analyzed to understand and communicate complex phenomena such as natural disasters,

environmental impact, land cover change, migrating populations, crime patterns, and changing economic trends.

Geospatial analysis skills are applicable to a growing list of professions, and increasingly sought after by employers.

WHY MINOR IN GEOSPATIAL ANALYSIS?

Having a minor in GIS can be useful in a number of fields, such as environmental science, sustainability, criminology, business, education and public health. Environmental science and GIS technologies can bring together disparate data models to design better solutions for humanity's need to better manage, protect and preserve our environment.

- Sustainability and GIS can be used together as a tool to better understand and address issues of sustainability, such as population growth, climate change, energy consumption and natural resources. GIS technology bridges the gap between different sectors and acts as a tool to integrate, manage, analyze, and visually format data from multiple sources.
- In criminology, a GIS analyst conducts spatial analysis of point patterns and area-based data in studies of the locations of crime events and rates, offenders, police patrolling practices, judicial districts and community corrections and how they relate to physical and social characteristics of neighborhoods.
- Business GIS involves analyzing business data for relevant spatial information to improve decision making in marketing, logistics, and general management decisions in both business and not-for-profit institutions.
- GIS technology in an educational setting provides an opportunity to use the same tools used in high-demand careers to examine geographic questions, conduct analysis and explore themes. K-12 students work with data in ways that reveal relationships, patterns, and trends in the form of maps, globes, reports and charts. These skills are invaluable to studies in many subject areas, including science, mathematics, career and technical education, social studies, reading and language arts.
- The role of GIS is rapidly increasing in the development of public health policy for targeted prevention and intervention methods. Public health uses of GIS include tracking child immunizations, conducting health policy research, and establishing service areas.

COURSEWORK

Introduction to Environmental Science
Introduction to Geographic Information Science and Systems

Remote Sensing and Intermediate Geographic Information Systems
Biogeography

Python for GIS
Advanced Geographic Information Systems



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