GEOGRAPHIC INFORMATION SCIENCE AND TECHNOLOGY (MINOR)

Minor: Geographic Information Science and Technology
Program Code: M752

About This Minor. . .

The Physical and Environmental Sciences (PES) Department at Colorado Mesa University offers a minor in Geographic Information Science and Technology. The courses are open to all students interested in broadening their knowledge and enhancing job-related skills in a rapidly expanding market of computer-based technology. The multidisciplinary nature of the Geographic Information science and technology allows students from a wide variety of fields to participate in this exciting program.

Geographic Information Science and Technology includes Geographic Information Systems, Global Positioning Systems, and Remote Sensing. A geographic information system (GIS) is a computer-based tool for mapping and analyzing geospatial data. GIS technology is a subset of information systems where the databases consists of features, activities, or events that are definable in space as points, lines, or areas. GPS (Global Positioning System) is a satellite system that allows users to collect precise geographic data for use in mapping. Remote sensing refers to any technique whereby information about objects and the environment is obtained from a distance, such as from aircraft or satellites. Remote sensing often permits us to greatly expand our spectral view of the earth and "see" the world much more clearly than we can with the unaided eye.

Demand is strong for people who are trained in Geographic Information Science and Technology. This minor will assist students in securing jobs in this rapidly growing field. GIS/GPS can be used for cartography, business, biology, geology, environmental science, history, archeology, and criminal justice.

Requirements

Each section below contains details about the requirements for this program. Select a header to expand the information/requirements for that particular section of the program's requirements.

To print or save an overview of this program's information, including the program description, learning outcomes, requirements, suggested course sequencing (if applicable), and advising and graduation information, scroll to the bottom of the left-hand navigation menu and select "Print Options." This will give you the options to either "Send Page to Printer" or "Download PDF of This Page." The "Download PDF of This Page" option prepares a much more concise presentation of all program information. The PDF is also printable and may be preferable due to its brevity.

Institutional Minor Requirements

The following institutional requirements apply to all CMU minors. Specific programs may have different requirements that must be met in addition to institutional requirements.

- A minor consists of 15-24 semester hours. There may be prerequisites required for the minor which will increase the total number of credit hours for a student who has not already taken those prerequisites.
- Courses taken to satisfy Essential Learning, major requirements, or electives **can** be counted toward the minor if applicable.
- At least 33 percent of the credit hours required for the minor must be in courses numbered 300 or above.
- At least 25 percent of the classes must be taken at CMU.
- 2.00 cumulative GPA or higher for the courses used for the minor.
- A minor is not a degree by itself and must be earned at the same time as a baccalaureate degree.
- A minor must be outside the major field of study.
- A student may earn up to five minors with any baccalaureate degree at CMU.
- The Catalog Year determines which program sheet and degree requirements a student must fulfill in order to graduate. Visit with your advisor or academic department to determine which catalog year and program requirements sheet you should follow.
- See "Requirements for Undergraduate Degrees and Certificates" in the catalog for a complete list of graduation requirements.

Program Specific Minor Requirements

(16-18 semester hours)

16-18 semester hours for the Minor in Geographic Information Science and Technology.

Code	Title	Semester Credit Hours
GIST 332	Introduction to Geographic Information Systems	2
GIST 332L	Introduction to Geographic Information Systems Laboratory	1
GIST 422	GIS Data Management and Editing	2
GIST 422L	GIS Data Management and Editing Laboratory	1
GIST 432	Spatial Analysis and Modeling in GIS	2
GIST 432L	Spatial Analysis and Modeling in GIS Laboratory	1
Select one of the following courses:		1-3
GEOG 131	Introduction to Cartography	
GIST 305	Cartography for GIS	
Select a minimum of six semester hours of the following:		6
CSCI 110	Beginning Programming	
GIST 321	Introduction to Remote Sensing	
GIST 321L	Introduction to Remote Sensing Laboratory	
GEOG 341	GIS for Social Scientists	
GEOG 341L	GIS for Social Scientists Lab	
GIST 375	Global Positioning Systems for GIS	
GIST 375L	Global Positioning Systems for GIS Laboratory	
XXXX 395	Independent Study [1]	
XXXX 495	Independent Study [1]	
XXXX 497	Independent Study [1]	
Total Semester Credit Hours		**16-18**

[1] Must have a GIS focus and be approved by the GIS program advisor.

Advising and Graduation

Advising Process and DegreeWorks

Documentation on the pages related to this program is intended for informational purposes to help determine what courses and associated requirements are needed to earn a minor. Meeting with an academic advisor is essential in planning courses and developing a suggested course sequencing. It is ultimately the student's responsibility to understand and fulfill the requirements for their intended minor.

DegreeWorks is an online degree audit tool available in MAVzone. It is the official record used by the Registrar's Office to evaluate progress towards a minor. Students are responsible for reviewing their DegreeWorks audit on a regular basis and should discuss questions or concerns with their advisor or academic department head for the minor. Discrepancies in requirements should be reported to the Registrar's Office.

Graduation Process

A minor cannot be awarded by itself. It must be combined with a baccalaureate degree outside the major field of study. Students should follow the graduation process outlined for the baccalaureate degree and list their majors and minors on the "Intent to Graduate" form.

If a student's petition for graduation is denied, it will be their responsibility to consult the Registrar's Office regarding next steps.