

GEOGRAPHIC INFORMATION SYSTEMS

Geographic Information Systems

Associate of Applied Science

PROGRAM DESCRIPTION

GIS is an information system designed to work with data referenced by spatial or geographic coordinates. GIS is both a database system with specific capabilities for spatially referenced data, as well as a set of operations for processing the data. The program is built on a foundation

of computer-aided mapping and surveying technology for collecting spatial data, database generation and manipulation for tabular data and GIS-specific courses for organization, analysis and reporting.

Graduates work in retail and commercial businesses, natural resources, education, federal/state/local governments, banking and insurance, internet, publishing and real estate. GIS careers typically include positions such as GIS technician, analyst, project manager, computer programmer, database administrator, system administrator, cartographic designer, developer and related managerial and administrative roles.

PROGRAM COSTS

(beyond standard tuition/fees and textbooks)

Material Costs

- Required:
 - Materials (usb/flash drive, maps, assorted office supplies), \$500.
- Recommended:
 - A home or laptop computer capable of running the GIS software, \$700. Contact program instructor for specifics.

PROGRAM ENTRANCE REQUIREMENTS

Academic Entrance Requirements

- Recommended:
 - High school diploma or GED
 - Minimum placement scores resulting in WR 121 Academic Composition placement or completion of WR 065 Rhetoric/Critical Thinking II/WR 095 Basic Writing II (“C” or better)
 - Minimum placement scores resulting in MTH 085 Technical Mathematics I placement or completion of MTH 020 Pre-Algebra and/or MTH 060 Algebra I equivalent
 - Completion of computer competency (either IC3 exam or CIS 120 Computer Concepts, which may be taken as part of program)

Other Entrance Requirements

- All COCC students enrolled in the Geographic Information Systems program (which includes requirements for Co-operative Work Experience) may have to pass Criminal History Checks (CHC) as a condition of their acceptance into a work site. See the website or program director for more information.

PROGRAM PERFORMANCE STANDARDS

Academic Requirements

- Students must have a 2.0 cumulative GPA to earn a COCC certificate or degree.
- All courses in the program must be completed with a grade of C or higher.

PROGRAM COURSE REQUIREMENTS

Core Courses

GEOG 211	Computer Cartography	4
GEOG 265	Geographic Information Systems	4
GEOG 266	Arc GIS	5
GEOG 267	Geodatabase Design	5
GEOG 273	Spatial Data Collection	5
GEOG 275	GIS Capstone	5
GEOG 280	Co-op Work Experience GIS	3
GEOG 284	GIS Customization	5
GEOG 285	Data Conversion/Documentation	5
GEOG 286	Remote Sensing	5
GEOG 287	Analysis of Spatial Data	5
GIS Electives:	Choose two of the following courses:	6-8
CIS 120	Computer Concepts	
CIS 125A1	AutoCAD 1	
FOR 230B	Forest Surveying	
FOR 236	Aerial Photo	

Other Required Courses

CIS 135DB	Database Theory/SQL	4
Discipline Studies Courses		8
FOR 230A	Map, Compass and GPS	3
FOR 235	Resource Measurements	4
HHP 252A	Fitness/First Aid	3

Human Relations approved course	3-4
Choose one of the following:	4-8
MTH 085 Technical Mathematics I	
& MTH 086 Technical Mathematics II	
or MTH 105 Math in Society (or higher)	
WR 121 Academic Composition	4
WR 227 Technical Writing	4
Total Credits 94-101	

ADVISING NOTES

GIS courses begin once per year, in fall term. Students take non-program support and/or selected GIS courses if they begin in a term other than fall or if they need to build skills related to prerequisites. GIS courses, offered each term, must be taken together and sequentially. Students are discouraged from working more than 10 hours per week during any term due to heavy course load.

This degree is designed for students planning to enter their chosen career upon graduation. Often only selected credits are considered transferable to public or private baccalaureate institutions.