

## GEOGRAPHY

### Associate of Science or One-Year GIS Certificate

The Geography program provides students with education in a variety of geographic theory, digital mapping and spatial database technology including GIS, GPS, remote sensing, and spatial analysis techniques. Instruction emphasizes application to a variety of fields through hands-on learning with state-of-the-art hardware, software, and other mapping tools. Graduates may seek employment as GIS Technicians, GIS Specialists, or GIS Analysts with government and private industry that rely on geospatial information for managing resources, planning, transportation, emergency response, and other location-based services. Degree options include a one year Certificate or a two year Associate of Science (AS). The certificate is appropriate for persons interested in developing skills in geospatial technologies to use in their current profession or for those seeking immediate employment as a technician. The AS is designed to provide a more comprehensive education in GIST and is appropriate for students seeking employment as technicians and analysts, or those wishing to transfer to a four-year degree program elsewhere.

#### Associate of Science Degree Requirements

<b>1st Semester</b>			<b>Credits</b>
GEOG	112	World Regional Geography OR	
GEOG	145	Human Geography	3
GEOG	115	Map Use, Interpretation, and Design	4
GEOG	118	Introduction to Mapping Technologies	4
ENGL	111	Freshman Composition	3
MATH	185	College Algebra	3
			<b>Total 17</b>
<b>2nd Semester</b>			
GEOG	111	Introduction to Physical Geography	4
GEOG	120	GPS and Surveying Methods	4
GEOG	151	Geographic Information Systems I	4
		Approved Social and Behavioral Science Elective	3
		Approved Humanities and Fine Arts Elective	3
			<b>Total 18</b>
<b>3rd Semester</b>			
GEOG	251	Geographic Information Systems II	4
		Approved Geography Elective (see below)	3 or 4
MATH	251	Statistics	4
SPCH	110	Public Speaking OR	
SPCH	111	Interpersonal Communication	3
		Approved Social and Behavioral Science Elective OR	
		Approved Humanities and Fine Arts Elective	3
			<b>Total 17 or 18</b>
<b>4th Semester</b>			
		Approved Geography Elective (see below)	3 or 4
ENGL	211	Advanced Composition	3
COSC	185	Database Management Systems	3
		Approved Social and Behavioral Science Elective	3
		Approved Humanities and Fine Arts Elective	3
			<b>Total 15 or 16</b>
<b>Total for Degree 67 or 69</b>			

**GEOGRAPHY**  
**Associate of Science or One-Year GIS Certificate**  
(Continued)

<b>Geography Electives - pick one from the following choices</b>			<b>Credits</b>
GEOG	105	SPIN: Special Interest	1 - 4
GEOG	125	Weather and Climate	3
GEOG	130	Natural Hazards	3
GEOG	135	Energy and Natural Resources Geography	3
GEOG	140	Geography of the Four Corners	3
GEOG	230	Geographic Image Analysis	4
GEOL	110	Introduction to Geology	4
DRFT	150	Computer Aided Drafting (CAD)	4
COSC	214	Visual Basic I	3
COSC	118	Computer Programming Fundamentals I with C++	3
GEOG	295	*GIS Topics	1-6
GEOG	299	*GIS Special Problems	1-6
GEOG	285	*GIS Internship	3
GEOG	280	*Cooperative Education	3

**GIS Certificate Requirements**

**1st Semester**

GEOG	118	Introduction to Mapping Technologies OR	
GEOG	105	SPIN: Up to 4 credits of GIS short courses (SPIN) may be substituted for GEOG 118	4

GEOG	115	Map Use, Interpretation & Design	4
GEOG	112	World Regional Geography OR	
GEOG	145	Human Geography	3
COSC	125	Business Microcomputer Applications	3

Total 14

**2nd Semester**

GEOG	111	Introduction to Physical Geography	4
GEOG	120	GPS and Surveying Methods	4
GEOG	151	Geographic Information Systems I	4
COSC	185	Database Management Systems	3

Total 15

**Total for Certificate 29**