

# Geomatics Technology

The Geomatics Technology curriculum provides training for technicians in the many areas of geomatics and surveying. Surveyors are involved in land surveying, route surveying, construction surveying, photogrammetry, mapping, Global Positioning Systems (GPS), Geographic Information Systems (GIS), and other areas of property description and measurements. GIS Technicians make and interpret maps for various purposes; they also digitize, collect and maintain GIS data. Analysts maintain GIS databases and manipulate spatial data to illustrate relationships that might otherwise be difficult to visualize.

Course work includes the communication and computational skills required for boundary, construction, route and control surveying, photogrammetry, topography, drainage, surveying law, subdivision design, cartography, and spatial analysis, with emphasis upon applications of electronic data collection and related software, including CAD and ArcGIS.

Graduates should qualify for jobs as survey party chief, instrument person, surveying technician, highway surveyor, mapper, GPS technician, CAD operator, GIS Technician, or Analyst. Graduates are prepared to pursue the requirements necessary to become a Professional Land Surveyor in North Carolina.

For specific information about potential positions and wages in geomatics employment, visit the Central Piedmont Career Coach website.

## Geomatics Technology (A40420)

### Degree Awarded

The Associate in Applied Science Degree - Geomatics Technology is awarded by the college upon completion of this program.

### Admissions

- A high school diploma or equivalent is required.
- Central Piedmont placement tests are required in English and mathematics. Developmental classes in English and mathematics courses are available for students to build basic skills and knowledge.
- Attend an orientation session and consult with an advising counselor regarding course placement after placement testing.
- Consult with a Geomatics Technology Faculty Advisor before course registration.
- Many courses have prerequisites or co-requisites; check the Courses section for details.

### Note

Students who do not take program-related courses for a one-year period must reenter the program under the Catalog in effect at the time of reentry.

### Contact Information

The Geomatics Technology program is in the Engineering Technology Division. For more information, call the Program Chair at 704.330.6652, or visit the Geomatics Technology website.

#### General Education Requirements

ENG 111	Writing and Inquiry	3.0
ENG 114	Professional Research & Reporting	3.0
COM 110	Introduction to Communication	3.0
or COM 231	Public Speaking	

Select 3 credits of the following: 3.0

MAT 121	Algebra/Trigonometry I
MAT 171	Precalculus Algebra
MAT 271	Calculus I

Select 3 credits of the following: 3.0

ART 111	Art Appreciation
ART 114	Art History Survey I
ART 115	Art History Survey II
DRA 111	Theatre Appreciation
HUM 120	Cultural Studies
HUM 130	Myth in Human Culture
MUS 110	Music Appreciation
MUS 112	Introduction to Jazz
PHI 215	Philosophical Issues
PHI 240	Introduction to Ethics
REL 110	World Religions

Select 3 credits of the following: 3.0

ECO 251	Principles of Microeconomics
ECO 252	Principles of Macroeconomics
HIS 111	World Civilizations I
HIS 112	World Civilizations II
HIS 131	American History I
HIS 132	American History II
POL 120	American Government
PSY 150	General Psychology
SOC 210	Introduction to Sociology

#### Major Requirements

CEG 115	Intro to Tech & Sustainability	3.0
SRV 110	Surveying I	4.0
CEG 211	Hydrology & Erosion Control	3.0
CEG 151	Cad for Engineering Technology	3.0
SRV 111	Surveying II	4.0
SRV 210	Surveying III	4.0
SRV 220	Surveying Law	3.0
CEG 230	Subdivision Planning & Design	3.0
SRV 240	Topo/Site Surveying	4.0
GIS 111	Introduction to GIS	3.0
GIS 112	Introduction to GPS	3.0
GIS 121	Georeferencing & Mapping	3.0
GIS 240	Air Photo Interpretation	3.0
GIS 225	Advanced Methods in GIS	3.0

#### Technical Electives

Select 4.0 credits from the following: 4.0

ACA 122	College Transfer Success
WBL 112E	Work-Based Learning I Experience
SRV 260	Field & Office Practices
GIS 221	Advanced Topics in GIS

Total Credits 68

## No diplomas are offered in Geomatics Technology.

### Geomatics Technology Certificates (C40420)

- Geomatics Technology Certificate Specialization in Geomatics Technology Pathway(C40420-C6) (p. 2)
- Geomatics Technology Certificate Specialization in Geospatial Fundamentals (C40420-C7) (p. 2)

### Geomatics Technology Certificate Specialization in Geomatics Technology Pathway(C40420-C6)

This certificate is intended for high school juniors and seniors enrolled in a Career Technical Education Pathway. Course work includes fundamental mathematics, principles of Plane Surveying, principles of Route Surveying, principles of Hydrology, and basic study of Geographic Information Systems. All course work may be applied toward an Associate in Applied science Degree – Geomatics Technology.

#### General Education Requirements

#### Major Requirements

SRV 110	Surveying I	4.0
CEG 115	Intro to Tech & Sustainability	3.0
MAT 121	Algebra/Trigonometry I	3.0
GIS 111	Introduction to GIS	3.0
CEG 151	Cad for Engineering Technology	3.0
Total Credits		16

### Geomatics Technology Certificate Specialization in Geospatial Fundamentals (C40420-C7)

#### Certificate Awarded

A certificate is awarded in Mapping upon completion of this program.

#### Admissions

- Completion of a high school diploma or equivalent is required.
- Central Piedmont placement test is required in mathematics. Developmental courses are available for students to build basic skills and knowledge.
- Many courses have prerequisites; check the Courses section of the catalog for details.

#### Contact Information

The Geomatics Technology program is in the Engineering Technologies Division. For more information, call the Program Chair at 704.330.6895.

#### Major Requirements

GIS 111	Introduction to GIS	3.0
GIS 112	Introduction to GPS	3.0
GIS 121	Georeferencing & Mapping	3.0
GIS 225	Advanced Methods in GIS	3.0
GIS 240	Air Photo Interpretation	3.0
Total Credits		15