

**Fire Protection Technology (A55240)**

The Fire Protection Technology curriculum is designed to provide individuals with technical and professional knowledge to make decisions regarding fire protection for both public and private sectors. It also provides a sound foundation for continuous higher learning in fire protection, administration, and management.

Course work includes classroom and laboratory exercises to introduce the student to various aspects of fire protection. Students will learn technical and administrative skills such as hydraulics, hazardous materials, arson investigation, fire protection safety, fire suppression management, law and code.

Graduates should qualify for employment in governmental agencies, industrial firms, insurance rating organizations, educational organizations, and municipal fire departments. Employed persons should have opportunities for skilled and supervisory level positions within their current organizations.

**Degree Awarded**

The Associate in Applied Science Degree - Fire Protection Technology is awarded by the College upon completion of the program.

**Admissions**

- A high school diploma or equivalent is required.
- Placement tests are required for admission to particular courses.
- Many courses have prerequisites or corequisites; check the Course Descriptions section for details.

**Additional Information**

**Notes**

Students may obtain a suggested course sequence list from the program chair.

**Contact Information**

The Fire Protection Technology program is a part of the Public Safety Division. For more information, call 704.330.4636.

**Major and Related Course Requirements**

	Class	Lab	Hours Clinical	Work Exper.	Credits
FIP 120 Introduction to Fire Protection	3	0	0	0	3
FIP 124 Fire Prevention & Public Education	3	0	0	0	3
FIP 128 Arson Investigation	3	0	0	0	3
FIP 220 Fire Fighting Strategies	3	0	0	0	3
FIP 230 Chem. Of Hazardous Mat I	5	0	0	0	5
OR					
CHM 151 General Chemistry I	3	2	0	0	4
OR					
PHY 151 College Physics I	3	2	0	0	4
FIP 132 Building Construction	3	0	0	0	3
FIP 136 Inspections and Codes	3	0	0	0	3
FIP 140 Industrial Fire Protection	3	0	0	0	3
OR					
FIP 276 Managing Fire Services	3	0	0	0	3
FIP 144 Sprinklers & Auto Alarms	2	2	0	0	3
FIP 148 Portable and Fixed Exting. Sys	2	2	0	0	3
FIP 152 Fire Protection Law	3	0	0	0	3
FIP 221 Advanced Fire Fighting Strategies	3	0	0	0	3
Prereq: FIP 220					
FIP 224 Instructional Methodology	4	0	0	0	4
FIP 231 Chem of Hazardous Mat II	4	2	0	0	5

Prereq: FIP 230

OR

CHM 152 General Chemistry II 3 2 0 0 4

Prereq: CHM 151

OR

PHY 152 College Physics II 3 2 0 0 4

Prereq: PHY 151

FIP 232 Hydraulics & Water Dist.

Prereq: MAT 140

FIP 264 Flame Prop & Mat. Rating 1 4 0 0 3

**General Education Core Requirements**

ENG 111 Expository Writing 3 0 0 0 3

ENG 114 Professional

Research & Reporting

3 0 0 0 3

OR

ENG 113 Literature Based Research 3 0 0 0 3

COM 231 Public Speaking 3 0 0 0 3

OR

COM 110 Introduction to

Communications

3 0 0 0 3

MAT 140 Survey of Mathematics 3 0 0 0 3

PSY 150 General Psychology 3 0 0 0 3

CIS 111 Basic PC Literacy 3 0 0 0 3

OR

CIS 110 Introduction to

Computers

3 0 0 0 3

**NOTE:** Students must choose a minimum of three (3) credit hours from the list of approved humanities courses listed at the end of this section of the catalog. Student intending to continue at a university level, it is suggested that they also take MAT 161.

**Total Credit Hours 67 12 0 73**

**Geographic Information Systems (GIS)/Global Positioning Systems (GPS) Technology (A40220)**

The Geographic Information Systems/Global Positioning Systems Technology curriculum provides a broad background in Geographic Information System (GIS) and Global Positioning System (GPS) technologies with practical applications in municipal, industrial, natural resources management, and other fields.

Course work consists of class and hands-on experience with GIS/GPS technologies, including running and modifying current GIS software, creating and manipulating GIS databases, and operating GPS technology.

Graduates should find employment as field technicians or as database and mapping assistants.

**Degree Awarded**

The Associate in Applied Science Degree - Geographic Information Systems/Global Positioning Systems Technology will be awarded by the College upon completion of this program.

**Admissions**

- A high school diploma or equivalent is required.
- CPCC placement tests are required in English and mathematics. Developmental classes in mathematics and English courses are available for students to build basic skills and knowledge.
- A counseling/orientation appointment follows placement testing.
- Students should see a faculty advisor before registration.
- Many courses have prerequisites or corequisites; check the Course Descriptions section for details.

**Additional Information**

**Notes**

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**

Geographic Information Systems/Global Positioning Systems Technology is in the Engineering Technologies Division. For more information, call 704.330.6578, or visit our web site at www.cpcc.edu/et/gis.htm.

**Major and Related Course Requirements**

	Class	Lab	Hours Clinical	Work Exper.	Credits
GIS 111 Introduction to GIS	2	2	0	0	3
GIS 112 Introduction to GPS	2	2	0	0	3
GIS 121 Georeferencing and Mapping Skills	2	2	0	0	3
GIS 245 Introduction to Spatial Analysis	2	2	0	0	3
GIS 255 Advanced Spatial Analysis	2	2	0	0	3
CIS 110 Introduction to Computers	2	2	0	0	3
CIS 152 Database Concepts and Applications	2	2	0	0	3
GIS 231 Geo Position Sys. Methods	1	4	0	0	3
GIS 235 Raster GIS	2	2	0	0	3
GEO 131 Physical Geography I	3	2	0	0	4
GIS 211 GIS/GPS Project	1	2	0	0	2
GIS 250 Auto CAD and Trans for GIS	0	4	0	0	2
GIS 212 GIS/GPS Applications	4	4	0	0	6
					49

**Technical Electives:** Select 6 SHC from the list below.

COE 122E Co-op Work Experience II	0	0	0	20	2
GIS 251 Computer Graphics/Mapping 1	2	0	0	0	2
GEO 111 World Regional Geography	3	0	0	0	3
GIS 120 Introduction to Geodesy	2	2	0	0	3
GIS 240 Air Photo Interpretation	2	2	0	0	3
GIS 252 Utilities in GIS	2	2	0	0	3
GIS 215 GIS Data Models	2	2	0	0	3
GIS 230 GIS Data Creation	2	2	0	0	3
GIS 232 Spatial Databases	2	2	0	0	3
GIS 241 Cartographic Production	2	2	0	0	3
GIS 222 Internet Mapping	2	2	0	0	3
GIS 261 Programming in GIS	2	2	0	0	3
SRV 250 Advanced Surveying	2	6	0	0	4
GIS 246 Prin. of Property Mapping	2	2	0	0	3
SRV 220 Surveying Law	2	2	0	0	3
GIS 125 CAD for GIS	2	2	0	0	3
CIS 153 Database Applications	2	2	0	0	3
CIS 154 Database Utilization	1	2	0	0	2
CSC 134 C++ Programming	2	3	0	0	3
CSC 139 Visual Basic Programming	2	3	0	0	3
CSC 148 JAVA Programming	2	3	0	0	3
CSC 234 Advanced C++	2	3	0	0	3
CSC 239 Advanced Visual Basic	2	3	0	0	3
COE 112E Co-operative Work Experience	0	0	0	20	2
GIS 221 Advanced Topics in GIS	1	2	0	0	2
SRV 111 Surveying II	2	6	0	0	4

**General Education Core Requirements**

ENG 111 Expository Writing	3	0	0	0	3
ENG 114 Professional Research and Reporting	3	0	0	0	3
COM 110 Introduction to Communications	3	0	0	0	3

MAT 121 Algebra/Trigonometry I	2	2	0	0	3
Students must choose a minimum of three (3) credit hours from the list of approved humanities courses listed at the end of this section of the catalog.	3	0	0	0	3
Students must choose a minimum (3) credit hours from the list of approved behavioral and social sciences courses listed at the end of this section of the catalog.	3	0	0	0	3
<b>Total Credit Hours</b>					<b>18</b>

**GIS/GPS Technology Certificates (C40220)**

**GIS/GPS Technology Certificate with a Specialization in Geographic Information Science (C40220-C1)**

**Major and Related Course Requirements**

	Class	Lab	Hours Clinical	Work Exper.	Credits
GIS 111 Introduction to GIS	2	2	0	0	3
GIS 120 Introduction to Geodesy	2	2	0	0	3
GIS 121 Georeferencing and Mapping	2	2	0	0	3
GIS 240 Air Photo Interpretation	2	2	0	0	3
GIS 125 CAD for GIS	2	2	0	0	3
<b>Total Credit Hours</b>					<b>15</b>

**GIS/GPS Technology Certificate with a Specialization in Geospatial Specialist (C40220-C2)**

**Major and Related Course Requirements**

	Class	Lab	Hours Clinical	Work Exper.	Credits
GIS 111 Introduction to GIS	2	2	0	0	3
GIS 121 Georeferencing and Mapping	2	2	0	0	3
<b>Technical Electives</b>					<b>6</b>

Students must select a minimum of two (2) courses from the following list of courses:

GIS 240 Air Photo Interpretation	2	2	0	0	3
GIS 215 GIS Data Models	2	2	0	0	3
GIS 230 GIS Data Creation	2	2	0	0	3
GIS 232 Spatial Databases	2	2	0	0	3
GIS 252 Utilities in GIS	2	2	0	0	3
GIS 231 GPS Methods	1	4	0	0	3
GIS 255 Advanced Spatial Analysis	2	2	0	0	3
GIS 225 Advanced Methods in GIS	2	2	0	0	3
GIS 241 Cartographic Production	2	2	0	0	3
GIS 235 Raster GIS	2	2	0	0	3
GIS 222 Internet Mapping	2	2	0	0	3
GIS 251 Principles of Property Mapping	1	2	0	0	2
GIS 245 Intro to Spatial Analysis	2	2	0	0	3
<b>Total Credit Hours</b>					<b>12</b>

**GIS/GPS Technology Certificate with a Specialization in Database Specialist (C40220-C3)**

**Major and Related Course Requirements**

	Class	Lab	Hours Clinical	Work Exper.	Credits
GIS 111 Introduction to GIS	2	2	0	0	3
CIS 152 Database Concepts and Applications	2	2	0	0	3
GIS 121 Georeferencing & Mapping	2	2	0	0	3
CIS 153 Database Applications	2	2	0	0	3
CIS 154 Database Utilization	2	2	0	0	3
<b>Total Credit Hours</b>					<b>14</b>

**GIS/GPS Technology Certificate with a Specialization in Programming Specialist (C40220-C4)**

**Major and Related Course Requirements**

	Class	Lab	Hours Clinical	Work Exper.	Credits
GIS 111 Introduction to GIS	2	2	0	0	3
GIS 121 Georeferencing & Mapping	2	2	0	0	3
Students must select one of the following pairs of courses:					
CSC 134 C++ Programming	2	3	0	0	3
CSC 234 Advanced C++ Programming	2	3	0	0	3
CSC 139 Visual Basic Programming	2	3	0	0	3
CSC 239 Advanced Visual Basic Programming	2	3	0	0	3
CIS 148 JAVA Programming	2	3	0	0	3
GIS 261 Advanced GIS Programming	2	2	0	0	3
<b>Total Credit Hours</b>					<b>12</b>

**GIS/GPS Technology Certificate with a Specialization in Geodetic Specialist (C40220-C5)**

**Major and Related Course Requirements**

	Class	Lab	Hours Clinical	Work Exper.	Credits
GIS 111 Introduction to GIS	2	2	0	0	3
GIS 112 Introduction to GPS	2	2	0	0	3
SRV 111 Surveying II	2	6	0	0	4
GIS 231 GPS Methods	1	4	0	0	3
OR					
SRV 250 Advanced Surveying	2	6	0	0	4
<b>Total Credit Hours</b>					<b>13</b>

**GIS/GPS Technology Certificate with a Specialization in Photogrammetry Specialist (C40220-C6)**

**Major and Related Course Requirements**

	Class	Lab	Hours Clinical	Work Exper.	Credits
GIS 121 Georeferencing & Mapping	2	2	0	0	3
GIS 240 Air Photo Interpretation	2	2	0	0	3
GIS 245 Introduction to Spatial Analysis	2	2	0	0	3
GIS 255 Advanced Spatial Analysis	2	2	0	0	3
<b>Total Credit Hours</b>					<b>12</b>

**GIS/GPS Technology Certificate with a Specialization in Cartography Specialist (C40220-C7)**

**Major and Related Course Requirements**

	Class	Lab	Hours Clinical	Work Exper.	Credits
GIS 111 Introduction to GIS	2	2	0	0	3
GIS 121 Georeferencing & Mapping	2	2	0	0	3
GIS 232 Spatial Databases	2	2	0	0	3
GIS 222 Internet Mapping	2	2	0	0	3
<b>Total Credit Hours</b>					<b>12</b>

**GIS/GPS Technology Certificate with a Specialization in Utilities Specialist (C40220-C8)**

**Major and Related Course Requirements**

	Class	Lab	Hours Clinical	Work Exper.	Credits
GIS 111 Introduction to GIS	2	2	0	0	3
GIS 121 Georeferencing & Mapping	2	2	0	0	3
GIS 231 GPS Methods	1	4	0	0	3
GIS 252 Utilities in GIS	2	2	0	0	3
<b>Total Credit Hours</b>					<b>12</b>

**GIS/GPS Technology Certificate with a Specialization in Land Records Specialist (C40220-C9)**

**Major and Related Course Requirements**

	Class	Lab	Hours Clinical	Work Exper.	Credits
GIS 111 Introduction to GIS	2	2	0	0	3
GIS 121 Georeferencing & Mapping	2	2	0	0	3
GIS 246 Principles of Property Mapping	2	2	0	0	3
SRV 220 Surveying Law	2	2	0	0	3
<b>Total Credit Hours</b>					<b>12</b>

**Graphic Arts and Imaging Technology (A30180)**

The Graphics Arts and Imaging Technology curriculum is designed to provide students with knowledge and skills necessary for employment in the printing, publishing, packaging, and related industries.

Students will receive hands-on training in computer publishing, imaging technology, offset lithography, screen printing, and emerging printing technologies. Training may also include flexography, graphic design, and multimedia.

Graduates should qualify for career opportunities within the printing and publishing industries.

**Degree Awarded**

The Associate in Applied Science Degree-Graphic Arts and Imaging Technology is awarded by the College upon completion of this program.

**Admissions**

- A high school diploma or equivalent is required.
- Submit high school transcripts as well as any college transcripts.
- Placement testing in English, mathematics, and reading is required to qualify for ENG 111 and MAT 115. Scores on placement tests may require students to take specified Developmental Studies courses. If required, completion of these courses is necessary prior to program admission. Students may, with approval of program chair, take no more than two preadmission courses during their first semester of program admission.
- Students must demonstrate proficiency in microcomputer operations equivalent to or higher than CIS 110 before admission.
- Many courses have prerequisites or corequisites; check the Course Descriptions section for details.

**Additional Information**

**Notes**

Students must furnish required hand tools for program. A list of these items can be obtained from the program chair or instructors.

**Contact Information**

The Graphic Arts and Imaging Technology program is in the Technical Careers Division. For more information, call 704.330.4481 or 704.330.4445. See Graphic Arts and Imaging Technology Program instructors or program counselors for suggested sequence.

**Major and Related Course Requirements**

	Class	Lab	Hours Clinical	Work Exper.	Credits
GRA 121 Graphic Arts I	2	4	0	0	4
GRA 151 Computer Graphics I	1	3	0	0	2