

**Major and Related Course Requirements**

	Class	Lab	Hours Clinical	Work Exper.	Credits
CIS 111 Basic PC Literacy	1	2	0	0	2
CIV 111 Soils and Foundations	2	3	0	0	3
CIV 210 Engineering Materials	1	3	0	0	2
CIV 211 Hydraulics and Hydrology	2	3	0	0	3
CIV 110 Statics/Strength of Materials	2	6	0	0	4
OR					
MEC 250 Statics & Strength of Materials	4	3	0	0	5
CIV 125 Civil/Surveying CAD	1	6	0	0	3
CIV 221 Steel and Timber Design	2	3	0	0	3
CIV 222 Reinforced Concrete	2	3	0	0	3
CIV 230 Construction Estimating	2	3	0	0	3
CIV 240 Project Management	2	3	0	0	3
EGR 115 Intro to Technology	2	6	0	0	3
SRV110 Surveying I	2	6	0	0	4
SRV 111 Surveying II	2	6	0	0	4
EGR 115A Intro. to Tech. Lab	0	3	0	0	1
					48

**Technical Electives:** Select 7 SHC from the list below.

CIS 115 Introduction to Programming and Logic	2	2	0	0	3
CIS 152 Database Concepts and Applications	2	2	0	0	3
CIV 212 Environmental Planning	2	3	0	0	3
CIV 215 Highway Technology	1	3	0	0	2
CIV 250 Civil Tech Project	1	3	0	0	2
COE 112 Co-op Work Experience I	0	0	0	20	2
MAT 223 Applied Calculus	2	2	0	0	3
PHY 132 Physics-Elec & Magnetism	3	2	0	0	4
PHY 152 College Physics II	3	2			4

**General Education Core Requirements**

ENG 111 Expository Writing	3	0	0	0	3
ENG 113 Literature-Based Research	3	0	0	0	3
OR					
ENG 114 Professional Research and Reporting	3	0	0	0	3
COM 231 Public Speaking					
OR					
COM 110 Intro to Communication	3	0	0	0	3
MAT 121 Algebra/Trigonometry I	2	2	0	0	3
MAT 122 Algebra/Trigonometry II	2	2	0	0	3
PHY 131 Physics-Mechanics	3	2	0	0	4
OR					
PHY 151 College Physics I	3	2			4

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.

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.

**Total Credit Hours** 73

**Civil Engineering Technology Certificates (C40140)**

**Civil Engineering Technology Certificate with a Specialization In Construction Materials Testing (C40140-C1)**

This certificate prepares individuals to enter the Materials Testing Career in the Construction Industry.

**Major and Related Course Requirements**

	Class	Lab	Hours Clinical	Work Exper.	Credits
EGR 115A Intro. to Tech. Lab	0	3	0	0	1
CIS 111 Basic PC literacy	1	2	0	0	2
EGR 115 Intro to Technology	2	6	0	0	3
MAT 121 Algebra/Trigonometry I	2	2	0	0	3
CIV 110 Statics/Strength of Materials	2	6	0	0	4
CIV 111 Soils and Foundations	2	3	0	0	3
CIV 210 Engineering Materials	1	3	0	0	2
<b>Total Credit Hours</b>					<b>18</b>

**Civil Engineering Technology Certificate with a Specialization In Project Supervision (C40140-C2)**

**Major and Related Course Requirements**

	Class	Lab	Hours Clinical	Work Exper.	Credits
EGR 115A Intro. to Tech. Lab	0	3	0	0	1
CIS 111 Basic PC literacy	1	2	0	0	2
MAT 121 Algebra/Trig. I	2	2			3
EGR 115 Intro to Technology	2	6	0	0	3
CIV 230 Construction Estimating	2	3	0	0	3
CIV 240 Project Management	2	3	0	0	3
<b>Total Credit Hours</b>					<b>15</b>

**Computer Engineering Technology (A40160)**

The Computer Engineering Technology curriculum provides the skills required to install, service, and maintain computers, peripherals, networks, and microprocessor and computer controlled equipment. It includes training in both hardware and software, emphasizing operating systems concepts to provide a unified view of computer systems.

Course work includes mathematics, physics, electronics, digital circuits and programming, with emphasis on the operation, use, and interfacing of memory and devices to the CPU. Additional topics may include communications, networks, operating systems, programming languages, Internet configuration and design, and industrial applications.

Graduates should qualify for employment opportunities in electronics technology, computer service, computer networks, server maintenance, programming, and other areas requiring a knowledge of electronic and computer systems. Graduates may also qualify for certification in electronics, computers, or networks.

**Degree Awarded**

The Associate in Applied Science Degree - Computer Engineering Technology is awarded by the College upon completion of this program.

**Admissions**

- A high school diploma or equivalent is required. High school students preparing for an Engineering Technology program should complete courses in algebra, geometry, and advanced mathematics. Skills and proficiencies should be developed in writing, computer literacy, and science.

- 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.
- Many courses have prerequisites or corequisites; check the Course Descriptions section for details.

**Additional Information**

**Program Accreditation**

The Computer Engineering Technology program at Central Piedmont Community College is accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology.

**Note**

The Computer Engineering Technology program prepares students with skills and knowledge in both hardware and software aspects of computers and related systems. It provides a comprehensive background in the practical application of both computer and electronic circuits from the component to the system level. Courses are designed to present technical content in an order that provides students with progressive levels of job-related skills and knowledge. From fundamental programming and electrical circuits, students advance to specialized courses in computer circuits, microprocessors, microcomputer system design, software development, computer maintenance, and installation and technical support of local area networks.

The Computer/Electrical/Electronics Engineering Technology laboratories are staffed during day and evening hours so that students may devote as much time as possible to laboratory assignments. These modern facilities include adequate equipment to support practical laboratory activity in all courses.

Completion of the program requires that students use college-level algebra, trigonometry, and physics in the application of scientific principles to technological problems.

Students who do not take program-related courses for two consecutive semesters must re-enter the program under the Catalog in effect at the time of re-entry.

Students in the Computer Engineering Technology (A40160) program, desiring to earn an additional degree in Electrical Engineering Technology (A40180) or Electronics Engineering Technology (A40200) must meet the course requirements of the additional degree, and in the process complete a minimum of 12 unduplicated required or elective semester hours credit.

**Contact Information**

The Computer Engineering Technology program is in the Information Technology Division. For more information, call 704.330.6479.

**Major and Related Course Requirements**

	Class	Lab	Hours Clinical	Work Exper.	Credits
CET 111 Computer Upgrade and Repair	2	3	0	0	3
ELC 131 DC/AC Circuit Analysis	4	3	0	0	5
ELN 131E Electronic Devices	3	3	0	0	4
ELN 133E Digital Electronics	3	3	0	0	4
ELN 232 Introduction to Microprocessors	3	3	0	0	4
Students must select one of the following courses:					
CSC 133 C Programming	2	3	0	0	3
CSC 134 C++ Programming	2	3	0	0	3
CSC 139 Visual Basic Programming	2	3	0	0	3

ELC 133 Advanced Circuit Analysis	2	3	0	0	3
ELN 132 Linear IC Applications	3	3	0	0	4
ELN 150 CAD for Electronics	1	3	0	0	2
ELN 233 Microcomputer Systems	3	3	0	0	4
NET 125 Networking Basics	1	4	0	0	3

**Technical Electives** ( 5 credit hours to be selected from the following courses)

ELN 235 Data Communication System	3	3	0	0	4
ELN 260 Programmable Logic Controllers	3	3	0	0	4
CET 125 Voice & Data Cabling	2	3	0	0	3
COE 112C Cooperative Work Experience I	0	0	0	20	2
COE 122C Cooperative Work Experience II	0	0	0	20	2
ELC 213 Instrumentation	3	2	0	0	4
ELN 234 Communication Systems	3	3	0	0	4
ELN 236 Fiber Optics and Lasers	3	2	0	0	4
CET 211 Computer Upgrade/Repair II	2	3	0	0	3
ELN 247 Electronics Applications Project	1	3	0	0	2
NET 126 Routing & Switching II	1	4	0	0	3
ELN 275 Troubleshooting	1	2	0	0	2
CIS 110 Introduction to Computers	2	2	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
COM 110 Introduction to Communications	3	0	0	0	3
MAT 121 Algebra/Trigonometry I	2	2	0	0	3
MAT 122 Algebra/Trigonometry II	2	2	0	0	3
MAT 223 Applied Calculus	2	2	0	0	3
PHY 131 Physics-Mechanics	3	2	0	0	4
PHY 132 Physics-Electricity and Magnetism	3	2	0	0	4

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 of three (3) credit hours from the list of approved behavioral and social sciences courses listed at the end of this section

3	0	0	0	3
---	---	---	---	---

**Total Credit Hours** 32  
76

**Computer Engineering Technology Certificates (C40160)**

The certificates listed below can be earned in the Computer Engineering Technology (C40160) Program.

**Admissions**

A high school diploma or equivalent is required. High school students preparing for an Engineering Technology program should complete courses in algebra, geometry, and advanced math. Skills and proficiencies should be developed in writing, computer literacy, and science.

CPCC placement tests are required in English and mathematics. Developmental studies mathematics and English courses are available for students to build basic skills and knowledge.

A counseling/orientation appointment follows placement testing.

**Additional Information**

**Contact Information**

For more information, call 704.330.6479 or 704.330.6549.

**Computer Engineering Technology Certificate with a Specialization in Basic Electronics (C40160-C2)**

**Major and Related Course Requirements**

	Class	Lab	Hours Clinical	Work Exper.	Credits
MAT 121 Algebra/Trig. I	2	2	0	0	3
ELC 131 DC/AC Circuits Analysis	4	3	0	0	5
ELN 131E Electronics Devices	3	3	0	0	4
ELN 132 Linear IC Apps	3	3	0	0	4
<b>Total Credit Hours</b>					<b>16</b>

**Computer Engineering Technology Certificate with a Specialization in PC Support (C40160-C4)**

**Major and Related Course Requirements**

	Class	Lab	Hours Clinical	Work Exper.	Credits
CET 125 Voice and Data Cabling	2	3	0	0	3
CET 111 Computer Upgrade/Repair I	2	3	0	0	3
CET 211 Computer Upgrade/Repair II	2	3	0	0	3
NET 125 Networking Basics	1	4	0	0	3
<b>Total Credit Hours</b>					<b>12</b>

**Computer Engineering Technology Certificate with a Specialization in Microprocessor Systems (C40160-C5)**

**Major and Related Course Requirements**

	Class	Lab	Hours Clinical	Work Exper.	Credits
CSC 133 C Programming	2	3	0	0	3
ELN 232 Intro. to Microprocessors	3	3	0	0	4
ELN 233 Microprocessor Systems	3	3	0	0	4
ELN 260 Programmable Logic Controllers	3	3	0	0	4
<b>Total Credit Hours</b>					<b>15</b>

**Computer Information Technology (A25260)**

(previously Information Systems)

The Computer Information Technology curriculum is designed to prepare graduates for employment with organizations that use computers to process, manage, and communicate information. This is a flexible curriculum that can be customized to meet community information systems needs.

Course work will develop a student's ability to communicate complex technical issues related to computer hardware, software, and networks in a manner that computer users can understand. Classes cover computer operations and terminology, operating systems, database, networking, security, and technical support.

Graduates should qualify for employment in entry-level positions with businesses, educational systems, and governmental agencies which rely on computer systems to manage information. Graduates should be prepared to sit for industry-recognized certification exams.

**Degree Awarded**

The Associate in Applied Science Degree in Information Systems is awarded by the College upon completion of this program.

**Admissions**

- A high school diploma or equivalent is required.
- Placement tests determine placement in English (ENG),

mathematics (MAT), and CIS 115.

- Many courses have prerequisites or corequisites; check the Course Descriptions section for details.

**Additional Information**

**Contact Information**

The Computer Information Technology program is in the Information Technology Division. For more information, call 704.330.6643 or 704.330.6549.

**Major and Related Course Requirements**

	Class	Lab	Hours Clinical	Work Exper.	Credits
CIS 115 Introduction to Programming & Logic	2	2	0	0	3
CTS 120 Hardware/Software Support	2	3	0	0	2
CTS 285 Systems Analysis & Design	3	0	0	0	3
DBA 110 Database Concepts	2	3	0	0	3
NOS 110 Operating System Concepts	2	3	0	0	3
NOS 130 Windows Single User	2	2	0	0	3
NOS 230 Windows Admin I	2	2	0	0	3
SEC 110 Security Concepts	3	0	0	0	3
CTS 289 System Support Project	1	4	0	0	2
CIS 110 Introduction to Computers	2	2	0	0	3

**Business**

Students must select one of the following courses:

BUS 110 Introduction to Business	3	0	0	0	3
CTS 115 Information Systems Business Concepts	3	0	0	0	3

**Networking**

Students must select one of the following courses:

NET 110 Networking Concepts	2	2	0	0	3
NET 125 Networking Basics	1	4	0	0	3

**Programming**

Students must select one of the following courses:

CSC 134 C++ Programming	2	3	0	0	3
CSC 139 Visual BASIC Programming	2	3	0	0	3
CSC 151 JAVA Programming	2	3	0	0	3

**Database Programming**

Students must select one of the following courses:

DBA 112 Database Utilization	2	2	0	0	3
DBA 115 Database Applications	2	2	0	0	3
DBA 120 Database Programming I	2	2	0	0	3

**Technical Electives**

Students must select 3 SHC from the following courses:

CIS 245 Operating Systems – Multi-user	2	3	0	0	3
NOS 120 Linux/UNIX Single User	2	2	0	0	3
CSC 234 Advanced C++ Programming	2	3	0	0	3
CSC 239 Advanced Visual BASIC Programming	2	3	0	0	3
COE 111 Co-op Work Experience I	0	0	0	10	1
COE 112 Co-op Work Experience I	0	0	0	20	2
CTS 125 Presentation Graphics	2	2	0	0	2
CTS 240 Project Management	2	2	0	0	3
WEB 140 Web Development Tools	2	2	0	0	3
WEB 180 Active Server Pages	2	2	0	0	3
WEB 210 Web Design	2	2	0	0	3

**General Education Requirements**

ENG 111 Expository Writing	3	0	0	0	3
ENG 112 Argument-Based Research	3	0	0	0	3
OR					
ENG 113 Literature-Based Research	3	0	0	0	3