

Associate in Applied Science

Computer Engineering Technology

(A40160)

For more information call Program Chair Dave Ross 704.330.6215 or ET Division



Overview

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.



Coursework includes mathematics, physics, electronics, digital circuits and programming, with emphasis on the operation, use, and interfacing of memory and devices to the CPU.

In the second year, students have the option to choose a track, currently only the Computer Hardware track is available. The tracks are designed to guide students to curriculum paths that cover the appropriate knowledge and skills as indicated below.

COMPUTER HARDWARE TRACK:

This track focuses on the knowledge and skills associated with the installation, maintenance, and troubleshooting of computer hardware and embedded systems. Coursework includes microprocessor, microcomputer applications, networking, internet configuration and design, operating systems, C++ programming, assembly language programming, I/O hardware interfacing, industrial applications and data acquisition using LabView.

The AAS degree in Computer Engineering Technology is accepted at some colleges and universities as the first two years of a 2+2 bachelor's-level engineering technology program. These students are advised to complete a second Physics class (PHY132 or PHY152) to ensure they are not considered deficient with credit hours in Physics.

Students obtaining coop positions, may complete the COE112 and COE122 coop classes in lieu of a technical class with prior approval from the faculty advisor and Program Chair.

For additional information, visit www.cpcc.edu/et or call the Program Chair at 704.330.6479.

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.

Engineering Technologies Change your direction!

FIRST STEP TO ENROLL:

Call CPCC Counseling at
Deon Bradley 704-330-6186

**Consult a faculty
advisor or college
counselor prior to
registration..**

*CPCC is an
Equal Opportunity
Institution.*

Degree Awarded

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

Diploma Awarded

A diploma in Computer Hardware is also awarded by the College upon Completion of the respective track.

Note: Students in the Computer Engineering Technology (A40160) desiring to earn an additional degree in Electrical Engineering Technology (A40180) or Electronics Engineering Technology (A40200), or an additional track under Computer Engineering Technology (A40160) must meet the specified course requirements.

The Computer Engineering Technology program is accredited by the Technology Accreditation Commission of ABET, <http://www.abet.org>

Admission

- 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

CURRICULUM (First Year—All Tracks) (Effective Fall 2010)

| First Semester-Fall | | Lecture | Lab | Credit |
|---------------------|---------------------------|---------|-----|----------|
| CET 111 | Computer Upgrade/Repair I | 2 | 3 | 3 |
| ELC 138 | DC Circuit Analysis | 2 | 3 | 3 |
| ENG 111 | Expository Writing | 3 | 0 | 3 |
| MAT 121 | Algebra/Trigonometry I | 2 | 2 | <u>3</u> |
| | | | | 12 |

| Second Semester-Spring | | Lecture | Lab | Credit |
|------------------------|-------------------------------|---------|-----|----------|
| CET 211 | Computer Upgrade/Repair II | 2 | 3 | 3 |
| ELC 139 | AC Circuit Analysis | 2 | 3 | 3 |
| ELN 133E | Digital Electronics | 3 | 3 | 4 |
| ELN 137 | Electronic Devices & Circuits | 4 | 3 | 5 |
| MAT 122 | Algebra/Trigonometry II | 2 | 2 | <u>3</u> |
| | | | | 18 |

| Third Semester-Summer | | Lecture | Lab | Credit |
|-----------------------|-------------------------------------|---------|-----|----------|
| COM110 | Intro. to Communications | 3 | 0 | 3 |
| ENG 114 | Professional Research and Reporting | 3 | 0 | 3 |
| | Humanities/Fine Arts Elective | 3 | 0 | <u>3</u> |
| | | | | 9 |

First Three Semesters Total Credits 39

See back for information on second-year curriculum for: the
Computer Hardware Track

CURRICULUM (Second Year)

Computer Hardware Track

| Fourth Semester-Fall | | | Lecture | Lab | Credit |
|-----------------------------|-----|-----------------------------------|---------|-----|-----------|
| CSC | 134 | C++ Programming | 2 | 3 | 3 |
| ELN | 232 | Intro. to Microprocessors | 3 | 3 | 4 |
| ELN | 237 | LAN (Ethernet, includes wireless) | 2 | 3 | 3 |
| PHY | 131 | Physics (Mechanics) | 3 | 2 | 4 |
| OR | | | | | |
| PHY | 151 | College Physics I | 3 | 2 | 4 |
| WEB | 140 | Web Development Tools | 2 | 2 | <u>3</u> |
| | | | | | 17 |

| Fifth Semester-Spring | | | | | |
|------------------------------|-----|---------------------------------------|---|---|-----------|
| ELN | 233 | Microprocessor Systems | 3 | 3 | 4 |
| MAT | 223 | Applied Calculus | 2 | 2 | 3 |
| PCI | 170 | DAQ and Control (Labview) | 3 | 3 | 4 |
| | | Behavioral/Social Science Elective | 3 | 0 | <u>3</u> |
| | | | | | 14 |

TOTAL CREDITS **72**