COE 110 World of Work	1	0	0	0	1
Total Credit Hour					**12**

Electrical Engineering Technology (A40180)

The Electrical Engineering Technology curriculum is designed to provide training for entry-level technicians desiring a career in electrical maintenance and management, or in the design, planning, construction, development and installation of electrical systems, machines, and power generating equipment.

Beginning with electrical fundamentals, course work progressively introduces electronics, electrical machines and controls, and electrical power systems. Other course work includes the study of various fields associated with the electrical/electronic industry.

Graduates may seek employment as technicians, engineering assistants, technical managers, or salespersons in electrical generation/distribution, industrial maintenance, electronic repair or other fields requiring a broad-based knowledge of electrical and electronic concepts.

Degree Awarded

The Associate in Applied Science Degree - Electrical Engineering Technology is awarded by the College upon completion of the 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 Studies 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 Electrical Engineering Technology program at Central Piedmont Community College is accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology.

Notes

The Electrical Engineering Technology program provides a basic background in the practical application of both fundamental and specialized electrical and electronic principles. Courses are designed to present technical content in an order that provides students with progressive levels of job-related knowledge and skills. From fundamental electrical and electronic courses, concentrated study in various fields of the electrical industry, including industrial controls, electrical machines and programmable logic controllers, and automated manufacturing/robotics.

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

Students in the Electrical Engineering Technology (A40180) program desiring to earn an additional degree in Computer Engineering Technology (A40160), 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 Electrical 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
ELC 131 DC/AC Circuit Analysis	4	3	0	0	5
ELC 135 Electrical Machines I	2	2	0	0	3
ELC 136 Electrical Machines II	3	3	0	0	4
ELC 231 Electric Power System	3	2	0	0	4
ELN 131E Electronic Devices	3	3	0	0	4
ELN 133E Digital Electronics	3	3	0	0	4
ELN 260 Programmable Logic Controllers	3	3	0	0	4
ELC 133 Advanced Circuit Analysis	2	3	0	0	3
ELN 132 Linear IC Applications	3	3	0	0	4
Technical Electives (5 credit hours to be selected from the following courses)					
CET 111 Computer Upgrade and Repair I	2	3	0	0	3
CET 125 Voice and Data Cabling	2	3	0	0	3
CET 211 Computer Upgrade and Repair II	2	3	0	0	3
CIS 110 Introduction to Computers	2	2	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
ELC 234E Electrical Systems Design	2	3	0	0	3
ELN 150 CAD for Electronics	1	3	0	0	2
ELN 235 Data Communication System	3	3	0	0	4
ELN 232 Introduction to Microprocessors	3	3	0	0	4
ELN 234 Communication Systems	3	3	0	0	4
ELN 236 Fiber Optics and Lasers	3	2	0	0	4
General Education Core 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
OR					
ENG 114 Professional Research and Reporting	3	0	0	0	3
COM 110 Introduction to Communications	3	0	0	0	3
OR					
COM 120 Interpersonal Communication	3	0	0	0	3
OR					
COM 231 Public Speaking	3	0	0	0	3
MAT 121 Algebra/Trigonometry	3	0	0	0	3
MAT 122 Algebra/Trigonometry	2	2	0	0	3
MAT 223 Applied Calculus	2	2	0	0	3
PHY 131 Physics	3	2	0	0	4
PHY 132 Physics Elec & Magnetism	3	2	0	0	4
Student 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

Student 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 of the catalog	3	0	0	0	3
					19
Total Credit Hours					**72**

Electrical Engineering Technology Certificates (C40180)

The certificate listed below can be earned in the Electrical Engineering Technology (C40180) Program.

Admissions

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.

Electrical Engineering Technology Certificate with a Specialization in PLC Systems (C40180-C1)

Major and Related Course Requirements

	Class	Lab	Hours Clinical	Work Exper.	Credits
ELN 133E Digital Electronics	3	3	0	0	4
ELN 132 Linear IC Applications	3	3	0	0	4
ELN 160 Programmable Logic Controllers	3	3	0	0	4
Total Credit Hours					**12**

Electrical Engineering Technology Certificate with a Specialization in Electrical Systems (C40180-C2)

Major and Related Course Requirements

	Class	Lab	Hours Clinical	Work Exper.	Credits
ELC 135 Electrical Machines I	2	2	0	0	3
ELN 132 Linear IC Applications	3	3	0	0	4
ELC 213 Instrumentation	3	3	0	0	4
ELN 260 Programmable Logic Controllers	3	3	0	0	4
Total Credit Hours					**15**

Electrical Engineering Technology Certificate with a Specialization in Advanced Electrical Systems (C40180-C3)

Major and Related Course Requirements

	Class	Lab	Hours Clinical	Work Exper.	Credits
ELN 133E Digital Electronics	3	3	0	0	4
ELC 136 Electrical Machines II	3	3	0	0	4
ELC 231 Electrical Power Systems	3	2	0	0	4
ELC 213 Instrumentation	3	2	0	0	4
Total Credit Hours					**16**

Electronics Engineering Technology (A40200)

The Electronic Engineering Technology curriculum prepares individuals to become technicians who design, build, install, test, troubleshoot, repair, and modify developmental and production electronic components, equipment, and systems such as industrial/computer controls, manufacturing systems, communication systems, and power electronic systems.

A broad-based core of courses, including basic electricity, solid-state fundamentals, digital concepts, and microprocessors, ensures the student will develop the skills necessary to perform entry-level tasks. Emphasis is placed on developing the student's ability to analyze and troubleshoot electronic systems.

Graduates should qualify for employment as engineering assistants or electronic technicians with job titles such as electronics engineering technician, field service technician, maintenance technician, electronic tester, electronic systems integrator, bench technician, and production control technician.

Degree Awarded

The Associate in Applied Science Degree - Electronics 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 Studies 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 Electronics Engineering Technology program at Central Piedmont Community College is accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology.

Notes

Electronics Engineering Technology involves the practical application of electrical and electronic fundamentals of design, fabrication, manufacturing, testing, repair and maintenance of electronic components, circuits, and systems. The electronics engineering technician is concerned with analog and digital circuitry, microprocessors, microcomputers, and their practical application in modern industrial settings.

The Electronics Engineering Technology curriculum provides a basic background in the practical application of both fundamental and specialized electronic principles. Courses are designed to present technical content in an order that provides students with progressive levels of job-related knowledge and skills. From fundamental electrical and electronic courses, students advance to electronic specialty courses that provide concentrated study in various fields of the electronic industry, including computer-electronics, microprocessors, systems maintenance, data communication, robotics, and printed circuit board layout and design using CAD.

The Computer/Electrical/Electronics Engineering Technolo-