Electronics Engineering Technology

Electronics Engineering Technology (A40200)

Degree Awarded

The Associate in Applied Science degree - Electronics Engineering Technology is awarded by the college upon completion of the program.

Program Accreditation

The Associate in Applied Science in Electronics Engineering Technology program is accredited by the Engineering Technology Accreditation Commission of ABET, under the General Criteria and the Program Criteria for Electrical/Electronics(s) Engineering Technology and Similarly Named Programs.

How to Apply

Visit Get Started on the home page of the Central Piedmont website to apply.

Contact Information

If you are in this program or have questions about this program please contact our faculty for advising.

The Electronics Engineering Technology program is in the Engineering Technologies Division. For additional information, visit the Electronics Engineering Technology website or call the Engineering Technology Division at 704.330.6773.

General Education Requirements		
ENG 111	Writing and Inquiry	3.0
Select one of the following:		3.0
COM 110	Introduction to Communication	
COM 231	Public Speaking	
ENG 112	Writing and Research in the Disciplines	
ENG 113	Literature-Based Research	
ENG 114	Professional Research & Reporting	
Select 1 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 1 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	
PSY 150	General Psychology	
POL 120	American Government	
SOC 210	Introduction to Sociology	
MAT 171	Precalculus Algebra	4.0
Major Requirements		
ACA 122	College Transfer Success	1.0
ELC 131	Circuit Analysis I	4.0
ELC 133	Circuit Analysis II	4.0
ELN 131	Analog Electronics I	4.0
ELN 133	Digital Electronics	4.0
ELN 232	Introduction to Microprocessors	4.0
ELN 260	Prog Logic Controllers	4.0
Other Major Requirements:		
EGR 110	Introduction to Engineering Technology	2.0
CSC 134	C++ Programming	3.0
Select 8.0 credits from the following:		8.0
MAT 172	Precalculus Trigonometry	
MAT 271	Calculus I	
MAT 272	Calculus II	
PHY 151	College Physics I	4.0
or PHY 251	General Physics I	
PHY 152	College Physics II	4.0
or PHY 252	General Physics II	
MAT 272	Calculus II	4.0
or PCI 170	DAQ and Control	
Total Credits		**66**

ELN 131. Analog Electronics I. 4.0 Credits. Class-3.0. Clinical-0.0. Lab-3.0. Work-0.0
This course introduces the characteristics and applications of semiconductor devices and circuits. Emphasis is placed on analysis, selection, biasing, and applications. Upon completion, students should be able to construct, analyze, verify, and troubleshoot analog circuits using appropriate techniques and test equipment.
Prerequisites: Take ELC 131, minimum grade of C

ELN 132. Analog Electronics II. 4.0 Credits. Class-3.0. Clinical-0.0. Lab-3.0. Work-0.0
This course covers additional applications of analog electronic circuits with an emphasis on analog and mixed signal integrated circuits (IC). Topics include amplification, filtering, oscillation, voltage regulation, and other analog circuits. Upon completion, students should be able to construct, analyze, verify, and troubleshoot analog electronic circuits using appropriate techniques and test equipment.

ELN 133. Digital Electronics. 4.0 Credits. Class-3.0. Clinical-0.0. Lab-3.0. Work-0.0
This course covers combinational and sequential logic circuits. Topics include number systems, Boolean algebra, logic families, medium scale integration (MSI) and large scale integration (LSI) circuits, analog to digital (AD) and digital to analog (DA) conversion, and other related topics. Upon completion, students should be able to construct, analyze, verify, and troubleshoot digital circuits using appropriate techniques and test equipment.

ELN 150. Computer-Aided Drafting for Electronics. 2.0 Credits. Class-1.0. Clinical-0.0. Lab-3.0. Work-0.0
This course introduces computer-aided drafting (CAD) with an emphasis on applications in the electronics field. Topics include electronics industry standards (symbols, schematic diagrams, layouts); drawing electronic circuit diagrams; and specialized electronic drafting practices and components such as resistors, capacitors, and ICs. Upon completion, students should be able to prepare electronic drawings with CAD software.

ELN 232. Introduction to Microprocessors. 4.0 Credits. Class-3.0. Clinical-0.0. Lab-3.0. Work-0.0
This course introduces microprocessor architecture and microcomputer systems including memory and input/output interfacing. Topics include low-level language programming, bus architecture, I/O systems, memory systems, interrupts, and other related topics. Upon completion, students should be able to interpret, analyze, verify, and troubleshoot fundamental microprocessor circuits and programs using appropriate techniques and test equipment.
Prerequisites: Take ELN 133, minimum grade of C

ELN 233. Microprocessor Systems. 4.0 Credits. Class-3.0. Clinical-0.0. Lab-3.0. Work-0.0
This course covers the application and design of microprocessor control systems. Topics include control and interfacing of systems using AD/DA, serial/parallel I/O, communication protocols, and other related applications. Upon completion, students should be able to design, construct, program, verify, analyze, and troubleshoot fundamental microprocessor interface and control circuits using related equipment.
Prerequisites: Take ELN 232

ELN 237. Local Area Networks. 3.0 Credits. Class-2.0. Clinical-0.0. Lab-3.0. Work-0.0
This course introduces the fundamentals of local area networks and their operation. Topics include the characteristics of network topologies, system hardware, system configuration, installation and operation of the LAN. Upon completion, students should be able to install and maintain a local area network.
Prerequisites: Take ELN 133

ELN 260. Prog Logic Controllers. 4.0 Credits. Class-3.0. Clinical-0.0. Lab-3.0. Work-0.0
This course provides a detailed study of PLC applications, with a focus on design of industrial controls using the PLC. Topics include PLC components, memory organization, math instructions, documentation, input/output devices, and applying PLCs in industrial control systems. Upon completion, students should be able to select and program a PLC system to perform a wide variety of industrial control functions.
Prerequisites: Take ELC 213 or ELN 133 with a minimum grade C