![Lehigh Carbon Community College logo]

Electronics Certificate (ELEC)

Graduates may be employed as electronics technicians. The program at right is recommended; however, other courses may be substituted with the approval of the electronics faculty.

Upon successful completion of this program, graduates will be able to:

- connect components into basic electrical circuits and use multimeters to verify circuit operation.
- determine how the different configurations of capacitance, inductance, and resistance affect the instantaneous voltages and resultant instantaneous currents.
- connect digital circuits common to computers, such as logic gates, flip flops, counters, and arithmetic circuits, into functioning circuits.
- use the instruction set to write assembly language programs to control the operation of the microprocessor.
- construct and experimentally verify the operation of standard electronic circuits, such as power supplies, amplifiers, and oscillators.
- demonstrate effective communication skills by writing technical reports based on laboratory experiences.
- demonstrate critical thinking/problem-solving abilities by analyzing a nonfunctioning electrical circuit, determining the problem, and restoring circuit operation.
- demonstrate interpersonal relations, teamwork, and work ethics through group laboratory projects.
- demonstrate an ability to use/apply mathematical quantitative reasoning to design basic functional electronic circuits.
- demonstrate an ability to use and work with computers by writing laboratory reports using a word processing package.
- demonstrate use of computer software packages by simulating circuit operations and obtaining valid circuit parameters.

First Semester		Credits
BGT 110	Fundamentals of Technology	3
ELE 120	DC Circuits	4
		7

Second Semester		
ELE 130	Digital Fundamentals	4
MAT 130*	Industrial Mathematics	3
		7

Third Semester		
ELE 165	AC Circuits	4
ELE 175	Introduction to Microprocessors	4
ELE 235	Programmable Controllers	2
		10

Fourth Semester		
ELE 210	Electronic Circuits	4
ELE 275	Integrated Circuits	4
		8
	Credit Total	**32**

*MAT 160 or higher level course will also satisfy the mathematics requirement.