

# Electronics Technology A.A.S. (ELE)

This program is designed to prepare the student for employment as an electronics technician. Graduates will assist engineers in the design, construction, testing, and repair of electronic systems.

Jobs for which graduates are expected to be qualified include technical investigator, electronics technician, computer service technician, quality control, electronic equipment installer, technical writer, engineering assistant in products development, navigational equipment technician, and sales representative.

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

- connect components into basic electrical circuits and use multimeters to verify circuit operation.
- 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.
- use a programmable controller to set up a specific process to control operations.
- use electrophysical sensors to measure such conditions as light, heat, pressure, and motion to control and operate power devices.
- use operational amplifiers as a component in a variety of circuits, such as amplifiers, regulators, and active filters.
- analyze and repair defective circuits in test equipment, control devices, and consumer electronic systems.
- explain the methods used to transmit and receive radio waves containing intelligence pulse, tone, voice, and coded signals.
- describe the operation of cellular communications.
- 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 and apply mathematical quantitative reasoning to design basic functional electronic circuits.
- demonstrate use of computer electrical/electronic drafting packages by drawing circuit diagrams and laying out a printed circuit board.
- 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
ELE 130	Digital Fundamentals	4
ENG 105	Research and Composition	3
MAT 130*	Industrial Mathematics	3
		17
Second Semester		
ELE 165	AC Circuits	4
ELE 175	Introduction to Microprocessor	4
ENG 107 <sup>+</sup>	Writing in the Workplace	3
Elective	Social Science/Humanities	3
		14
Third Semester		
ELE 210	Electronic Circuits	4
ELE 215	Industrial Electronics	2
ELE 235	Programmable Controllers	2
PHY 201	Introduction to Physics I	4
Elective	Social Science/Humanities	3
		15
Fourth Semester		
ELE 255	Telecommunications	3
BGT 240	Industrial Automation	3
ELE 275	Integrated Circuits	4
PHY 202	Introduction to Physics II	4
Elective <sup>◆</sup>	Program Elective	3
		17
<b>Credit Total</b>		<b>63</b>

\*MAT 165 or higher level courses will also satisfy the mathematics requirement.

<sup>+</sup>ENG 106 may be substituted.

<sup>◆</sup>Program Electives may be selected from any ASA, CIS, CON, ELE, HAC, KBD, MET or NET courses.

**Prior Learning Assessment:** Previous job training, certificates and work experience that may qualify for college credit (*see academic advisor*).

**Gateway Courses:** Based on placement testing in reading, writing and math, these prerequisite courses may have to be taken before placement in College English or Mathematics beginning the first semester and concurrently.

RSS 099	Basic Skills Reading	3
RSS 100	Critical Reading	3
ENG 099	Basic Skills Writing	3
ENG 100	Fundamentals of Writing	3
MAT 090	Mathematical Literacy	6
ESL 251	English for Academic Purpose	6
		(Required for ESL students only.)

Please note, taking gateway courses will increase your time for completion.