

# Electrical and Computer Engineering Technology A.A.S.

This program is designed to prepare students for technical positions in the electrical and electronics, computer control systems, industrial automation, and manufacturing industries. Students will develop the skills to analyze, design and implement electrical and computer systems. Graduates are expected to be qualified for jobs such as electrical and computer engineering technician, electronics technician, software engineering technician, systems and hardware development technician, assistant system designer and installer, industrial maintenance technician, quality control technician, technical writer, and sales representative.

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

- use current technologies to program in Python using structured and object-oriented techniques.
- connect digital circuits common to computers, such as logic gates, flip flops, counters, and arithmetic circuits, into functioning circuits.
- 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.
- set up a programmable logic controller to control manufacturing operations.
- write technical reports and develop charts, graphs, and schematics that describe the operating characteristics of electrical circuits.
- participate cooperatively within a team.

First Semester		Credits
BGT 110	Fundamentals of Technology	3
CIS 105	Introduction to Computers	3
ELE 120	DC Circuits	4
ELE 130	Digital Fundamentals	4
ENG 105	Research and Composition	3
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Second Semester		
CIS 134	Object-Oriented Programming with Python	3
ELE 165	AC Circuits	4
ELE 175	Introduction to Microprocessors	4
MAT 130*	Industrial Mathematics	3
Elective	Social Science/Humanities	3
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Third Semester		
CIS 225	Computer Organization and Architecture	3
ELE 210	Electronic Circuits	4
ELE 215	Industrial Electronics	2
ELE 235	Programmable Logic Controllers	2
ENG 107+	Writing in the Workplace	3
		<hr/> 14
Fourth Semester		
ELE 255	Telecommunications	3
NET 110	CompTIA Network+ (Network Essentials)	3.5
PHY 201	Introduction to Physics I	4
Elective	Social Science/Humanities	3
		<hr/> 13.5
<b>Credit Total</b>		<b>61.5</b>

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

+ENG 107 may be substituted with ENG 106.

**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
		<i>(Required for ESL students only.)</i>

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