

COMPUTER AND ELECTRONICS TECHNOLOGY

Award: Associate of Applied Science Degree

Major: Computer and Electronics Technology

Additional Program Information: <https://www.brcc.edu/academics/programs/computer-electronics/>

Potential Additional Funding Information: <https://www.brcc.edu/g3/>

Possible occupations for graduates are: Electronics technician, industrial electronics technician, communications technician, PC repair technician, classroom support technician, biomedical equipment technician, and engineering technician.

An electronics technician uses test equipment to troubleshoot, install, maintain, and repair a wide variety of electronic systems, as well as computer and network technologies. This program emphasizes a practical hands-on approach to the field of electronics and prepares students for a variety of careers. Graduates with this degree may work in industries that include, but are not limited to, aerospace, communications, industrial, IT, cybersecurity, biomedical, power, and electronics manufacturing.

Students will gain hands-on experience using industry standard test equipment while learning the logical steps of the troubleshooting process. Students learn basic electronics, semiconductor devices, work with analog/digital integrated circuit technologies, industrial controls, and program and interface microcontrollers. Students also acquire the knowledge to configure and repair computer and networking equipment.

The A.A.S. degree program in Computer and Electronics Technology is designed for people who seek employment or professional development in the areas of computer and electronics technology and is structured so that students need no previous electrical or electronics knowledge. The A.A.S. in Computer and Electronics Technology is the minimum requirement for many employment opportunities in the field. This degree may be completed online and includes hands-on lab work that students accomplish remotely.

Required Courses Curriculum

First Semester		Credit Hours
Select one of the following:		3
ENG 111	College Composition I	
ENG 115	Technical Writing	
ETR 106	Programming Methods for Electrical/Electronic Calculations	2
ETR 113	D.C. and A.C. Fundamentals I	3
ETR 123	Electronic Applications I	2
Select one of the following:		3
MTH 111	Basic Technical Mathematics	
MTH 161	Precalculus I ¹	
SDV (https://catalog.brcc.edu/programs-study/sdv/)	Student Development	1
SAF 130	Industrial Safety - OSHA 10	1
Credit Hours		15
Second Semester		
ETR 114	D.C. and A.C. Fundamentals II	3
ETR 143	Devices and Applications I	4
ITN 106	Microcomputer Operating Systems	3
ITN 208	Protocols and Communications TCP/IP	4
Select one of the following:		3-4
PHY 100	Elements of Physics	
MTH 162	Precalculus II ¹	
Credit Hours		17-18
Third Semester		
CST 110	Introduction to Human Communication	3
ETR 273	Computer Electronics I	4
Select one of the following:		3
ETR 241	Electronic Communications I	
ETR 286	Principles & Applications of Robotics	

ITN 103	Administration of Networked Services	
ITN 260	Network Security Basics	
UMS 107	Small Unmanned Aircraft Systems (sUAS) Remote Pilot Ground School	
Social and Behavioral Science Elective (https://catalog.brcc.edu/programs-study/general-education-aas/#social)		3
Credit Hours		13
Fourth Semester		
ETR 237	Industrial Electronics I	3
ETR 274	Computer Electronics II	4
Select one of the following: ²		2
ETR 296	On Site Training	
ETR 298	Seminar and Project	
Select one of the following:		3
ETR 286	Principles & Applications of Robotics	
ITN 103	Administration of Networked Services	
ITN 260	Network Security Basics	
UMS 107	Small Unmanned Aircraft Systems (sUAS) Remote Pilot Ground School	
Literature/Humanities/Fine Arts Elective (https://catalog.brcc.edu/programs-study/general-education-aas/#literature)		3
Credit Hours		15
Total Credit Hours		60-61

¹ MTH 161- MTH 162 required for transfer.

² Instructor approval required.

Certificates

Computer & Electronics I

Award: Career Studies Certificate

Potential Additional Funding Information: <https://www.brcc.edu/g3/>

Purpose: This Career Studies Certificate leads to entry-level employment in the electronics field. This curriculum provides foundational knowledge in basic electronics concepts, safety, electrical component identification, digital, installation, and diagnostics.

Code	Title	Credit Hours
ETR 106	Programming Methods for Electrical/Electronic Calculations	2
ETR 113	D.C. and A.C. Fundamentals I	3
ETR 123	Electronic Applications I	2
ETR 273	Computer Electronics I	4
MTH 111	Basic Technical Mathematics	3
SAF 130	Industrial Safety - OSHA 10	1
SDV (https://catalog.brcc.edu/programs-study/sdv/)	Student Development	1
Total Credit Hours		16

Computer & Electronics II

Award: Career Studies Certificate

Potential Additional Funding Information: <https://www.brcc.edu/g3/>

This Career Studies Certificate leads to mid-level employment in the electronics field. This curriculum provides more advanced knowledge in basic electronics concepts, computer and computer networking, microcontrollers, digital, installation, and diagnostics.

Code	Title	Credit Hours
ETR 114	D.C. and A.C. Fundamentals II	3
ETR 143	Devices and Applications I	4

ETR 274	Computer Electronics II	4
ITN 106	Microcomputer Operating Systems	3
ITN 208	Protocols and Communications TCP/IP	4
Total Credit Hours		18