COMPUTER AND ELECTRONICS TECHNOLOGY: SECURE COMPUTER NETWORKING

Award: Associate of Applied Science Degree
Major: Computer and Electronics Technology
Specialization: Secure Computer Networking
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: networking specialist, network technician, network installation/maintenance specialist, network administrator trainee, PC repair technician, help desk specialist, and end-user support specialist.

The A.A.S. degree program in Computer and Electronics Technology with a Secure Computer Networking specialization is designed for people who seek employment or professional development in the field of network technology.

The knowledge and skills needed for success as a computer network technician include a combination of basic electronics, digital/microprocessor electronics, data communications, computer systems, cyber security and LAN (Local Area Network) architecture and administration. These skills are an integral part of the Secure Computer Networking curriculum. The curriculum includes technical courses in both electronics technology and information systems technology. Instruction includes both the theoretical concepts and practical applications (hands-on) needed for success in computer network technologies.

Employers are interested in skilled technicians who are certified in various areas. The Secure Computer Networking specialization provides students with knowledge and skills needed to prepare for the following certification examinations: A+ certification exam for Computer Technicians (CompTia), Network+ for Network Technicians (CompTia), Security+ for Computer Security Technicians (CompTia), Windows Server (Microsoft), and Certified Ethical Hacker (EC-Council).

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]	
SAF 130	Industrial Safety - OSHA 10	1
SDV (https://catalog.brcc.edu/programs-study/sdv/)	Student Development	1
	Credit Hours	**15**
Second Semester		
CST 110	Introduction to Human Communication	3
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	**13-14**
Third Semester		
ETR 273	Computer Electronics I	4
ITN 103	Administration of Networked Services	3
ITN 260	Network Security Basics	3
Social and Behavioral Science Elective (https://catalog.brcc.edu/programs-study/general-education-aas/#social)		3

Select one of the following:		3
ETR 237	Industrial Electronics I	
ETR 286	Principles & Applications of Robotics	
UMS 107	Small Unmanned Aircraft Systems (sUAS) Remote Pilot Ground School	
	Credit Hours	**16**
Fourth Semester		
ETR 274	Computer Electronics II	4
ETR 296 or ETR 298	On Site Training [2] or Seminar and Project	2
ITE 182	User Support/Help Desk Principles	3
ITN 261	Network Attacks, Computer Crime & Hacking	3
Select one of the following:		3
ITN 262	Network Communication, Security and Authentication	
ITN 263	Internet/Intranet Firewalls and E-Commerce Security	
Literature/Humanities/Fine Arts Elective (https://catalog.brcc.edu/programs-study/general-education-transfer/#literature)		3
	Credit Hours	**18**
	Total Credit Hours	**62-63**

[1] MTH 161-MTH 162 required for transfer.

[2] Instructor approval required.

Certificates
Computer and 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**

Secure Computer Networking

Award: Career Studies Certificate
Potential Additional Funding Information: https://www.brcc.edu/g3/

Purpose: To provide students with fundamental knowledge and skills in data communications, computer systems, cyber security and LAN (Local Area Network) architecture and administration. The program emphasizes the importance of certification and assists students to prepare for certification exams.

Code	Title	Credit Hours
ITE 182	User Support/Help Desk Principles	3
ITN 106	Microcomputer Operating Systems	3

ITN 103	Administration of Networked Services	3
ITN 208	Protocols and Communications TCP/IP	4
ITN 260	Network Security Basics	3
ITN 261	Network Attacks, Computer Crime & Hacking	3
Total Credit Hours		**19**