Electronics Technology

Students enrolled in the Electronics Technology program receive an education in basic electronics, computer technology, computer programming, RF and optical systems, and networking that includes knowledge of DC/AC/ Semiconductor circuits, digital electronics, lasers, computers, and networks. Graduates may enter the workforce as entry-level technicians or continue their education in Electronics or Computer Engineering Technology baccalaureate programs.

Program Admission Requirements:

(1) Placement in ENG 100; (2) "C" or higher in MATH 82X or placement in MATH 103; or (3) approval of instructor.

Program Student Learning Outcomes (PSLOs) approved 10/16/2019:

1. Demonstrate analysis, design, and measuring of digital circuits and digital logic fundamentals.
2. Demonstrate practical knowledge of computer hardware, software, and operating systems.
3. Develop skill with algorithmic thinking and demonstrate computer programming language fundamentals such as variables, decision structures, conditional statements, data types and data structures, iterations, and functions.
4. Demonstrate building and configuring internet networks.
5. Demonstrate theoretical and applied knowledge of passive and active electronics components and circuits used in DC and AC electronics.
6. Demonstrate soldering, desoldering, circuit board layout, circuit board fabrication, cable and connector fabrication, electronic component identification and associated test and measurement principles.
7. Understand and safely apply the physics of light, laser safety, geometric optics, lenses, mirrors, polarizing lenses, interference/diffraction waves, laser physics, optical imaging.
8. Communicate effectively orally, in writing, and by means of the various electronic communication devices.

Electronics Technology Degrees and Certificates

Electronics Technology: Associate in Science Degree

Some courses in the program are offered in a particular cycle and the course offerings will vary depending on the year of the first Fall semester. Two possible pathways are provided: one pathway for students starting in the Fall in an odd year (Track 1) and one pathway for students starting in the Fall in an even year (Track 2).

Track 1 (Odd Year)

This suggested sequence is for students starting in the fall during an odd year.

Fall (Semester 1)

Course	Course Title/Category	Credits
ETRO 101	Introduction to Electronics Technology	3
ETRO 105	Circuit Analysis I	4
ETRO 140B	Cisco Networking 1	3
MATH 103	College Algebra	3
ENG 100	Composition I	3

1. ENG 100: This course fulfills the Written Communication category.

Spring (Semester 2)

Course	Course Title/Category	Credits
ETRO 106	Circuit Analysis II	4
ETRO 140C	Cisco Networking 2	3
ETRO 287	Computer Systems and Networking	4
	ECE 160 or ICS 111	3-4
	Social Environment: A.S. Core Options	3

1. ECE 160 or ICS 111: ICS 111 is recommended.

Fall (Semester 3)

Course	Course Title/Category	Credits
ETRO 143	Digital Electronics	3
ETRO 143L	Digital Electronics Laboratory	1
ETRO 210	Electronic Technology 1	3
SCI 122	Introduction to Physical Science	3
SCI 122L	Introduction to Physical Science Laboratory	1
	Electives - Electronics Technology	3

Spring (Semester 4)

Course	Course Title/Category	Credits
ETRO 161	Introduction to Optics and Photonics	3
ETRO 280	Microprocessor Architecture, Programming, and Interfacing	3
SP 251	Principles of Effective Public Speaking	3
	Cultural Environment: A.S. Core Options	3
	Electives - Electronics Technology	3

1. SP 251: This course fulfills the Oral Communication category.

Track 2 (Even Year)

This suggested sequence is for students starting in the fall during an even year.

Fall (Semester 1)

Course	Course Title/Category	Credits
ETRO 101	Introduction to Electronics Technology	3
ETRO 105	Circuit Analysis I	4
ETRO 143	Digital Electronics	3
ETRO 143L	Digital Electronics Laboratory	1
MATH 103	College Algebra	3

Spring (Semester 2)

Course	Course Title/Category	Credits
ETRO 106	Circuit Analysis II	4
ETRO 161	Introduction to Optics and Photonics	3
ETRO 280	Microprocessor Architecture, Programming, and Interfacing	3
SP 251	Principles of Effective Public Speaking	3
	Cultural Environment: A.S. Core Options	3

1. SP 251: This course fulfills the Oral Communication category.

Fall (Semester 3)

Course	Course Title/Category	Credits
ENG 100	Composition I	3
ETRO 140B	Cisco Networking 1	3
ETRO 210	Electronic Technology 1	3
SCI 122	Introduction to Physical Science	3
SCI 122L	Introduction to Physical Science Laboratory	1
	Electives - Electronics Technology	3

1. ENG 100: This course fulfills the Written Communication category.

Spring (Semester 4)

Course	Course Title/Category	Credits
ETRO 140C	Cisco Networking 2	3
ETRO 287	Computer Systems and Networking	4
	ECE 160 or ICS 111	3-4
	Electives - Electronics Technology	3
	Social Environment: A.S. Core Options	3

1. ECE 160 or ICS 111: ICS 111 is recommended.

	Total Credits	62

Category Descriptions

Cultural Environment: A.S. Core Options

Refer to the "General Education/Skills Core Options Course List" under the "Programs (Certificates and Degrees)" section of the catalog for a list of courses that will fulfill this category.

Electives - Electronics Technology

Electives should be taken in two semesters (3 credits per semester) to fulfill the 6 credits required. Choose from the following tracks:

Civil Track:

GIS 189 (3), GIS 200 (3)

Electronics Track:

ETRO 257 (4)

Network Track:

ETRO 240B (3), ETRO 240C (3)

Programming Track:

ECE 160 (4), ETRO 275 (3)

Social Environment: A.S. Core Options

Refer to the "General Education/Skills Core Options Course List" under the "Programs (Certificates and Degrees)" section of the catalog for a list of courses that will fulfill this category.

Electronics Technology: Certificate of Achievement

Fall (Semester 1)

Course	Course Title/Category	Credits
ETRO 101	Introduction to Electronics Technology	3
ETRO 143	Digital Electronics	3
ETRO 143L	Digital Electronics Laboratory	1
SP 251	Principles of Effective Public Speaking	3

1. SP 251: This course fulfills the Oral Communication category.

Spring (Semester 2)

Course	Course Title/Category	Credits
ENG 100	Composition I	3
	ECE 160 or ICS 111	3-4

1. ENG 100: This course fulfills the Written Communication category.
2. ECE 160 or ICS 111: ICS 111 is recommended.

Fall (Semester 3)

Course	Course Title/Category	Credits
ETRO 105	Circuit Analysis I	4

Spring (Semester 4)

Course	Course Title/Category	Credits
ETRO 106	Circuit Analysis II	4
	Total Credits	24

Electronics Technology: Certificate of Achievement (Network Administrator and Security)

Fall (Semester 1)

Course	Course Title/Category	Credits
ENG 100	Composition I	3
ETRO 101	Introduction to Electronics Technology	3
ETRO 140B	Cisco Networking 1	3

1. ENG 100: This course fulfills the Written Communication category.

Spring (Semester 2)

Course	Course Title/Category	Credits
ETRO 118	General Electronics	3
ETRO 140C	Cisco Networking 2	3

Fall (Semester 3)

Course	Course Title/Category	Credits
ETRO 240B	Cisco Networking 3	3
ETRO 287	Computer Systems and Networking	4
SP 251	Principles of Effective Public Speaking	3

1. SP 251: This course fulfills the Oral Communication category.

Spring (Semester 4)

Course	Course Title/Category	Credits
ETRO 240C	Cisco Networking 4	3
ETRO 244	Cisco CCNA Security	4
ETRO 275	Fundamentals of Linux	3
	Total Credits	35

Electronics Technology: Certificate of Competence

Fall (Semester 1)

Course	Course Title/Category	Credits
ETRO 118	General Electronics	3
ETRO 101	Introduction to Electronics Technology	3
	Total Credits	6

Electronics Technology: Certificate of Competence (Cisco I)

Fall (Semester 1)

Course	Course Title/Category	Credits
ETRO 140B	Cisco Networking 1	3

Spring (Semester 2)

Course	Course Title/Category	Credits
ETRO 140C	Cisco Networking 2	3
	Total Credits	6

Electronics Technology: Certificate of Competence (Cisco II)

Fall (Semester 1)

Course	Course Title/Category	Credits
ETRO 240B	Cisco Networking 3	3

Spring (Semester 2)

Course	Course Title/Category	Credits
ETRO 240C	Cisco Networking 4	3
	Total Credits	6

Electronics Technology: Certificate of Competence (Computer Support)

Fall (Semester 1)

Course	Course Title/Category	Credits
ETRO 118	General Electronics	3
ETRO 140B	Cisco Networking 1	3
ETRO 287	Computer Systems and Networking	4

	Total Credits	10

Electronics Technology: Certificate of Competence (Network Security)

Fall (Semester 1)

Course	Course Title/Category	Credits
ETRO 140B	Cisco Networking 1	3
ETRO 287	Computer Systems and Networking	4

Spring (Semester 2)

Course	Course Title/Category	Credits
ETRO 140C	Cisco Networking 2	3
ETRO 275	Fundamentals of Linux	3

Fall (Semester 3)

Course	Course Title/Category	Credits
ETRO 244	Cisco CCNA Security	4
	Total Credits 17	

Electronics Technology: Certificate of Competence (Programming)

Fall (Semester 1)

Course	Course Title/Category	Credits
ECE 160	Programming for Engineers	4

Spring (Semester 2)

Course	Course Title/Category	Credits
ETRO 275	Fundamentals of Linux	3
ICS 111	Introduction to Computer Science I	3
	Total Credits 10	