

# Welcome to Schoolcraft.

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CREDENTIAL YEAR 2021–2022

## Electronic Technology

### Credentials

Electronic Technology Skills Certificate	16 cr.
Electronic Technology Certificate	33-34 cr.
Electronic Technology AAS Degree	60-66 cr.

### Major Description

Schoolcraft provides students interested in electronics a variety of educational options to increase their opportunities to become an electronics repair professional or an electronics engineering technician.

- The electronic technology skills certificate is designed for students who want to gain the basic skills needed for entry-level jobs in electronics.
  - With an electronic technology certificate, students will have a solid foundation for positions such as an electronic repairer that requires a thorough understanding of electronic fundamentals. The certificate is also required to apply for entrance into Schoolcraft's biomedical engineering technology associate degree program.
  - The associate of applied science in electronic technology gives students a strong background in electronics and the fundamentals of electricity, opening up positions as an electronics engineering technician where they will be able to work with engineers to design and test computers, electronic devices, appliances, and medical and industrial equipment. Students gain additional knowledge of micro-controllers, programmable logic controllers and digital and analog circuits in Schoolcraft's labs, while lectures focus on taking measurements and reporting findings in a clear, concise manner.
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## Electronic Technology Skills Certificate

Schoolcraft program code # CRT.00320

The electronic technology certificate is intended for students wishing to gain the basic skills needed for entry-level jobs in electronics. Completion of the skills certificate permits the student to take electrical measurements, understand DC and AC signals, and apply solid-state troubleshooting techniques used in modern jobs involving electronics.

Students who satisfactorily complete the program requirements qualify for a certificate of program completion. All program required courses must have been completed with a grade of 2.0 or better.

Not all courses are offered each semester. Students should work with an academic advisor to develop a schedule that will work for them. Students planning to transfer should check the transfer institution's requirements/guides or discuss their options with an academic advisor. Number of credits may vary depending on the course selection.

### SAMPLE SCHEDULE OF COURSES

#### First Year - Fall Semester

Course #	Course Title	Credits
ELECT 131	Basic Measurement and Reporting Skills	3
ELECT 137	DC Circuits and Mathematical Modeling	5
	Total Credits: 8	

#### First Year - Winter Semester

Course #	Course Title	Credits
ELECT 138	AC Circuits and Mathematical Modeling	5
ELECT 139	Diodes and Transistors	3
	Total Credits: 8	

**PROGRAM TOTAL 16 CREDITS**

## Electronic Technology Certificate

Schoolcraft program code # 1YC.00125

The certificate for electronics provides the student with a solid foundation for many jobs that require a thorough understanding of electronic fundamentals. Completion of the certificate program also offers the student the opportunity to pursue advanced technical credentials in healthcare, in manufacturing, or in computer systems.

Students who satisfactorily complete the program requirements qualify for a certificate of program completion.

Not all courses are offered each semester. Students should work with an academic advisor to develop a schedule that will work for them. Students planning to transfer should check the transfer institution's requirements/guides or discuss their options with an academic advisor. Number of credits may vary depending on the course selection.

### SAMPLE SCHEDULE OF COURSES

#### First Year - Fall Semester

Course #	Course Title	Credits
ELECT 131	<b>Basic Measurement and Reporting Skills</b>	3
ELECT 137	<b>DC Circuits and Mathematical Modeling</b>	5
Science	<b>Select one:</b>	4-5
BIOL 105*	<b>Basic Human Anatomy and Physiology</b>	
CHEM 111	<b>General Chemistry 1</b>	
PHYS 123	<b>Applied Physics</b>	
	<b>Total Credits: 12-13</b>	

#### First Year - Winter Semester

Course #	Course Title	Credits
ELECT 138	<b>AC Circuits and Mathematical Modeling</b>	5
ELECT 139	<b>Diodes and Transistors</b>	3
ELECT 180	<b>LabVIEW Programming CORE 1 and 2</b>	5
	<b>Total Credits: 13</b>	

#### First Year - Spring/Summer Session

Course #	Course Title	Credits
ELECT 215	<b>Operational Amplifiers and Linear Integrated Circuits</b>	4
ELECT 219	<b>Digital Logic Circuits</b>	4
	<b>Total Credits: 8</b>	

### PROGRAM TOTAL 33-34 CREDITS

\*BIOL 105 is required for the BMET program internship sequence.

## Electronics Technology AAS Degree

Schoolcraft program code # AAS.00120

This electronics program is designed to give students a strong background in the fundamentals of electricity, electronic devices and basic circuits (digital and linear). The curriculum includes laboratory demonstration of the principles taught in class affording practical experience in fabrication, instrumentation and presentation.

The program is not directly aimed at specific products. With the multiplicity of equipment presently in use and the rapid advance and change in technology, the department stresses the development of a broad background that will enable students to find employment and be able to further their skills in a diversified number of industries.

Students who satisfactorily complete all college and program requirements qualify for an associate in applied science degree.

Not all courses are offered each semester. Students should work with an academic advisor to develop a schedule that will work for them. Students planning to transfer should check the transfer institution's requirements/guides or discuss their options with an academic advisor. Number of credits may vary depending on the course selection.

### SAMPLE SCHEDULE OF COURSES

#### First Year - Fall Semester

Course #	Course Title	Credits
ELECT 131	Basic Measurement and Reporting Skills	3
ELECT 137	DC Circuits and Mathematical Modeling	5
MATH 102	Technical Mathematics	4
Science	Select one:	4-5
BIOL 105	Basic Human Anatomy and Physiology	
CHEM 111	General Chemistry 1	
PHYS 123	Applied Physics	
	<b>Total Credits: 16-17</b>	

#### First Year - Winter Semester

Course #	Course Title	Credits
ELECT 138	AC Circuits and Mathematical Modeling	5
ELECT 139	Diodes and Transistors	3
ELECT 180	LabVIEW Programming CORE 1 and 2	5
	<b>Total Credits: 13</b>	

#### First Year - Spring/Summer Session

Course #	Course Title	Credits
ELECT 215	Operational Amplifiers and Linear Integrated Circuits	4
ELECT 219	Digital Logic Circuits	4
	<b>Total Credits: 8</b>	

## Electronics Technology AAS Degree (continued)

### Second Year - Fall Semester

Course #	Course Title	Credits
ELECT 144	Introduction to Microcontrollers	3
ELECT 218	AC/DC Motors	3
Social Science	Select General Education Social Science course	3-4
Recommended:	PSYCH 153 Human Relations	
ENG 101	English Composition 1	3
	<b>Total Credits: 12-13</b>	

### Second Year - Winter Semester

Course #	Course Title	Credits
ELECT 251	Programmable Logic and Industrial Controls	4
Elective	Select from list	3-4
Humanities	Select General Education Humanities course	1-4
Recommended:	COMA 103 Fundamentals of Speech	
English	Select one:	3
ENG 102	English Composition 2	
ENG 116	Technical Writing	
	<b>Total Credits: 11-15</b>	

### ELECTIVES

Course #	Course Title	Credits
CIS 115	Introduction to Computer Based Systems	3
CIS 171	Introduction to Networking	3
CIS 176	Visual Basic.NET	3
CNT 130	Computer Hardware and Troubleshooting	3
ELECT 133	Introduction to Battery Technology	3
ELECT 145	Fluid Power	4
ELECT 228	Electronic Troubleshooting	3
ELECT 252	Programmable Logic System Design	4
MET 103	Introduction to Materials Science	3
ROBAT 101	Robot Tool Handling Operations and Programming	3

### PROGRAM TOTAL 60-66 CREDITS



*It is the policy of Schoolcraft college that no person shall, on the basis of race, religion, color, gender, age, marital status, disability, sexual orientation, and/or national origin, be subjected to discrimination during or be excluded from participating in or be denied the benefits of any program or activity or in employment.*

