

## 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 require 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, and opens 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 microcontrollers, 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.

### 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.

#### SAMPLE SCHEDULE OF COURSES

##### First Year—Fall Semester

ELECT 131	Basic Measurement & Reporting Skills	3
ELECT 137	DC Circuits & Mathematical Modeling	5
	<b>Total Credits</b>	<b>8</b>

##### First Year—Winter Semester

ELECT 138	AC Circuits & Mathematical Modeling	5
ELECT 139	Diodes & Transistors	3
	<b>Total Credits</b>	<b>8</b>

#### PROGRAM TOTAL 16 CREDITS

Not all courses are offered each semester. Students should work with an academic advisor or counselor 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 or counselor. Number of credits may vary depending on the course selection.

### 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.

#### SAMPLE SCHEDULE OF COURSES

##### First Year—Fall Semester

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

##### First Year—Winter Semester

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

##### First Year—Spring/Summer Session

ELECT 215	Operational Amplifiers & Linear Integrated Circuits	4
ELECT 219	Digital Logic Circuits	4
	<b>Total Credits</b>	<b>8</b>

#### PROGRAM TOTAL 33-34 CREDITS

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

## Electronic Technology Certificate (continued)

Not all courses are offered each semester. Students should work with an academic advisor or counselor 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 or counselor. Number of credits may vary depending on the course selection

## Electronic Technology AAS Degree

Schoolcraft program code # 1YC.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.

### SAMPLE SCHEDULE OF COURSES

#### First Year—Fall Semester

ELECT 131	Basic Measurement & Reporting Skills	3
ELECT 137	DC Circuits & Mathematical Modeling	5
ENG 101	English Composition 1	3
Science	<i>Select one</i>	4-5
BIOL 105	Basic Human Anatomy & Physiology	
CHEM 111	General Chemistry 1	
PHYS 123	Applied Physics	
	<b>Total Credits</b>	<b>15-16</b>

#### First Year—Winter Semester

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

#### First Year—Spring/Summer Session

ELECT 215	Operational Amplifiers & Linear Integrated Circuits	4
ELECT 219	Digital Logic Circuits	4
	<b>Total Credits</b>	<b>8</b>

#### Second Year—Fall Semester

ELECT 144	Introduction to Microcontrollers	3
ELECT 218	AC/DC Motors	3
Social Science	<i>Select General Education Social Science course</i>	3-4
PSYCH 153	Human Relations (recommended)	
English	<i>Select one</i>	3
ENG 102	English Composition 2	
ENG 116	Technical Writing	
	<b>Total Credits</b>	<b>12-13</b>

#### Second Year—Winter Semester

ELECT 251	Programmable Logic & Industrial Controls	4
Elective	<i>Select from list</i>	3-4
MATH 102	Technical Mathematics	4
Humanities	<i>Select General Education Humanities course</i>	1-4
COMA 103	Fundamentals of Speech (recommended)	
	<b>Total Credits</b>	<b>12-16</b>

### PROGRAM TOTAL 60-66 CREDITS

#### Electives

BMET 125	Laser Safety Concepts	3
CIS 115	Introduction to Computer Based Systems	3
CIS 171	Introduction to Networking	3
CIS 176	Visual Basic.Net	3
CNT 130	Computer Hardware & 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
BMET 125	Laser Safety Concepts	3

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