

PRIDE. CHALLENGE. ACHIEVEMENT.

CREDENTIAL YEAR 2017-18

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.

National Median Salaries for Electronic Technology-related positions (source: US BLS)

Electronics Repair: \$46,550

Electronics Engineering Technician: \$51,820

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.

All courses are not offered each semester. Students should work with an academic advisor or counselor to develop a schedule that will work for them. 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

First Year—Winter Semester

ELECT 131	Basic Measurement and Reporting Skills	3	ELECT 138	AC Circuits and Mathematical Modeling	5
ELECT 137	DC Circuits and Mathematical Modeling	5	ELECT 139	Diodes and Transistors	3
	Total Credits	8		Total Credits	8

PROGRAM TOTAL 16 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.



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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.

All courses are not offered each semester. Students should work with an academic advisor or counselor to develop a schedule that will work for them. Students who satisfactorily complete the program requirements qualify for a certificate of program completion.

SAMPLE SCHEDULE OF COURSES

First Year—Fall Semester

First Year—Winter Semester

ELECT 131	Basic Measurement and Reporting Skills	3	ELECT 138	AC Circuits and Mathematical Modeling	5
ELECT 137	DC Circuits and Mathematical Modeling	5	ELECT 139	Diodes and Transistors	3
ELECT 180	LabVIEW Programming CORE 1 and 2	5		Total Credits	8
Science	<i>Select one</i>	4-5			
BIOL 105	Basic Human Anatomy and Physiology*				
CHEM 111	General Chemistry 1				
PHYS 123	Applied Physics				
	Total Credits	17-18			

First Year—Spring/Summer Session

ELECT 215	Operational Amplifiers and Linear Integrated Circuits	4
ELECT 219	Digital Logic Circuits	4
	Total Credits	8

PROGRAM TOTAL 33-34 CREDITS

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

Electronic 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.

All courses are not offered each semester. Students should work with an academic advisor or counselor to develop a schedule that will work for them. 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

First Year—Winter Semester

ELECT 131	Basic Measurement and Reporting Skills	3	ELECT 138	AC Circuits and Mathematical Modeling	5
ELECT 137	DC Circuits and Mathematical Modeling	5	ELECT 139	Diodes and Transistors	3
ENG 101	English Composition 1	3	ELECT 180	LabVIEW Programming CORE 1 and 2	5
Science	<i>Select one</i>	4-5		Total Credits	13
BIOL 105	Basic Human Anatomy and Physiology				
CHEM 111	General Chemistry 1				
PHYS 123	Applied Physics				
	Total Credits	15-16			

First Year—Spring/Summer Session

ELECT 215	Operational Amplifiers and Linear Integrated Circuits	4
ELECT 219	Digital Logic Circuits	4
	Total Credits	8

Electronic Technology AAS Degree (continued)

SAMPLE SCHEDULE OF COURSES

Second Year—Fall Semester

Second Year—Winter Semester

ELECT 144	Introduction to Microcontrollers	3	ELECT 251	Programmable Logic and Industrial Controls	4
ELECT 218	AC/DC Motors	3	Elective*	<i>Select from list</i>	3-4
Social Science	<i>Select General Education Social Science course(s)</i>	3-4	MATH 102	Technical Mathematics	4
PSYCH 153	Human Relations (recommended)		Humanities	<i>Select General Education Humanities course(s)</i>	1-4
English	<i>Select one</i>	3	COMA 103	Fundamentals of Speech (recommended)	
ENG 102	English Composition 2			Total Credits	12-16
ENG 116	Technical Writing				
	Total Credits	12-13			

PROGRAM TOTAL 60-66 CREDITS

*Number of credits may vary depending on the course selection.

Electives

BMET 125	Laser Safety Concepts	3
CIS 171	Introduction to Networking	3
CIS 235	Managing and Troubleshooting PCs	3
COMPS 124	Introduction to Personal Computers and Software	3
COMPS 126	Technical Programming	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

Students planning to transfer should check the transfer institution's requirements/guides or discuss their options with a counselor or advisor. Number of credits may vary depending on the course selection.