

Career and Technical Education

Certificate of Achievement – Electrical Systems Technology

Student Learning Outcomes

The Electrical Systems Technology Certificate of Achievement Program is designed for students who desire employment in electrical work and the opportunity to develop their electrical skills through on-the-job training. Electrical courses are on a non-traditional schedule. Because of the intensity of the program, students will be very close to AAS degree completion and are encouraged to pursue the degree.

This program prepares students to work in diverse industries including mining, manufacturing, power plants, power distribution, construction, sales, machine control, water resource management, and gaming. Graduates of the Electrical Systems Technology Certificate program will have the knowledge to:

- Analyze and interpret graphical information found on schematics, blueprints, and diagrams.
- Identify, use, and maintain motor and computer-based control systems.
- Have a firm understanding of theories that apply to the electrical trade.
- Interpret and properly apply the National Electrical Code to electrical installations.
- Demonstrate the proper use of tools used in the electrical field/industry.
- Design, construct, and troubleshoot various electrical systems used in commercial and industrial settings.
- Perform safely in the work environment, meeting and obeying all workplace safety requirements.

Formal admission to this program is required. Refer to page 83 for an outline of admission standards.

General Education Requirements		Credits
INT 100	GBC Orientation.....	0.5
English/Communications. Determined by placement testing		3
ENG 100, 101, 103, or 107		
Computation — Any course with a MATH prefix		3
Human Relations		
BUS 113 and BUS 114 (recommended).....		1-3

Program Requirements		Credits
ELM 112	Electrical Theory, DC.....	3.5
ELM 120	Low Voltage Systems.....	3
ELM 121	Circuit Design	2
ELM 122	AC Theory	4
ELM 123	Solid State.....	2
ELM 124	DC Generators, Motors, and Controls ...	2

ELM 125	AC Motors and Alternators.....	2
ELM 126	Motor Maintenance	2
ELM 127	Introduction to AC Controls	2.5
ELM 128	Transformers and Industrial Lighting ...	4
ELM 131	National Electric Code	2.5
ELM 132	Digital Concepts	2
ELM 133	Advanced AC Controls.....	4
ELM 134	Introduction to Programmable Logic Controller's	2.5
ELM 135	National Electric Code 430	1
ELM 136	Programmable Controller's Applications.....	2.5
ELM 141	Blueprint Reading	2
ELM 142	Raceways.....	2.5
ELM 143	Wiring Techniques.....	3

SUGGESTED COURSE SEQUENCE Certificate of Achievement— Electrical Systems Technology

FALL—1st Semester		Credits
INT 100		0.5
ELM 112		3.5
ELM 120		3
ELM 121		2
ELM 122		4
ELM 124		2
ELM 128		4
ELM 142		2.5
ELM 141		2
ENGLISH*		3
COMPUTATION*		3
TOTAL		29.5

SPRING—2nd Semester		Credits
ELM 123		2
ELM 125		2
ELM 126		2
ELM 127		2.5
ELM 131		2.5
ELM 132		2
ELM 133		4
ELM 134		2.5
ELM 135		1
ELM 136		2.5
ELM 143		3
HUMAN RELATIONS*		1-3
TOTAL		27-29

Refer to page 82. Minimum Credits: 56.5

***Select with advisor.**

For Employer Sponsored Pathway for the Certificate of Achievement for Electrical Systems Technology see the next page.