

Electrical and Instrumentation

Associate of Applied Science

The Electrical & Instrumentation program is designed to prepare students for a career in instrumentation and process control. Instrumentation technicians are employed in a large variety of industries to maintain equipment that controls temperature, pressure, and flow of material or speed and position of objects. Manufacturers such as Toyota, General Motors, Motorola, HEB, and Temple Inland use process control to manufacture automobiles, electronic devices, cardboard containers, and food products. Other industries use process control technicians to refine petroleum products and process chemicals and other materials. Just about everything you use or consume owes its existence to an instrumentation technician.

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Semester I

_____	ELPT 1311	Basic Electrical Theory
_____	ELPT 1345	Commercial Wiring
_____	OSHT 1220	Energy Industrial Safety
_____	ENER 1350	Overview of Energy Industry
_____	PTRT 1270	Energy Sector Math and Computer Skills
_____	DFTG 1325	Blueprint Reading and Sketching

16

Semester II

_____	ENER 1270	Employment Success Energy Industry
_____	_____	ENGL/SPCH
_____	_____	MATH/Science
_____	ENER 1375	Introduction to Mechanical Engines
_____	_____	Language, Philosophy, & Culture
_____	ELPT 1341	Motor Control

17

Semester III

_____	ELPT 2305	Motors and Transformers
_____	ELMT 1301	Basic Programmable Logic Controllers
_____	_____	HIST 1301, HIST 1302, HIST 2301, GOVT 2305, or GOVT 2306
_____	INMT 2303	Pumps, Compressors & Mechanical Drives
_____	ELPT 1325	National Electrical Code I

15

Semester IV

_____	ELPT 1370	Advanced Electricity
_____	_____	Social/Behavioral Science (AAS)
_____	PTRT 1324	Petroleum Instrumentation
_____	ELMT 2339	Advanced Programmable Logic Controllers

12

PTRT 1324 is a capstone course.

Mission Statement

Electrical & Instrumentation graduates will:

- Inspect, calibrate, troubleshoot, and repair the types of instruments used in the instrumentation field.
- Describe instrument control loops.
- Effectively communicate with customers and colleagues in a professional manner.
- Perform their functions in an ethical and safe manner that is consistent with standards and regulations.

Job Outlook

According to the *Occupational Outlook Handbook* (accessed 3/22/20), employment of residential and commercial electricians is projected to grow 10 percent from 2018 to 2028, faster than the average for all occupations. As homes and businesses require more wiring, electricians will be needed to install the necessary components.

Total Credits 60