

# Automation Engineer Technology (AET)

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## Courses

### **AET 110 Industrial Maintenance\* (3 Hours)**

**Prerequisites:** Department approval

This is an introductory course that discusses common industrial maintenance topics, such as industrial tools and equipment, mechanical drive systems and maintenance programs. The lab component to this course will expand on concepts taught in lecture by incorporating hands-on projects using common components found in industry. 2 hrs. lecture/wk. and 3 hrs. lab/wk.

### **AET 120 Industrial Fluid Power\* (3 Hours)**

**Prerequisites:** Department approval

This course examines theory, applications and operation of industrial hydraulic and pneumatic systems. The inspection, maintenance and repair of the various components are covered in this course. Interpretation of the various schematic symbols used in hydraulic and pneumatic circuit diagrams will be discussed. 2 hrs. lecture/wk. and 3 hrs. lab/wk.

### **AET 140 Actuator and Sensor Systems\* (3 Hours)**

**Prerequisites:** Department approval

This course examines types, installation and troubleshooting of industrial actuators and sensors. Contemporary control methods in process control and proportional-integral-derivative (PID) process loops are covered in this course. 2 hrs. lecture/wk. and 3 hrs. lab/wk.

### **AET 160 Programmable Logic Controllers I\* (3 Hours)**

**Prerequisites:** Department approval

This is an introductory course that examines types, installation and troubleshooting of programmable logic controllers (PLC). Hardware and programming aspects, as well as ladder logic symbols and operations necessary to develop a PLC program, are covered in this course. Students will enter, edit and test controller programs through assigned laboratory projects. 2 hrs. lecture/wk, 3 hrs. lab/wk.

### **AET 240 Industrial Robotics\* (3 Hours)**

**Prerequisites:** Department approval

This course examines types, applications and troubleshooting of industrial robots and subsystems. Included in this course is the programming of industrial robotic control software. Students learn to home a robot, test teach points and design simple robot programs for different applications. 2 hrs. lecture/wk. and 3 hrs. lab/wk.

### **AET 260 Programmable Logic Controllers II\* (3 Hours)**

**Prerequisites:** AET 160

This course is a continuation of Programmable Logic Controllers I. Principle topics include sequencers, file and block transfers, analog control and proportional-integral-derivative (PID) functions. In addition, methods of networking and advanced user interface will be covered. 2 hrs. lecture/wk. and 3 hrs. lab/wk.