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## Electronics Technology (ELET)

### **ELET 001                      Basic Electronics (dc)                      (3)**

*Class Hours:* 36.00 Lecture | 54.00 Laboratory

*Advisory(s):* ENG 051A and MATH 061 (Recommended, Previous or concurrent).

ELET 001 is an introduction to electricity and electronics including basic components, electronic circuit calculations, basic electronic test equipment use, electrical measurement, relays and ladder diagrams, direct current (DC) circuits, and electronic schematic diagrams.

### **ELET 002                      Electronic Circuits                      (3)**

*Class Hours:* 36.00 Lecture | 54.00 Laboratory

*Prerequisite(s):* ELET 001

ELET 002 is an application of analog and digital electronic circuits and systems. Content includes: semiconductor components, analog circuits (power supplies, amplifiers, and oscillators), digital electronic circuits (logic gates, sequential logic circuits), and digital signal processing (A/D and D/A conversion).

### **ELET 003                      Programmable Logic Controllers                      (3)**

*Class Hours:* 36.00 Lecture | 54.00 Laboratory

ELET 003 is an introduction to the function and application of programmable logic controllers. Students will become familiar with the programming and wiring of programmable logic controllers and software. Topics include bit-level input and output instructions, timers, counters, latches, documentations, and troubleshooting.

### **ELET 004                      Computer Integrated Manufacturing                      (3)**

*Class Hours:* 36.00 Lecture | 54.00 Laboratory

*Prerequisite(s):* ELET 003

ELET 004 is an introduction to industrial automation technologies and the procedures utilized when troubleshooting automated control systems. Topics include programmable logic controllers (PLC), machine control, industrial robots, barcode readers, material handling systems, and Ethernet communications.

### **ELET 005                      Instrumentation and Process Control                      (3)**

*Class Hours:* 36.00 Lecture | 54.00 Laboratory

*Prerequisite(s):* ELET 003

ELET 005 is an introduction to instrumentation and process control principles: transducers, actuators, sensors, computer interface software, terminologies, standards and trends in control technologies, piping and instrument diagrams and tags, PLC principles for PID control, and basic control algorithms.

### **ELET 006                      Electric Motors & Controls                      (4)**

*Class Hours:* 54.00 Lecture | 54.00 Laboratory

*Prerequisite(s):* ELET 001

ELET 006 is an introduction to the basic principles, applications, and configuration of direct current and alternating current machines, motor starters, programmable, solid state, and electromechanical motor controllers/drives, input devices, relays, pilot devices, and other industrial electronics components and circuitry.

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