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## SECTION HEADING

### MECH 1125: Electrical Controls I

#### Description

Electrical Controls I introduces basic electrical concepts. Students will be introduced to electrical theory, electrical safety hazards and requirements, and electrical circuit wiring and measurement. Students will learn to identify electrical control components used in an industrial environment and apply the concepts necessary for designing, wiring, troubleshooting, and operation of electrical control circuits.

#### Credits

2

#### Prerequisite

None

#### Corequisite

None

#### Topics to be Covered

1. Electrical quantities and basic circuits.
2. Symbols and diagrams.
3. Test instruments.
4. Electrical safety.
5. Control logic.
6. Input control devices.
7. Solenoids
8. Relays and Timers.
9. AC and DC circuits and components.

#### Learning Outcomes

1. Identify and control potential safety hazards and implement safe working practices.
2. Analyze electrical quantities and basic circuits.
3. Interpret symbols and diagrams.
4. Perform circuit measurements using test instruments.
5. Design, connect and operate basic electrical control circuits.
6. Troubleshoot electrical control circuits.

#### Credit Details

Lecture: 1

Lab: 1

OJT: 0

MnTC Goal Area(s): None