
SECTION HEADING

MECH 1135: Electrical Controls II

Description

Electrical Controls II includes the control of electromechanical devices, AC and DC motors, solid state control devices, electrical schematics used to interpret logic and circuit function. Students will design, wire, and troubleshoot electromechanical and motor starter circuits using common industrial devices and components and analyze electrical control circuits used in industrial environments.

Credits

3

Prerequisite

MECH 1125

Corequisite

None

Topics to be Covered

1. Electrical calculations.
2. Symbols and diagrams.
3. Test instruments.
4. Electrical safety.
5. Control logic.
6. Input and output control devices.
7. AC and DC circuits and components.
8. AC and DC motors.
9. Motor starter circuits.
10. Solid State motor drives.
11. Proximity sensors.
12. Photo-electric sensors.

Learning Outcomes

1. Identify and control potential safety hazards and implement safe working practices.
2. Design, connect, and operate electrical control circuits.
3. Interpret electrical logic functions.
4. Identify and wire solid state NPN/PNP sensor control circuits.
5. Design magnetic motor starter control and power circuits.
6. Analyze motor types and motor starter circuits.
7. Troubleshoot and perform circuit measurements using test Instruments.

Credit Details

Lecture: 1

Lab: 2

OJT: 0

MnTC Goal Area(s): None