EIMT 151 : Industrial Motor Controls

Credits: 3
Class Hours: 2 lecture and 2 lecture/lab
Prerequisites: "C" or higher in EIMT 123.
Recommended: "C" or higher in EIMT 121.
Description: This is an introduction to motor controls and the logic sequence that they implement. The course covers how to read a ladder diagram, including component recognition, use, and application. Students will develop skills to create a computer generated control diagram from a sequence of operations and learn troubleshooting skills to diagnose basic control functions.
Semester Offered: Spring
Course Student Learning Outcomes (CSLOs):
1. Interpret the proper use of the symbols used to express electrical control devices.
2. Demonstrate the wiring a motor starter with standard industry three- wire controls while following a line diagram.
3. Preform a wiring diagram to form a sequence of operation statement.
4. Demonstrate the wiring of a start-stop-jog control scheme.
5. Construct a program with a programmable logic controller to create a given automated circuit.
6. Simulate a troubleshoot procedure to a basic control circuit under various fault conditions.
7. Design a ladder diagram with the use of control devices, signals, decisions, and actions.
8. Explain the difference between a wiring diagram and a ladder diagram.
9. Demonstrate the wiring of a reversing motor circuit with interlock.
10. Develop an understanding of manual, mechanical, and automatic control devices.
11. Demonstrate the use of wiring logic functions in a control sequence.
12. Perform the wiring of a set of controls by reading a ladder diagram.