

# ELECTRIC MOTOR CONTROL



## PROFESSIONAL DEVELOPMENT

### JUST IN TIME TRAINING AND DEVELOPMENT

The Columbus State Integrated Systems Technology (IST) lab has over a decade of experience working with manufacturers to meet their employees training and development needs. Electric Motor Control is a device or set of devices that help to regulate how a motor works. Industry depends on these devices functioning properly all day every day.

Electric Motor Control builds upon the base knowledge that is provided within AC/DC Electrical systems and prepares students with the knowledge needed to enter Programmable Logic Controllers (PLC) training.

### VIRTUAL AND DESIGNED FOR THE NEEDS OF MANUFACTURES

The course is divided into 10 individual learning activity packets or LAPs. Each topic, on average, takes 2 ½ hours to complete. Students use virtual training simulators to demonstrate what they have learned. As an example, in the Manual Motor Reversing LAP, students learn the function and operation of a drum switch. They then use a virtual simulator to connect and operate a drum switch to reverse a motor.

### ELECTRIC MOTOR CONTROL FUNDAMENTALS

Electric Motor Control teaches electric relay control of AC electric motors found in industrial, commercial, and residential applications. Learners gain understanding of the operation, installation, design, and troubleshooting of AC electric motor control circuits for many common applications. Develops skills in interpreting schematics, system design, motor start / stop circuits, motor sequence control, reversing motor control, and motor jogging. Safety is emphasized throughout, highlighting motor safety, lockout/ tag out and safety interlocks.

Introduction to Electric Motor Control  
Manual Motor Control & Overload Protection  
Control Transformers  
Control ladder Logic  
Control Relays and Motor Starters

Introduction to Troubleshooting  
Systems Troubleshooting  
Reversing Motor Control  
Automatic Input Devices 1  
Basic Timer Control:  
On-Delay/Off-Delay



### Virtual Manufacturing Training Course features:

- Pre- and post-training knowledge and skills assessments
- Relevant content informed by manufactures
- Virtual training systems which allow students to replicate hands-on skills
- Content available 24-hours per day
- Two 30-minute coaching sessions with a member of the Columbus State team
- Start and stop as your schedule permits



To begin your training program or for more information, call MEP at Columbus State at 614-287-5000 or email [mep@cscc.edu](mailto:mep@cscc.edu)