

## Motors and Controls

### *Technical Skills for the Total Productive Manufacturing Workforce*

### Overview

Motors and Controls introduces a broad range of motor types and control systems. It provides an overview of electric motor operation, selection, installation, control and maintenance. Every effort is made to present the most up-to-date information to accurately reflect the current needs and state of the industry.

### Who Should Take This Class

This course is perfect for multi-craft maintenance technicians, electricians, or other technical personnel who need a better understanding of industrial motor controls. It is designed to empower the student with relevant knowledge that can be immediately used on the plant floor. A solid understanding of motors translates into reduced troubleshooting time and increased machinery uptime and plant productivity.

### Course Agenda

This course is designed to unlock tools and empower the qualified technician with skills necessary to become an expert at troubleshooting issues with motor control circuits. By focusing on core concepts and principles, the curriculum is relevant to technicians working in a variety of environments.

Technicians will explore the basic principles of electric motor control, standard control circuits such as start/stop and forward/reverse, as well as troubleshooting techniques. Topics include control transformers, manual motor starters, magnetic motor starters, reversing techniques, overload protection, automatic input devices and timer relays. Advanced topics include motor control troubleshooting, reduced voltage starting, braking methods, and motor speed control. Technicians will experience individualized, hands-on learning with motor control trainers and group lecture of concepts and principles.

### Outcomes Include

- Fundamental Elements of Motor Control Systems
- Automatic VS Manual Control
- Common Circuits and their Standard Application
- How to Read and Understand Motor Nameplate Data
- Starting, Reversing, Stopping and other techniques
- Troubleshooting Techniques
- Common Problems Experienced by Maintenance Personnel
- A/C vs D/C and D/C Brushless
- Personalized Motors and Controls Training Certificate with CEUs
- Answers from the instructor about your specific issues and questions generated from class discussion
- Use Simulation Software to Diagnose Circuits and Enforce Class Lecture

#### Additional Information

Further inquiries about this program can be made by email to: [srcastelloe@gtcc.edu](mailto:srcastelloe@gtcc.edu).

Cost for the class is *FREE*. There will be a workbook that will need to be purchased for the class at \$122.20 plus tax.

Send completed registrations to MaryAlice LaDue at [mtladue@gtcc.edu](mailto:mtladue@gtcc.edu).