



CRAFT SKILLS Training Tour

TTi, a Division of GP Strategies,[®] presents the Craft Skills Training Tour. Beginning in the Fall on 2021, we will embark on a multicity, in-person craft skills training tour throughout the southeastern United States. The following is a detailed description of the nine courses that will be covered during the tour.

2021 Course Listing and Descriptions

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Basic Electrical Concepts

EM-100

Course Length

This is a 16-hour course.

Recommended For:

Electronics technicians
I&C technicians

Prerequisites

None

Delivery Method

- Lecture
- Instructor-led discussion
- Hands-on lab exercises

Evaluation Methods

- Quiz
- Lab exercises
- Final written exam

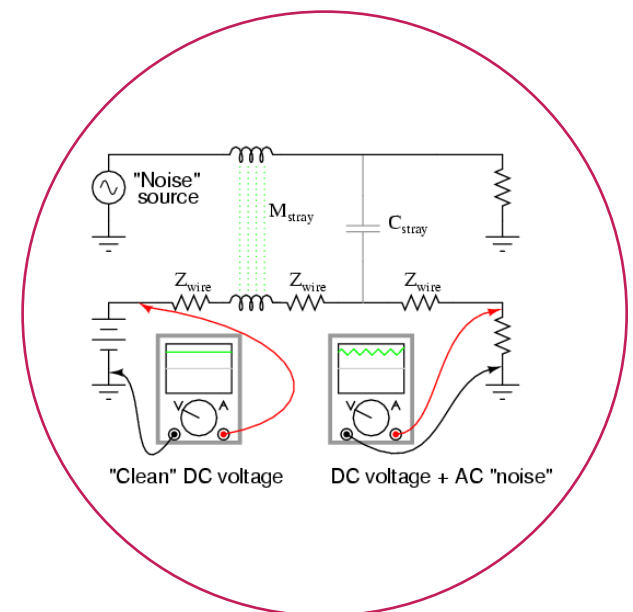
Course Description

This course provides information on the basic concepts of direct current (DC) electricity and magnetism, including electrostatics, basic circuit concepts, and measurement of electrical quantities and associated numerical concepts, Ohm's Law, practical circuits, electromagnetism, and electrical measurements. There are hands-on exercises for device operation and simple circuit construction and analysis.

Course Purpose

Upon completion of this course, the participant should be able to:

- State and apply electrical laws for DC circuits.
- Construct DC circuits.
- Measure and evaluate DC circuits.
- Troubleshoot DC circuits.
- Describe the general safety precautions that must be observed when working around electrical equipment.
- Discuss the composition of the atom and its relation to electrical charge.



For more information on how to enroll, as well as specific dates and locations contact us at craftskills@gpstrategies.com or call 800.371.5030.

Motor Control and Troubleshooting

EM-230

Course Length

This is a 16-hour course.

Recommended For:

Electrical technicians

Electricians

Prerequisites

Understanding of electrical theory and electrical systems

Delivery Method

- Lecture
- Instructor-led discussion
- Hands-on lab exercises

Evaluation Methods

- Quiz
- Lab exercises
- Final written exam



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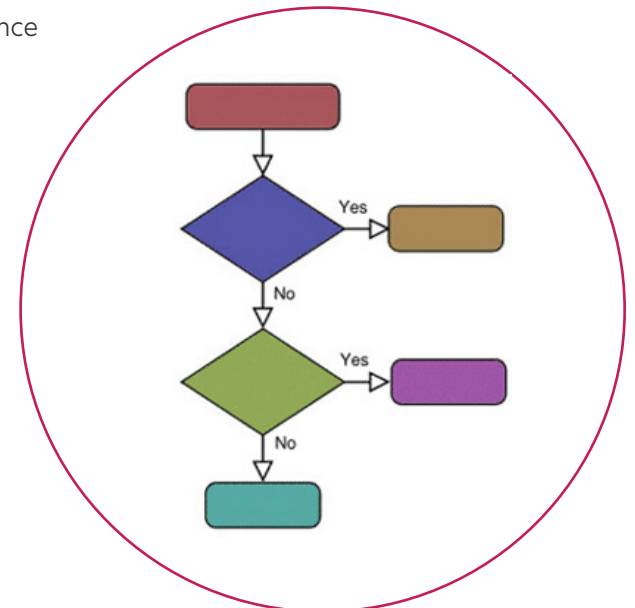
Course Description

This course provides information on the concepts associated with the systematic troubleshooting of instrumentation systems. Participants use practical applications of troubleshooting techniques in exercise scenarios.

Course Purpose

Upon completion of this course, the participant should be able to:

- Explain fundamental troubleshooting steps.
- Explain the importance of symptom identification.
- Discuss the difference between symptoms and root causes.
- Discuss the importance of effective maintenance record keeping.
- Demonstrate a systematic approach to problem solving.
- Effectively construct and use a "Cause-Effect" diagram.
- Use various troubleshooting charting methods.
- Systematically evaluate problems for root-cause identification.



Basic Programmable Logic Controllers (Studio 5000)

EM-306

Course Length

This is a 16-hour course.

Recommended For:

Electrical maintenance technicians

Prerequisites

Understanding of electrical theory and electrical systems

Delivery Method

- Lecture
- Instructor-led discussion
- Hands-on lab exercises

Evaluation Methods

- Quiz
- Lab exercises
- Final written exam

Course Description

This course provides information on PLC concepts, hardware, software, and ladder logic functions (relay contacts, timers, and counters). There are hands-on exercises for configuration and programming.

Course Purpose

Upon completion of this course, the participant should be able to:

- Identify general PLC circuit and logic contact symbology.
- Describe the purpose of the address in memory.
- Identify contact symbols.
- Use the programming software to configure a PLC.
- Use the programming software to create and edit ladder logic programs.
- Create a ladder logic motor controller.
- Use the programming software to force bit state.
- Create a timer-based program.
- Create a counter-based program.



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Variable Frequency Drives

EM-325

Course Length

This is a 16-hour course.

Recommended For:

Electrical technicians

Electricians

Prerequisites

Understanding of electrical theory and electrical systems

Delivery Method

- Lecture
- Instructor-led discussion
- Hands-on lab exercises

Evaluation Methods

- Quiz
- Lab exercises
- Final written exam



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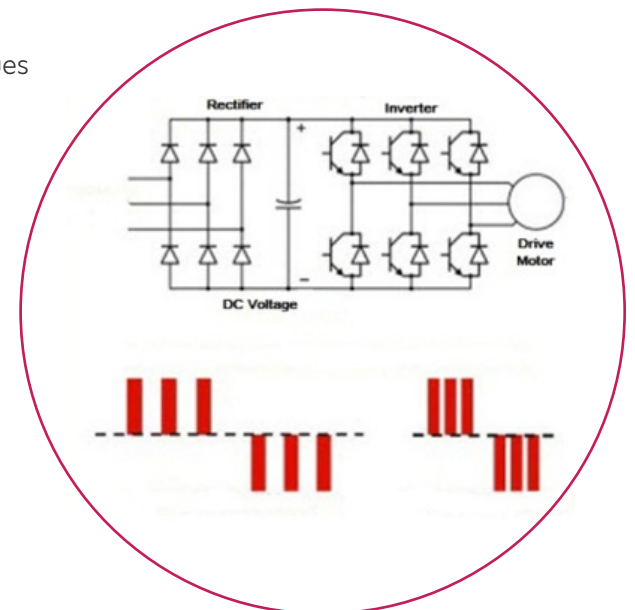
Course Description

This course provides information on solid-state drive concepts, drive-based motor control, drive and motor setup, and drive programming. There are hands-on exercises for setting up AC and DC drives.

Course Purpose

Upon completion of this course, the participant should be able to:

- List and describe the operation of components in a PowerFlex 70.
- List and explain the parameters in a PowerFlex 70.
- Demonstrate proper installation and setup of a PowerFlex 70.
- Demonstrate proper troubleshooting techniques on a PowerFlex 70.



Electrical Safety for Qualified Personnel

FND-035

Course Length

This is an 8-hour course.

Recommended For:

Electrical technicians, electricians, personnel using lockout/tagout on electrical systems

Prerequisites

Understanding of electrical theory and electrical systems

Delivery Method

- Lecture
- Instructor-led discussion

Course Description

This course provides guidance in order to comply with OSHA part 1910 regulations and NFPA 70E electrical safety standards, including arc flash protection.

Course Purpose

The purpose of this course is to provide participants with the knowledge and tools to perform the following:

- Identify electrical safety hazards.
- Discuss tool and equipment safety.
- Describe the lockout/tagout process.
- State the requirements for work on energized gear.
- Use regulations and standards to perform work safely on electrical systems.



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Bearing Fundamentals

MM-115

Course Length

This is a 16-hour course.

Recommended For:

Mechanical technicians

Prerequisites

Understanding of fundamental mechanical principles

Delivery Method

- Lecture
- Instructor-led discussion
- Hands-on lab exercises

Evaluation Methods

- Quiz
- Lab exercises
- Final written exam

Course Description

This course provides information on the concepts associated with bearings; bearing function, bearing design, bearing maintenance, installation, and removal; expected load and wear patterns; and bearing faults.

Course Purpose

Upon completion of this course, the participant should be able to:

- Identify bearing types and uses.
- Install and adjust bearings.
- Identify proper lubrication requirements.
- Identify bearing failures.
- Discuss bearing failure reduction methods.



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Hydraulics and Pneumatics Fundamentals

MM-125

Course Length

This is a 16-hour course.

Recommended For:

Mechanical technicians

Prerequisites

Understanding of mechanical theory and mechanical systems

Delivery Method

- Lecture
- Instructor-led discussion
- Hands-on lab exercises

Evaluation Methods

- Quiz
- Final exercise
- Final written exam

Course Description

This course provides information on the concepts associated with hydraulics, hydraulic systems and components, fluid principles, hydraulic system design, and hydraulic schematic symbology.

Course Purpose

Upon completion of this course, the participant should be able to:

- List the advantages of hydraulics and pneumatics.
- Discuss hydraulic and pneumatic components.
- Disassemble, clean, inspect, and reassemble a hydraulic and/or pneumatic control valve.
- Operate a hydraulic and/or pneumatic cylinder using a given medium.
- Operate multiple hydraulic cylinders using a hydraulic medium.
- Operate a pneumatic cylinder using a pneumatic medium.
- Operate multiple pneumatic cylinders using a pneumatic medium.



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Valve Repair

MM-210

Course Length

This is a 16-hour course.

Recommended For:

Mechanical maintenance technicians

Prerequisites

None

Delivery Method

- Lecture
- Instructor-led discussion
- Hands-on lab exercises

Evaluation Methods

- Quiz
- Lab exercises
- Final written exam

Course Description

This course provides information on valve maintenance and repair activities associated with common valves used in industrial applications. This course assumes that the student is familiar with valve fundamentals.

Course Purpose

Upon completion of this course, the participant should be able to perform the following for each type of valve (globe, gate, ball, regulating, check, and plug):

- Demonstrate proper valve disassembly and inspection.
 - Explain the steps to disassemble a typical valve properly.
 - Discuss the signs of valve damage on a disassembled valve.
- Demonstrate how to repair a valve seat properly.
 - Blue check a valve.
 - Seat a valve.
 - Lap a globe valve.
 - Reface a gate valve.



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Shaft Coupling and Alignment

MM-245

Course Length

This is a 16-hour course.

Recommended For:

Mechanical technicians

Prerequisites

Understanding of rotating equipment

Delivery Method

- Lecture
- Instructor-led discussion
- Hands-on lab exercises

Evaluation Methods

- Quiz
- Lab exercise
- Final practical exercise
- Final written exam

Course Description

This course provides information on the importance of proper alignment and alignment methods; the cause of misalignment and how to correct for errors such as soft foot and thermal growth using dial indicators; and coupling alignment using dial indicators and lasers where applicable.

Course Purpose

Upon completion of this course, the participant should be able to:

- Identify shaft misalignment.
- Identify root causes for misalignment.
- Calculate thermal growth.
- Establish acceptable soft foot conditions.
- Align shafts and couplings using dial indicators.
- Describe laser alignment methods.



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About GP Strategies

GP Strategies is a leading workforce transformation partner—one of the few truly dedicated global providers in the market-place providing custom solutions. We believe our transformation focus, when paired with deep listening, a customer-centric approach, and innovative expertise, enables our clients to routinely achieve superior business and operational results from our evidence-driven and technology agnostic recommendations.

Whether your business success requires a change in employee performance and mindsets, learning technologies, or critical processes, GP Strategies is the transformation partner you can trust.

About TTi Global

TTi Global, a division of GP Strategies, is a trusted global leader in staffing and recruiting. Whatever your hiring needs, TTi Global can help you fill the position through their substantial database of qualified, high-caliber candidates living and working on six continents. TTi Global will help you streamline the hiring process, cuts costs and allows you to focus your valuable time on key business objectives.



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