



**AUTOMATION**

**COURSE CCP299**

## Studio 5000 Logix Designer Level 1: ControlLogix Fundamentals and Troubleshooting

Upon completion of this course, you should be able to troubleshoot a previously operational ControlLogix® system and restore normal operation. You will have the opportunity to develop and practice these skills by:

- Learning basic concepts and terminology used with:
  - ControlLogix system hardware
  - Studio 5000 Logix Designer® application
- Practicing a systematic strategy for diagnosing and troubleshooting problems:
  - Configuration issues
  - Electrical noise
  - Faulty/malfunctioning field devices
  - Controller I/O, or other hardware issues
- Performing hands-on exercises

All Logix5000™ systems use the same control engine; therefore, tasks are similar. You will see applicable references for other systems.

**Monday, May 18**  
12 PM - 5 PM

**Tuesday, May 19 -  
Friday, May 22**  
8AM - 5 PM

**SMC Cape Girardeau**  
2333 Rusmar St  
Cape Girardeau, MO

**Cost: \$3,843**  
Includes Lunch  
(except Monday)



**Authorized  
Service Provider**

A ROCKWELL AUTOMATION PARTNER

To register, please contact Lisa Rayfield at [lrayfield@smcelectric.com](mailto:lrayfield@smcelectric.com)

# Course Agenda

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- Locating ControlLogix Components
- Navigating through the Studio 5000 Logix Designer Application
- Connecting a Computer to a Communications Network
- Downloading and Going Online
- Locating I/O Tags and Devices
- Interpreting Studio 5000 Logix Designer Project Organization and Execution
- Interpreting Ladder Logic Structure
- Locating and Editing Tag Values
- Interpreting Bit Instructions
- Interpreting Frequently Used Instructions
- Interpreting Arrays
- Interpreting Tags of User-Defined Data Types
- Searching for Project Components
- Integrated Practice - Interpreting a Basic Project
- Forcing I/O and Toggling Bits
- Troubleshooting Digital I/O Problems
- Troubleshooting Analog I/O Problems
- Troubleshooting Remote I/O Problems
- Updating Logix5000 Firmware
- Troubleshooting Controller Problems
- Troubleshooting Power Supply Problems
- Analyzing and Troubleshooting a System Using a Trend Chart
- Integrated Practice-Troubleshooting Basic Projects
- Editing Ladder Logic Online
- Managing Studio 5000 Logix Designer Project Files
- Documenting and Printing Components
- Troubleshooting Noise-Related Problems

## PREREQUISITES

- Ability to perform basic Microsoft Windows tasks
- Previous experience with common industrial control system concepts

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