Programmable Logic Controllers

This five-day course provides participants with hands-on instruction on the setup, operation, and maintenance of PLCs. The course uses the Allen Bradley PLC-5 to demonstrate the installation, programming, maintenance, and troubleshooting of PLCs. The class consists of 1½ days of classroom instruction and 3½ days hands-on.

I. Basic Overview
- Purpose of Using PLCs in industry
- Advantages/Disadvantages
- Applications

II. Basic SLC-500 Components
- Processor
- I/O
- Power Supply
- Programmer
- Chassis

III. Number and Addressing Systems
- Binary
- Hexadecimal
- BCD

IV. Information Found in PLC Data Files
- Output File
- Input File
- Status File
- Bit File
- Timer File
- Counter File
- Control Files
- Integer Files

V. PLC Processor
- Memory Capacity
- Scan Times
- Indicator Lights
- Power Requirements
- Mounting Instructions
- Adding CMOS Memory

VI. Input/Output Modules
- Basic Operation
- Various Operating Voltages
- Power Requirements
- Mounting Instructions
- Wiring the Modules
- Identifying Faulty Modules

VII. Chassis
- Basic Description of Chassis
- Addressing Rules
- Power Requirements
- Mounting Instructions

VIII. Adding Memory to the Allen Bradley PLC
- Extending Base Memory
- Adding CMOS

IX. PLC Programming and Editing Basics
- Clearing Memory
- Setting and Editing a Ladder File
- Using Various Ladder Logic Commands
- Exercises

X. PLC Troubleshooting Basics
- Basic Seven Step Principals
- Typical I/O Faults
- Using Search Function to Troubleshoot
- Using Module Indicator Lights
- Using the Status File
- Exercises