

# Modern Industrial PLC and SCADA, UPS, DCS Programs

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## Energy Milestones Corporation Advancing Professionals to the next level

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# Modern Industrial PLC and SCADA, UPS, DCS Programs



## Overview

Modern PLC-based control and automation systems often have improvements and modifications made, resulting in changes needing to be made to the PLC program. This course provides the skills necessary to understand how typical modern industrial PLC and SCADA, UPS, DCS programs work, how to make changes to existing programs and how to create small programs from scratch.

## Course Objectives

At the end of this course, the participants will be able to:

- Identify the dangers involved in modifying, existing or creating new PLC, UPS, DCS and SCADA programs.
- Make changes to existing programs and update 'back-up' systems.
- Demonstrate an understanding of how a complex.
- PLC program works.
- Use subroutines to structure programs.

## Course Content

- Introduction to the Programmable Logic Controller "PLC"
- The Role of the Programmable Logic Controllers (PLC)
- Input Devices
- Output Devices
- Characteristic Functions of a PLC
- Construction of a PLC
- PLC Glossary
- SCADA



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## Course Content

- Description of the PLC Software
- Operating System and Application Programs
- Number Systems and Codes
- Logic Concepts
- PLC User-Programs
- Processing Methods
- PLC Languages
- PLC Architecture
- The CPU Module
- The Rack or Bus
- The Power Supply
- The Memory System and I/O Interaction
- I/O Modules
- Digital I/O Modules
- Digital Input Modules
- Digital Output Modules 3-5-2.
- PLC System
- System Programming and Implementation
- PLC System Documentation
- Data Measurements and Transducers
- DCS
- UPS systems
- Instrumentation and control systems
- Case studies

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## Targeted Audience

The course is designed for those who have an electrical background (for example, maintenance electricians). Candidates who subsequently attend more advanced manufacturer-specific programming courses will find that their progress is enhanced by this foundation in PLC and SCADA programming.

## Course Methodology

Facilitated by an experienced professional trainer, this training course will be conducted as a highly interactive workshop session. A variety of training methodologies and facilitation techniques will be used before and during the course whenever applicable. These methods are aimed at enhancing individual and group interaction while maximizing learning. Some of these methods are:

- Online Pre-post Test
- Colorful Visual Aids
- Gamification
- Self-Assessment Instruments
- Simulations
- Case Studies
- Videos
- Group Exercises & Discussions
- Role plays
- Indoor & Outdoor games

