

PLCs [Programmable Logic Controllers]: Siemens Simatic Step 7



A DIVISION OF ECPI UNIVERSITY

Focus on the fundamentals of Siemens S7-300 PLC from setting up communications to programming, uploading and downloading programs to troubleshooting and modifying the system.

Each student will spend 80% “hands on” during the class time on the laptop running Step7 software and a PLC simulator working on performing pre-documented exercises learning through practice to use the Simatic Step 7 software to configure, program and troubleshoot ladder and faults to solve elementary and complex problems.

Program the PLC to provide real-time diagnostics that pinpoints possible issues by using troubleshooting methods such as the search function, reference data, systems menus, and forces, using the software to practice programming, running and troubleshooting ladder logic on any computer.

WHAT THIS COURSE COVERS

- Understanding Step 7 Manager Layout and Functionality
- Making the PLC do Something Specific for a Task or Piece of Equipment.
- Backup Archiving
- Upload a Project to “Restore” the Program
- Controller Communication
- Ladder Programming
- Function Block Diagram Programming
- Creating Tags, Comments, and Symbols
- Troubleshooting System Faults

WHO SHOULD TAKE THIS

- Maintenance Managers
- Instrument Technicians
- Maintenance Technicians and Supervisors
- Operators
- Automation Technicians
- Anyone who Needs Cross-Training on Siemens PLCs
- Anyone who Needs to Gain Familiarity of 1200 TIA Portal. No Prerequisites are Required to Attend this Training.

COURSE OUTCOMES

- Program Instructions into Functions and Call Functions from Other Sources.
- Archive and Restore Siemens Step7 Programs.
- File Save Up-Load and Download.
- Troubleshoot Siemens Step7 Programs.

COURSE AGENDA

- History
- PLC Architecture
- Input and Output (I/O) Systems
- Ladder Logic Versus Relay Logic
- Relay-Type Instructions
- Addressing, Data Memory, and Scan Time
- Additional Instructions & Associated Bits
- Number Systems
- Sizing and Selection of PLCs

Lecture Hands-on • **ONSITE:** 3-days (24 hours) • **LIVE ONLINE:** N/A



ONSITE - TRAINING TOUR - LIVE VIRTUAL - ONLINE - HANDS ON - AUDITS - CONSULTING - **TRAINED WORKERS. STRONGER COMPANIES.**
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PCs7 Course Overview and Agenda v01312025.docx