

## Siemens S7-1500 Programming with TIA Portal Outline

This fast paced three day course assumes the student has a basic knowledge of programming PLCs and focuses on how to use TIA Portal Step 7 Professional software to create a complete PLC system. The focus includes configuration of the Siemens S7-1500 PLC hardware, PROFINET configuration, programming using ladder logic and basic diagnostic functions

**Course Length & Time:** Three days. 8:30 AM - 4:30 PM

### Topics:

- S7 Family Hardware Overview
- TIA Portal Project and Portal Views
- Configuring the S7-1500 PLC Hardware
- Configuring a PROFINET Network
- S7-1500 Addressing & Memory
- Using Various Programming Methods (Linear, Partitioned, Structured)
- Using Basic Instruction Set (Contacts, Coils, Timers, Counters)
- How To Use Function (FC) & Function Block (FB)
- Using IEC Functions & Function Blocks
- Using Libraries
- Using Simatic Automation Tool
- Data Block Usage & Data Types
- Understanding the Most Used Organization Blocks
- Analog Value Processing
- Monitoring Logic & Using Watch Tables
- Use of Trace
- Online Diagnostics & Troubleshooting
- Use of PLCSIM Simulation Tool
- Using the Integrated Web Server on the PLC
- Using a Multi-Instance Function Block (Time Permitting)

**Prerequisite:** Basic Understanding of PLCs, Successful Completion of Siemens Basics of PLCs Online Course - <https://www.sitrain-lms.com/STEP.aspx>

**Part #** PCC-TRN-SCH3-15TP

Complete training schedule can be found at [www.pccweb.com/education](http://www.pccweb.com/education) | Registration can be done online or by contacting PCC at (262) 251-3000 or emailing [training@pccweb.com](mailto:training@pccweb.com).

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