

## SIMATIC Programming 1 in TIA Portal (SCT-TIAPR1)

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### Type

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Face-to-Face Learning

### Duration and Continuing Education Units (CEU)

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32 Hours over 4 Days  
3.2 CEUs

### Target Group

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- Programmer
- Engineer
- Maintenance

### Short Description

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This course is for SIMATIC S7-1500 and S7-1200 PLC users who are involved with developing or sustaining automation systems and their application programs.

This course is the first in a three-part series which builds basic programming skills with Siemens TIA Portal software. Students will learn TIA Portal project management, program design, and application development. This is an aggressively paced curriculum covering the S7 programming editor with Ladder, Function Block Diagram, and Statement List programming languages, as well as key TIA Portal software tools. This course takes a systems approach using the S7-1500 PLC, basic connectivity, and functionality of an KP700 HMI and ET200SP PROFINET I/O.

### Objectives

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- Complete a system hardware configuration
- Build, document, test, and troubleshoot a structured TIA Portal program
- Program using the multiple address and coding. Types
- Use symbolic addressing
- Use core application instructions, functions, and blocks
- Program using the processed analog values
- Generate data blocks
- Install PROFIBUS DP connectors on to PROFIBUS cables and test the cables for correct installation
- Establish communication to an HMI

### Content

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- System Overview
- Engineering Software "TIA Portal"
- Training Devices and Addressing
- Devices and Network
- PLC Tags
- Program Blocks
- Binary Operations
- Digital Operations
- Data Blocks

- Distributed I/O
- Human Machine Interface (HMI)
- Functions (FCs) and Function Blocks (FBs)
- Organization Blocks (OBs)
- Troubleshooting

## Language

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English

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