

## Automation - SIMATIC S5

# S5 Maintenance and Programming 2

### General Information

Course Code: SCT-S5SP5G2A

Length: 4½ Days

### Audience

This course is for maintenance technicians and controls engineers who are responsible for advanced troubleshooting and program modifications for the SIMATIC S5 system.

### Prerequisites

- S5 Maintenance & Programming 1

### Profile

2.9 CEUs (Continuing Education Credits)

This course provides advanced level skills in system troubleshooting and program modifications. Students will concentrate on the Supplemental Operation Set and the creation and diagnostics of system function blocks. Students will also gain experience with Statement List instructions (STL). Advanced hardware, communications and diagnostics will be reinforced in this course. Students will build skills in analog signal processing and troubleshooting. Students will also modify or develop programs that will be loaded into a SIMATIC S5 controller with field simulation using a PG740 programming unit (or equivalent) to test its operation.

### Objectives

*Upon completion of this course, the student shall be able to:*

- Utilize STEP 5 instructions from the supplemental operations set.
- Write or modify programs for analog I/O.
- Create user defined function blocks without formal operands.
- Create user created function blocks with formal operands.
- Utilize indirect addressing techniques.
- Create and use basic STL program code.
- Perform advanced hardware configuration and troubleshooting tasks.

### Topics

1. Program structure
2. Function Blocks (FBs)
3. Programming user-defined function blocks
4. Organization Blocks (OBs)
5. Analog input and output