

## Siemens Certified Programmer in TIA Portal (CPT-FAP)

### Short Description

You will deepen your theoretical knowledge with numerous practical exercises on a SIMATIC plant model on which you also take the examination. This consists of a SIMATIC S7-1500 automation system, ET200SP distributed I/O, Touchpanel TP700, drive SINAMICS G120 and a belt model.

### Objectives

The Zentralverband Elektrotechnik- und Elektronikindustrie e.V. (ZVEI) (German Electrical and Electronic Manufacturers' Association) has defined guidelines for further vocational training. Due to the continuous further development of automation engineering and technology towards Totally Integrated Automation solutions involving not only programmable logic controllers (PLCs), but also industrial communication, operator control and monitoring, security technology and the connection of drives, the course to qualify as a PLC technician had to be revised and expanded compared with the previous course. Within the framework of these new guidelines, we offer the course to qualify as an automation technician for configuration according to ZVEI.

This course consists of two days of theory as the ideal preparation for a 5 hour examination on the third day! Your skills from SIMATIC programming training (courses TIA-PRO1 - TIA-PRO3) will be refreshed and consolidated. The practical assessment involves the creation and commissioning of a complex PLC program with components of Totally Integrated Automation from SIEMENS. After passing the examination successfully you will receive a recognized certificate that attests your specialist knowledge.

### Target Group

Programmers  
Commissioning engineers  
Engineering personnel

### Content

Configuration of a SIMATIC controller with the SIMATIC STEP 7 V16 software based on TIA Portal.

- Applicative programming in a complex automation system
  - Programs for an automation system consisting of a standard PLC with distributed I/O, standard HMI device and bus system
  - Programming in compliance with IEC
  - Standardized user blocks
  - Creation and application of complex data structures
  - Variables of a composite and complex data type
  - System blocks
  - Indirect addressing of complex data structures and parameters
- Industrial communication
- Error diagnostics in a PROFINET IO system with an HMI device
  - Configuration of CPU-CPU communication via Industrial Ethernet

Human Machine Interface

- Alternative message methods
- Consistent transfer of entire data records (recipe management)
- System error diagnostics with an HMI device

Motion control

- Connection of drives

Deeper understanding of contents through practical exercises on the SIMATIC S7-1500 system model

### Prerequisites

Knowledge according to the course [TIA-PRO3](#) is required.

### Note

In this course you will work with the SIMATIC STEP 7 software based on TIA Portal.

### Type

E-Learning

### Duration

3 days

### Language

mu