

## Programming Fail-Safe Controllers with STEP 7 Safety in TIA Portal (TIA-SAFETY)

---

### Short Description

---

In this course, you will learn about configuring, programming, commissioning, diagnosing and troubleshooting fail-safe SIMATIC controllers and fail-safe, distributed ET 200 systems. In practical exercises you will put your theoretical knowledge to use on a training system with the STEP 7 Safety software in TIA Portal.

### Objectives

---

After attending the course, you can do the following:

- Commissioning fail-safe SIMATIC controllers
- Programming of safety-related programs in the languages FBD and LAD
- Diagnosing and troubleshooting of safety-related systems and programs

### Target Group

---

- Programmers
- Commissioning engineers
- Engineering personnel

### Content

---

- Overview and guidelines
- Product overview and operating principle Safety Integrated
- Configuring of the fail-safe components with STEP 7 Safety in TIA Portal
- Programming of a safety program
- Programming tips according to [Programming Guideline Safety for SIMATIC S7-1200/1500](#)
- Fail-safe communication (CPU-CPU communication with couplers and I device)
- Diagnostics facilities (CPU diagnostics, I/O diagnostics, advanced diagnostics)
- Deeper understanding of contents through practical exercises with a fail-safe SIMATIC S7-1500 controller

### Prerequisites

---

Basic knowledge of SIMATIC S7 according to the course [TIA-PRO1](#) or [TIA-SERV1](#).

So you may assure that the course of your choice fits to your competences an [online entrance test](#) is available for you.

### Note

---

In this course you will work with the SIMATIC STEP 7 Safety software in TIA Portal.

[Also available as online-training](#)

Additionally you have the opportunity to take an examination and receive certification on a separate date. You'll find further information and the registration at [CPT-TIASAF](#).

### Type

---

Face-to-face training

### Duration

---

3 days

### Language

---

en