

GECOL LIBYA



List of themes

Code : TC1-1	<i>Simatic S7 -1200 Basic course</i>	<i>05 days</i>
Code : TC1-2	<i>Simatic S7 -1200 Advanced course</i>	<i>05 days</i>
Code : TC1-3	<i>Simatic S7 –STEP 7 300 400 Basic</i>	<i>05 days</i>
Code : TC1-4	<i>Simatic S7 –STEP 7 300 400 Advanced</i>	<i>05 days</i>
Code : TC1-5	<i>Simatic S7 –STEP 7 300 400 Level 3</i>	<i>05 days</i>

Title :

Simatic S7 -1200 Basic

Duration :

05 days

Code :

TC1-1

Objective :

After attending the course, you can do the following:

- Understand the fundamentals of the interaction of the SIMATIC S7-1200 with an operator control and monitoring device.
- Reliably operate the "TIA Portal" engineering platform
- Create, change, and expand small STEP 7 programs
- Configure, parameterize, and exchange SIMATIC S7-1200 modules
- Diagnose and fix simple hardware faults using the wiring test
- Diagnose and fix simple program errors using the status block
- Perform simple commissioning of the SIMATIC S7-1200

Requirements :

Basic knowledge of automation

You can use the available online entry test to ensure that the selected course matches your area of expertise.

achievement in the attendance course.

Content :

- ✓ Overview and significant performance characteristics of the SIMATIC S7-1200 system family
- ✓ The components of the TIA Portal: SIMATIC STEP 7 Basic and WinCC Basic
- ✓ Program execution in automation systems
- ✓ Binary and digital operations in the function block diagram (FBD)
- ✓ Setup and assembly of the SIMATIC S7-1200 automation system
- ✓ Addressing and wiring the signal modules
- ✓ Hardware and software commissioning of the SIMATIC S7-1200 with the TIA Portal
- ✓ SIMATIC S7-1200 hardware configuration and parameterization
- ✓ Introduction to the Touch panel
- ✓ Saving and documentation of the implemented program changes with the TIA Portal
- ✓ Deeper understanding of contents through practical exercises on SIMATIC S7-1200 system model

Target group :

Programmers
Commissioning engineers
Engineering personnel
Maintenance personnel
Operators

Additional :

Title :

Simatic S7 -1200 Advanced

Duration :

05 days

Code :

TC1-2

Objective :

After attending the course, you can do the following:

- Set up SIMATIC S7-1200 PROFINET IO networks
- Understand the interaction of TIA components
- Perform specific commissioning of TIA components
- Use the PID controller technology functions and drive functions of the SIMATIC S7-1200
- Systematically diagnose and correct hardware and software errors in the SIMATIC S7-1200
- diagnostic tools of the TIA Portal engineering portal
- Create simple programs in the programming languages LAD, FBD, and SCL

Requirements :

Simatic S7 1200 Basic Knowledge (Course TC 1-1)

You can use the available online entry test to ensure that the selected course matches your area of expertise.

Content :

- ✓ Hardware diagnostic functions of the TIA Portal in the SIMATIC S7-1200 automation system
- ✓ Software diagnostic functions of the TIA Portal in the SIMATIC S7-1200 automation system
- ✓ Possible applications of various block types (FC, FB, OB, DB)
- ✓ Presentation of the SCL programming language
- ✓ Commissioning of distributed I/O on PROFINET IO
- ✓ Commissioning of a WinCC project
- ✓ PID controller technology functions and drive functions
- ✓ Deeper understanding of contents through practical exercises on SMATIC S7-1200 system model

Target group :

Programmers
Commissioning engineers
Engineering personnel
Maintenance personnel

Additional :

Title :

Simatic S7 –STEP 7 300 400 Basic

Duration :

05 days

Code :

TC1-3

Objective :

This first component of the SIMATIC service course teaches the basic knowledge of the design of automation systems, the configuration and parameterization of the hardware, handling with the STEP 7 Basis Software and the fundamentals of programming. You also get an overview of human machine interfacing, PROFIBUS DP and the integration of drives.

What you learn about the integrated factory automation will teach you to take a holistic view of your plant and to understand the relationships between components. On completion of the course, you will thus be able to diagnose simple hardware faults or replace modules, to coordinate components optimally, carry out safe fault diagnostics and thus reduce downtimes.

Requirements :

Basic Knowledge
Of automation

You can use the available online entry test to ensure that the selected course matches your area of expertise.

Content :

- ✓ System overview and essential performance features of the SIMATIC S7 system family
- ✓ The components of the STEP 7 Basic Package
- ✓ Program execution in the automation system
- ✓ Binary and digital operations
- ✓ Configuring and assembling an automation system
- ✓ Addressing and wiring of the signal modules
- ✓ Hardware and software startup of the automation system
- ✓ Hardware configuration and parameterization in the case of S7-300
- ✓ Reinforcement of the content through exercises on the device
- ✓ Introducing the TP177B Touch Panel
- ✓ Introducing the MM420 drive
- ✓ Configuration and parameterization of PROFIBUS DP
- ✓ Backing up and documenting executed program changes
- ✓ Deeper understanding of contents through practical exercises on the SIMATIC S7-300 system model

Target group :

Maintenance personnel
Operators

Additional :

Title :***Simatic S7 –STEP 7 300 400 level 2*****Duration :*****05 days*****Code :****TC1-3****Objective :**

The second component of the SIMATIC Service course is linked to the first basic course with regard to STEP7, human machine interfacing, drive components and PROFIBUS DP, and it expands this in the direction of troubleshooting. The course focuses on fault correction, software troubleshooting and program adaptations.

Requirements :

SIMATIC S7 knowledge according to S7 LEVEL 2 TC1-2 and practical experience in using the knowledge

Content :

- ✓ Detecting and correcting basic hardware faults
- ✓ Possible applications of different block types (FC, FB, OB, DB)
- ✓ Principles of analog value processing
- ✓ Using STEP 7 software for troubleshooting
- ✓ Detecting and correcting software errors
- ✓ Connecting distribute IO with PROFIBUS DP
- ✓ Modifying the TP177B configuration
- ✓ Modifying parameters of the MM420
- ✓ Sequential Control System
- ✓ Deeper understanding of contents through practical exercises on the SIMATIC S7-300 system model

Target group :

Maintenance personnel
Operators

Additional :

Title :

Simatic S7 –STEP 7 300 400 level 3

Duration :

05 days

Code :

TC1-4

Objective :

Building on the SIMATIC Service fundamentals, the focus here is on the use of STEP7 system functions as well as fault correction with STARTER software and WinCC flexible. You also start up PROFINET IO.

What you learn about the integrated factory automation will teach you to take a holistic view of your plant and to understand the relationship between the individual components. On completion of the course, you will be able to safely diagnose and correct complex faults. The comprehensive understanding gained gives you new impetus and ideas for production optimization.

Requirements :

SIMATIC S7 knowledge according to S7 LEVEL3 TC1-3 and practical experience in using the knowledge

Content :

- ✓ Starting up a program for an assembly line
- ✓ Integrating FCs and FBs
- ✓ Possible applications of error organization blocks
- ✓ Supplementing and analyzing diagnostics messages
- ✓ Software troubleshooting
- ✓ Starting up distributed I/O
- ✓ Diagnosing faults on PROFIBUS DP
- ✓ Diagnostics facilities with the "Starter" software
- ✓ Starting up a project with WinCC flexible
- ✓ Diagnostics facilities with WinCC flexible
- ✓ Use of PROFINET IO with SIMATIC S7
- ✓ Deeper understanding of contents through practical exercises on the SIMATIC S7-300 system model

Target group :

Maintenance personnel
Operators

Additional :