SIEMENS
Ingenuity for life

Siemens Cooperates with Education (SCE)

SIEMENS Malaysia

SCE Courses

Overview Educator Training Courses / University Workshops

SIEMENS
Ingenuity for life

LOGO! courses

- Basics of programming of LOGO! **2 days**
- Continuation course for LOGO! - 0BA7 with Ethernet interface! **2 days**
- Programming application examples for LOGO! **2 days**

Special Courses

e.g. SinuTrain on request

TIA Portal Courses

NEW

- Basics of PLC programming with SIMATIC S7-1500 and TIA Portal **2 days**
- Basics of PLC programming with SIMATIC S7-300 and TIA Portal **2 days**
- Continuation course SIMATIC S7-1500 with TIA Portal **2 days**
- Continuation course SIMATIC S7-300 with TIA Portal **2 days**
- Process visualization with WinCC and SIMATIC S7-1500 in the TIA Portal **2 days**
- Process visualization with WinCC and SIMATIC S7-300 in the TIA Portal **2 days**
- High level language SCL with SIMATIC S7 and TIA Portal **2 days**
- Closed-loop control with SIMATIC S7 and TIA Portal **2 days**
- TIA Portal Integration to Drive **2 days**
- SIMOCODE Pro with Soft Starter **2 days**

STEP 7 Classic Courses

Available

- Basics of PLC programming with SIMATIC S7-300 **2 days**
- Project-oriented plant programming with SIMATIC S7 **3 days**
- Continuation course for SIMATIC S7-300 **2 days**
- SCE SIMIT Simulation – simulating plants dynamically on the PC **2 days**
- Sequencers with S7-GRAPH **2 days**
- Control technology with SIMATIC S7 **2 days**
- High level language SCL with SIMATIC S7 **2 days**
- Process visualization with SIMATIC WinCC flexible **2 days**
- PROFIBUS / AS Interface with SIMATIC S7 **2 days**
- WEB technologies with SIMATIC S7 **2 days**
- PROFINET with SIMATIC S7 **2 days**
- Process visualization with SIMATIC WinCC **2 days**
- PROFIBUS and PROFINET with SIMATIC S7 **2 days**
- Process control system with SIMATIC PCS 7 **2-3 days**
- Safety Integrated at a fieldbus with SIMATIC S7 **2 days**
- Industrial Ethernet with SIMATIC S7 **2 days**
- RFID at a fieldbus with SIMATIC S7 **2 days**
- Frequency converter MM420/SINAMICS G120 at a fieldbus with SIMATIC S7 **2 days**
- ServoDrives SINAMICS S120 at a fieldbus with SIMATIC S7 **2 days**

University Workshops

- TIA Portal with SIMATIC S7-300, ET 200S at PROFINET and visualization with WinCC **2 days**
- Process control system with SIMATIC PCS 7 **2-3 days**
- Continuation course Process control system with SIMATIC PCS 7 **2-3 days**

CONTENT OVERVIEW

Basic of PLC programming with SIMATIC S7-300 ***(2 days)***

SIEMENS
Ingenuity for life

System Family

- Familiarization with the S7-200 and S7-300/400 automation system.
- Concept of “Totally Integrated Automation”.
- Familiarization with the programming device.
- Familiarization with the PC Requirements for working with STEP 7.
- Familiarization with the tools of the STEP 7 basic programming package.

Training Units

- Familiarization with the slots of S7-300 hardware.
- Familiarization with the training kit.
- Introduction of he memory concepts.
- Familiarization with the internal memory or marker addressing.

SIMATIC Manager

- Familiarization with the online/offline view in the SIMATIC Manager.
- Familiarization with the STEP 7 Standard Libraries.
- Familiarization with the STEP 7 help system.
- Create and manage a project with SIMATIC Manager.
- Perform an S7 CPU memory reset.

HW Configuration

- Insert a hardware station into a project.
- Create a set point configuration, read out the actual configuration and assign parameters to it.
- Familiarization with the addressing of S7-300 input and output modules.
- Link a modular slave to a PROFIBUS master system.
- Familiarization with the catalog hardware Import/Export Function.

Symbols

- Differentiation between absolute and symbolic addressing.
- Differentiation between local and global symbols.
- Differentiation between leading symbols and leading absolute address.
- Edit a global symbol table.
- Use the Block Editor to edit global symbols.

Blocks

- Differentiation types of S7 Blocks.
- Principle of “structured programming”.
- Meaning of process of images.
- Principle of cyclic program execution.
- Different type of programming languages.
- Carry out simple program debugging.
- Customization to the LAD/FBD/STL Editor.

Binary Operation

- Differentiation between ‘real’ connected NC contacts and NO contacts, and programmed symbols.
- Explanation of the terms Result of Logic Operation (RLO), Status (STAT) and First Check.
- Program basic binary logic operations.

Digital Operation

- Test functions for the selectable display formats.
- Counter and Timer programming functions.
- “Load” and “Transfer” functions
- Conversion operations for number formats
- Apply the program the comparison operations.
- Basic mathematical functions.

Troubleshooting

- Classification occurring errors as ‘Error detected by the system” and “Functional errors”.
- Usage for troubleshooting to read out the diagnostic buffer.
- Hardware Diagnosis recitation.
- Application of “Monitor/Modify Variables” test functions.
- Interpretation of the display of the “Monitor” test functions.

CONTENT OVERVIEW

Continuation course for SIMATIC S7-300 (***2 days***)

SIEMENS
Ingenuity for life

SIMATIC Manager

- Familiarization with the online/offline view in the SIMATIC Manager.
- Familiarization with the STEP 7 Standard Libraries.
- Familiarization with the STEP 7 help system.
- Create and manage a project with SIMATIC Manager.
- Perform an S7 CPU memory reset.

PROFIBUS DP and HMI

- Familiarization with the use of PROFIBUS DP.
- Familiarization with the WinCC flexible software.
- Set the interface of the TP 170B touch panel.
- Download a project to the TP 170B touch panel.
- Familiarization with the principle of interfacing the touch panel via tags.

Micromaster MM420

- Understand the principle of an inverter.
- Reset the inverter to factory defaults.
- Operate the BOP standard operating panel.
- Set basic parameters using the Basic Operator Panel (BOP).
- Integrate the Micromaster into the hardware configuration.
- Monitor and control the Micromaster.

CONTENT OVERVIEW

Project-oriented plant programming with SIMATIC S7 ***(3 days)***

SIEMENS
Ingenuity for life

Project Oriented Plant Programming

Factory Automation

- **SIMATIC Basic Programming PLC**

1. System Family
2. Training Units
3. SIMATIC Manager
4. Hardware Configuration
5. Symbols
6. Blocks
7. Binary Operation
8. Digital Operation
9. Troubleshooting

- Project Specification as per customer request

Process Automation

- **SIMATIC Basic Programming PLC**

1. System Family
2. Training Units
3. SIMATIC Manager
4. Hardware Configuration
5. Symbols
6. Blocks
7. Binary Operation
8. Digital Operation
9. Troubleshooting

- Project Specification as per customer request

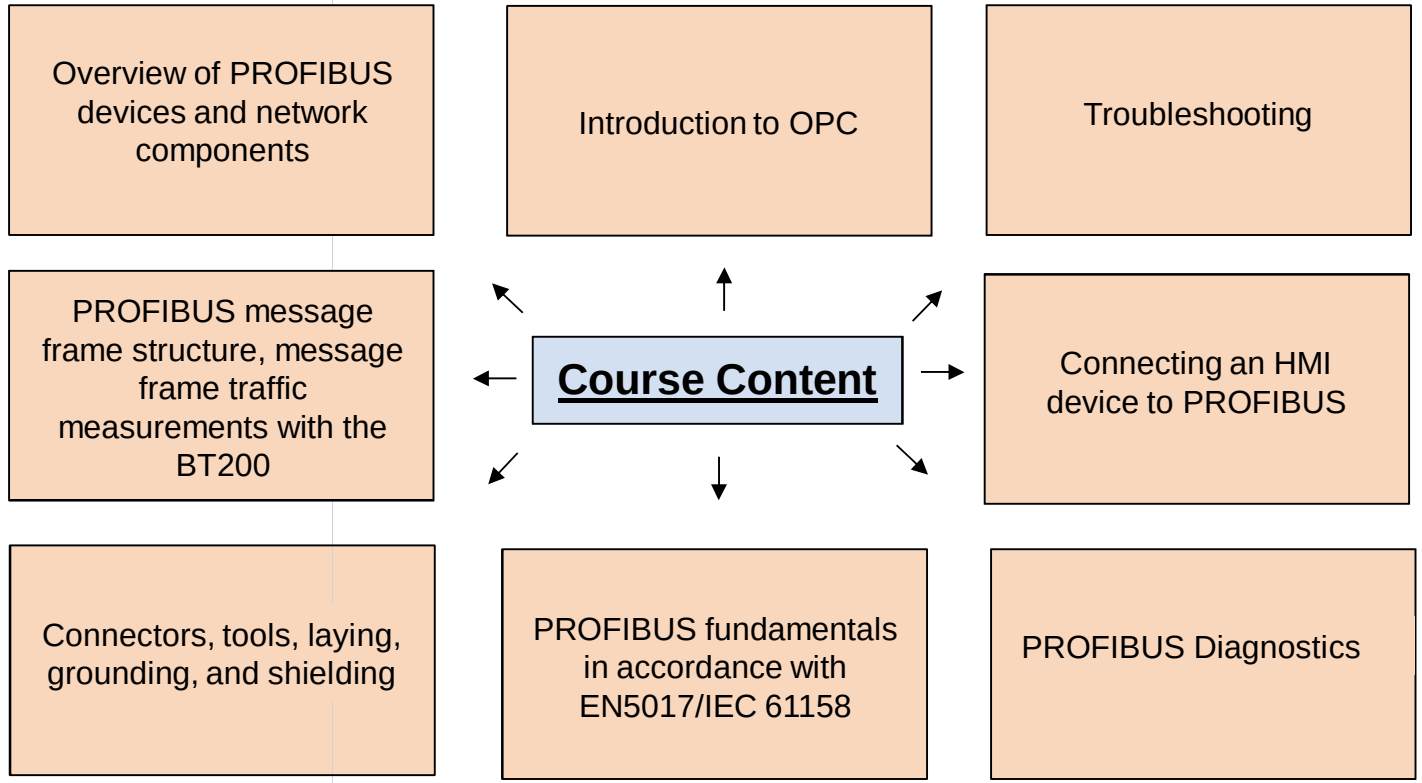
CONTENT OVERVIEW

PROFIBUS with SIMATIC S7 (***2 days***)

SIEMENS
Ingenuity for life

Course Description

- Essential theoretical fundamentals of PROFIBUS protocols (Tools for startup, service, testing and diagnostic).
- Different methods of setting up PROFIBUS Neworks (RS 485 Network components, fiber optics).
- Theoritical knowledge with numerous practical exercises.



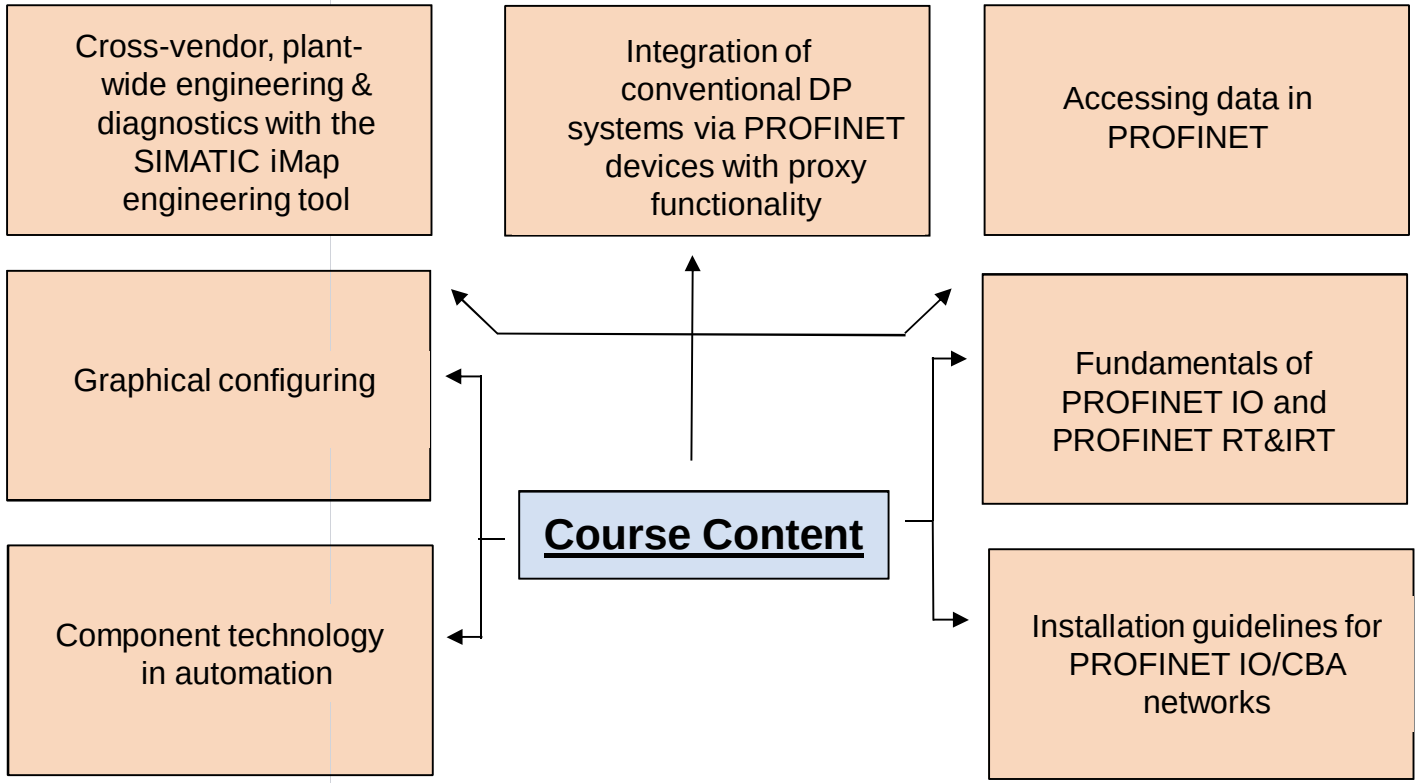
CONTENT OVERVIEW

PROFINET with SIMATIC S7 (**2 *days***)

SIEMENS
Ingenuity for life

Course Description

- Parameterize, start up and troubleshoot a PROFINET network.
- Familiarization with Component Based Automation from PROFINET through SIMATIC iMap.
- Optimization structure user program and flexible in design.



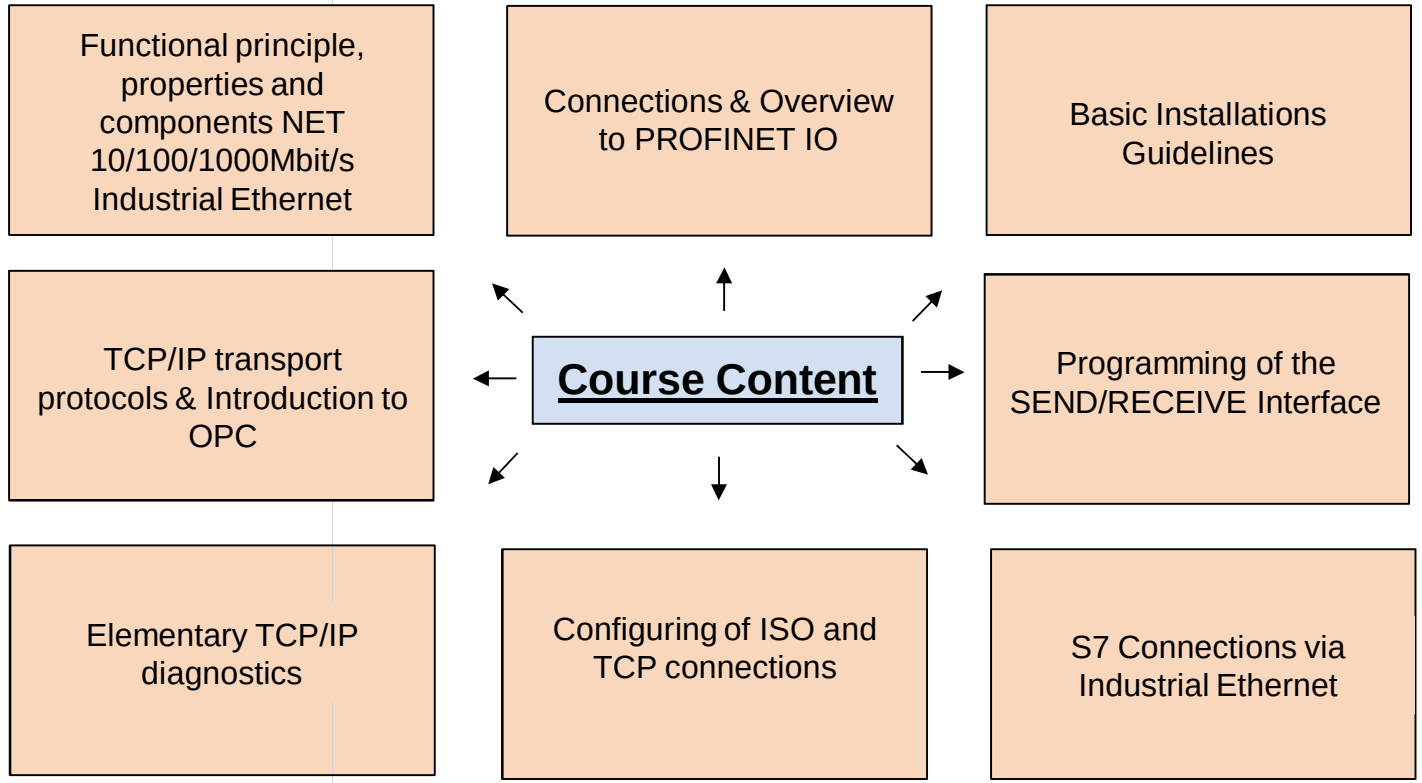
CONTENT OVERVIEW

Industrial Ethernet with SIMATIC S7 (***2 days***)

SIEMENS
Ingenuity for life

Course Description

- Essential theoretical fundamentals of Industrial Ethernet protocols and services (Tools for startup, service, testing and diagnostic).
- Different methods of setting up Industrial Ethernet networks.
- Practice-oriented course, able to install and optimize an Industrial Ethernet network.



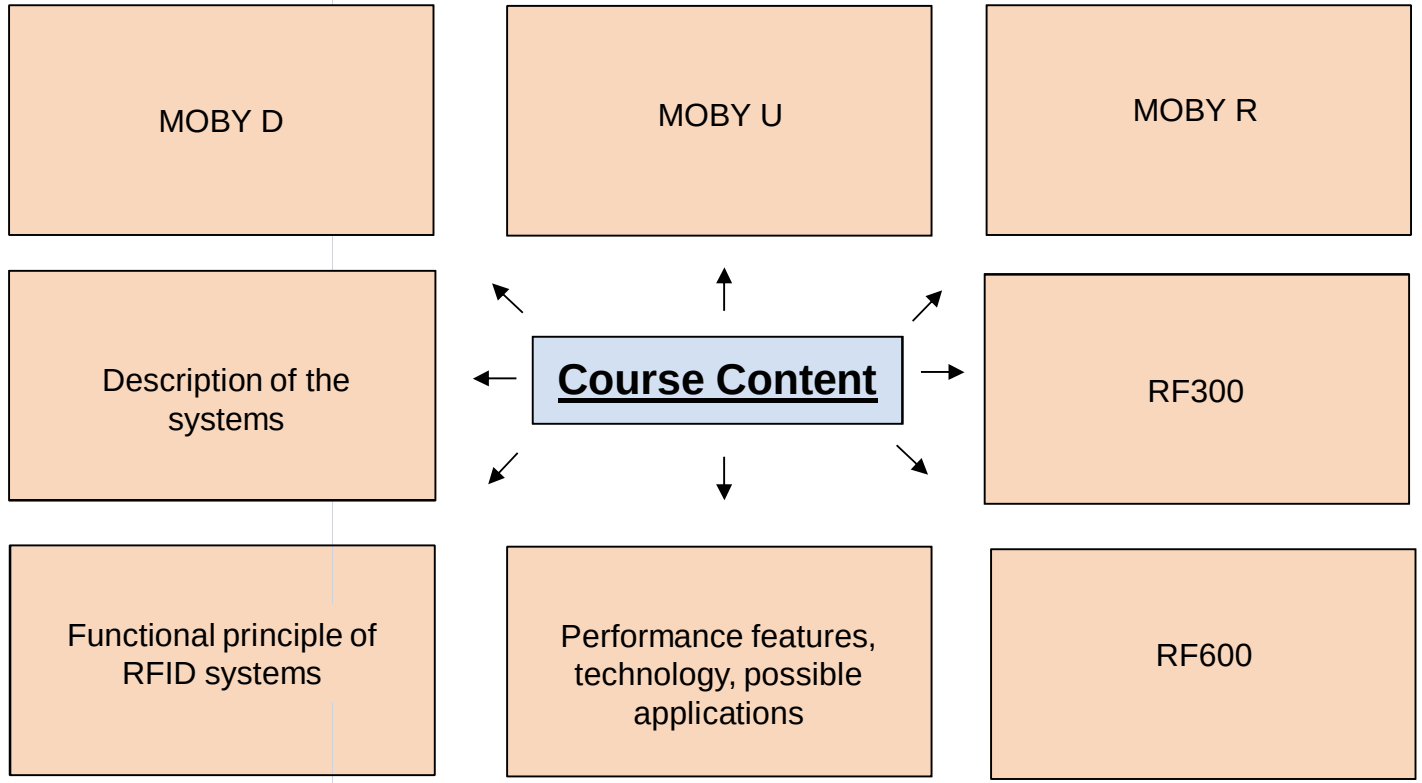
CONTENT OVERVIEW

RFID at a fieldbus with SIMATIC S7 (***2 days***)

SIEMENS
Ingenuity for life

Course Description

- Overview of the functionalities of the different RFID systems.
- Functional principles of RFID, the requirement for use and the possible applications.
- Evaluate and estimate the functionalities of the different systems.



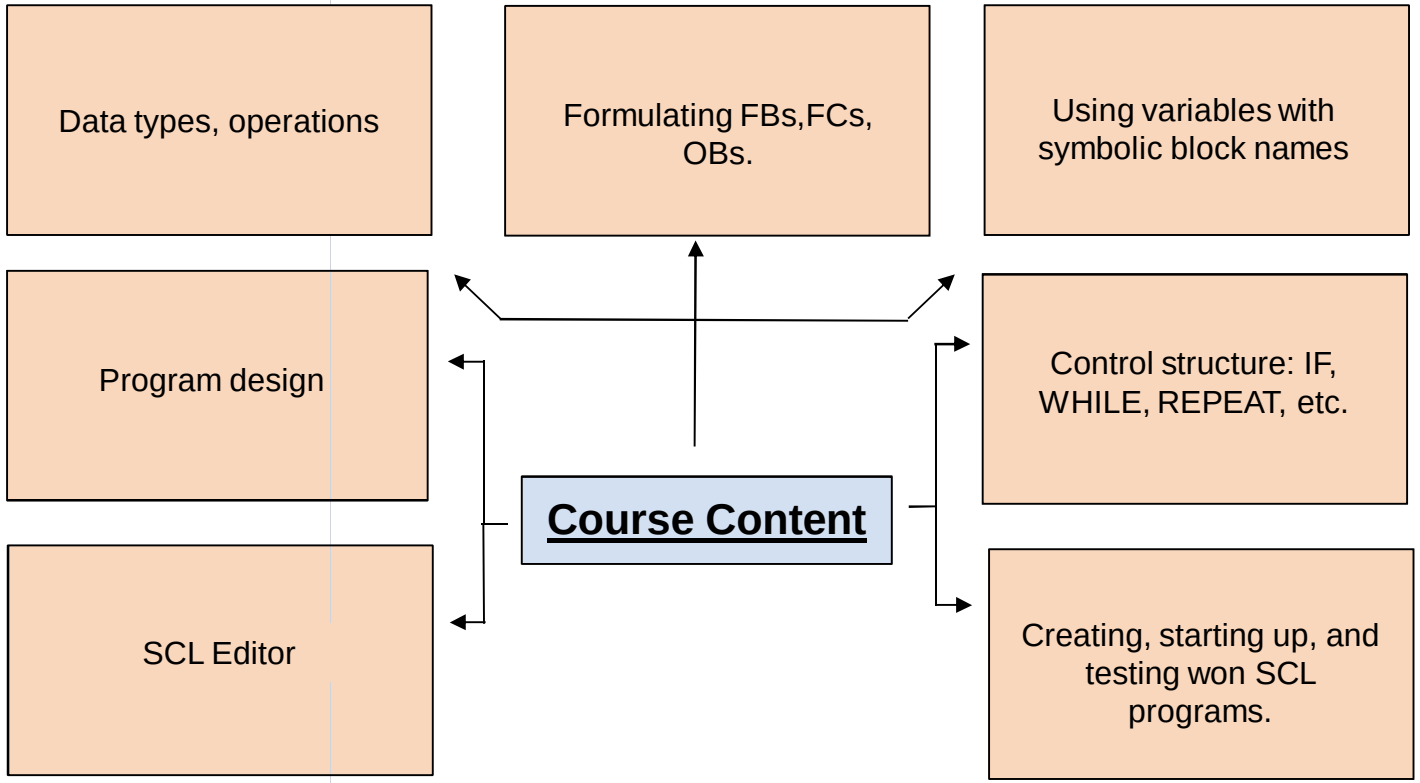
CONTENT OVERVIEW

High level language SCL with SIMATIC S7 (***2 days***)

SIEMENS
Ingenuity for life

Course Description

- Create, start up and test SCL programs.
- Use high-level languages to reduce the overhead for program creation.
- Understand the entire language and performance scope of the SCL development environment.



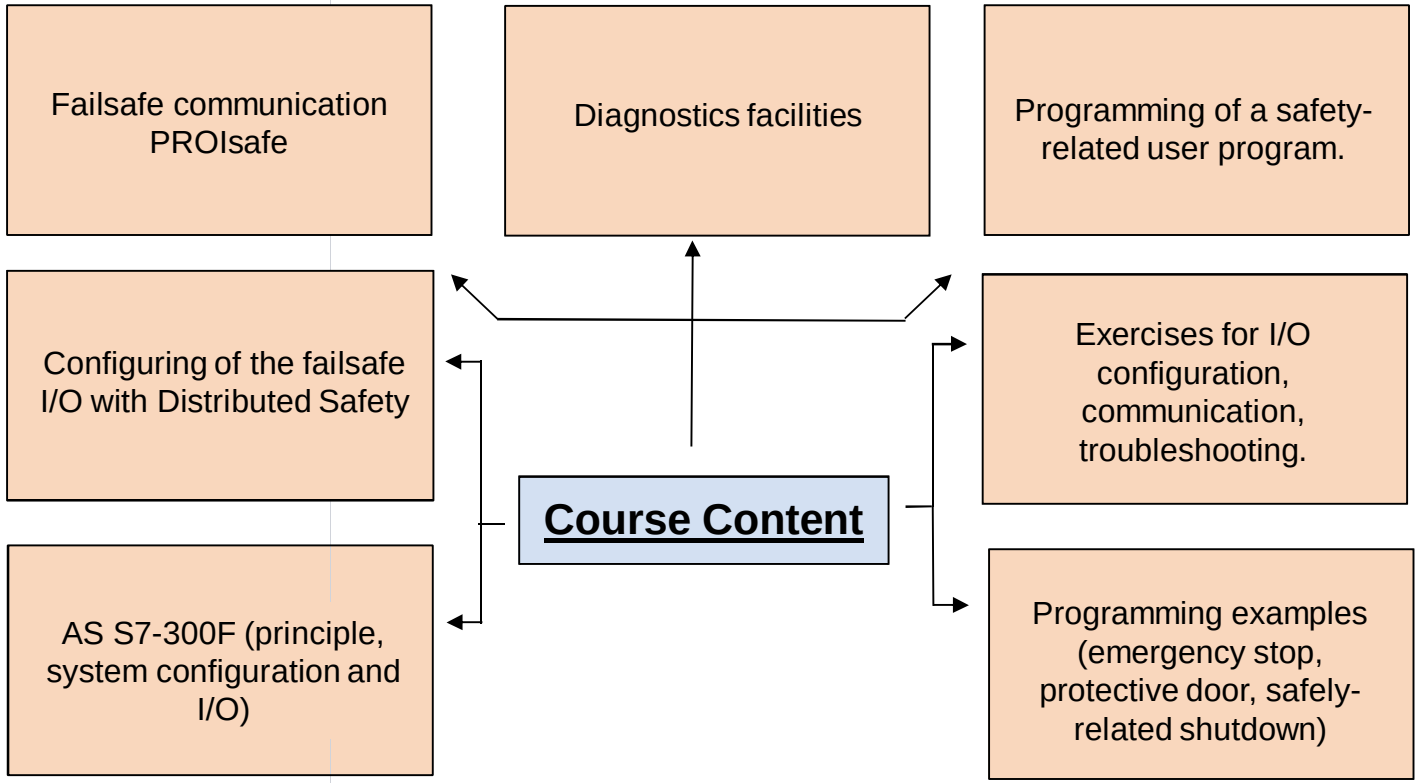
CONTENT OVERVIEW

Safely Integrated at a fieldbus with SIMATIC S7 (**2 *days***)

SIEMENS
Ingenuity for life

Course Description

- Configuring, programming, starting up, diagnosing and troubleshooting of the failsafe CPUs of the SIMATIC 300 and 400 series, distributed ET200 systems.
- The theoretical knowledge will use with Distributed Safety software in practical exercises.
- Introduction to the creation of safety-related programs in the programming languages F-FBD and F-LAD.



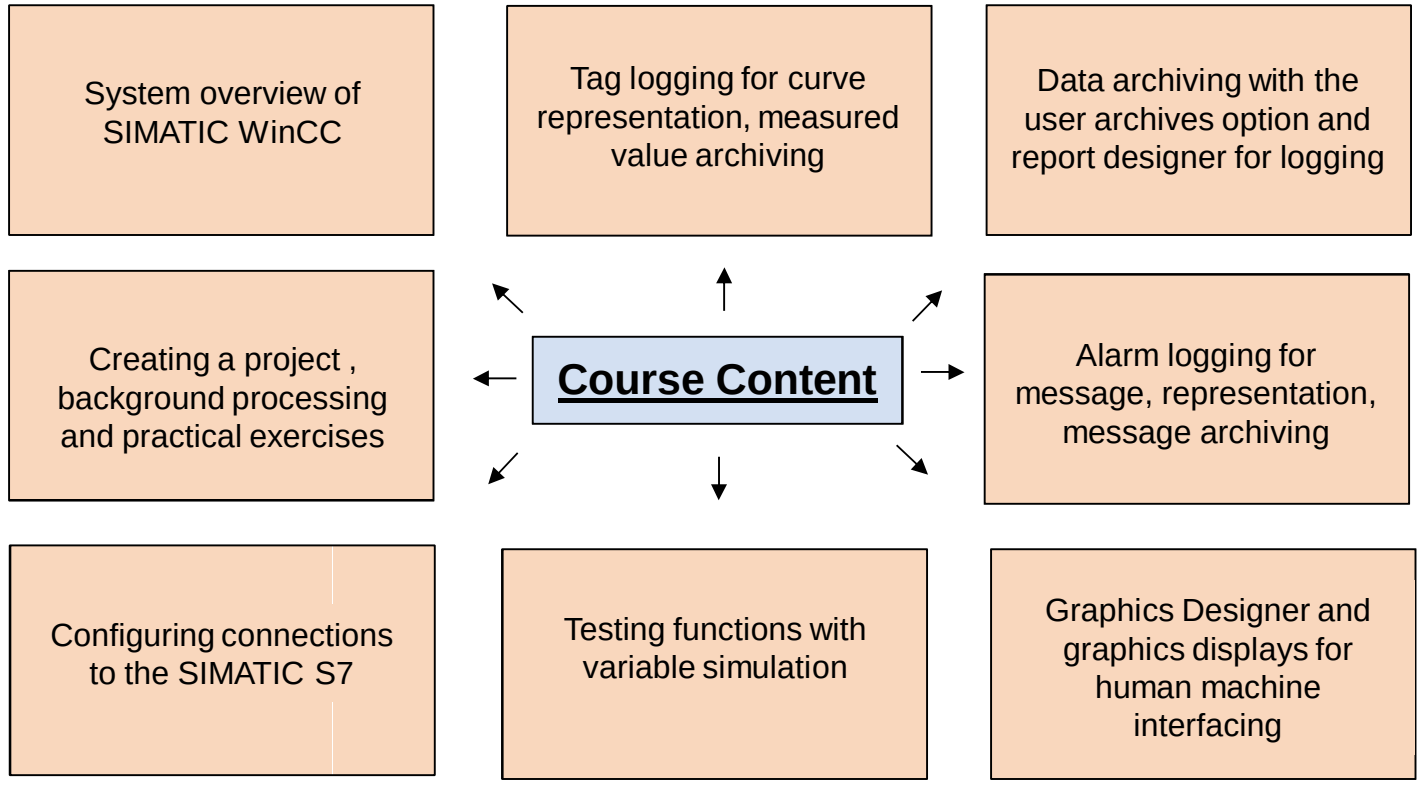
CONTENT OVERVIEW

Process Visualization with SIMATIC WinCC (***2 days***)

SIEMENS
Ingenuity for life

Course Description

- Configuration of SIMATIC WinCC. (Options and add-ons for selected tasks).
- Knowledge upon the system simply and quickly. Numerous practical exercises within the environment.
- Understand the benefits of WinCC‘s opennes. The interaction with other SIMATIC components.



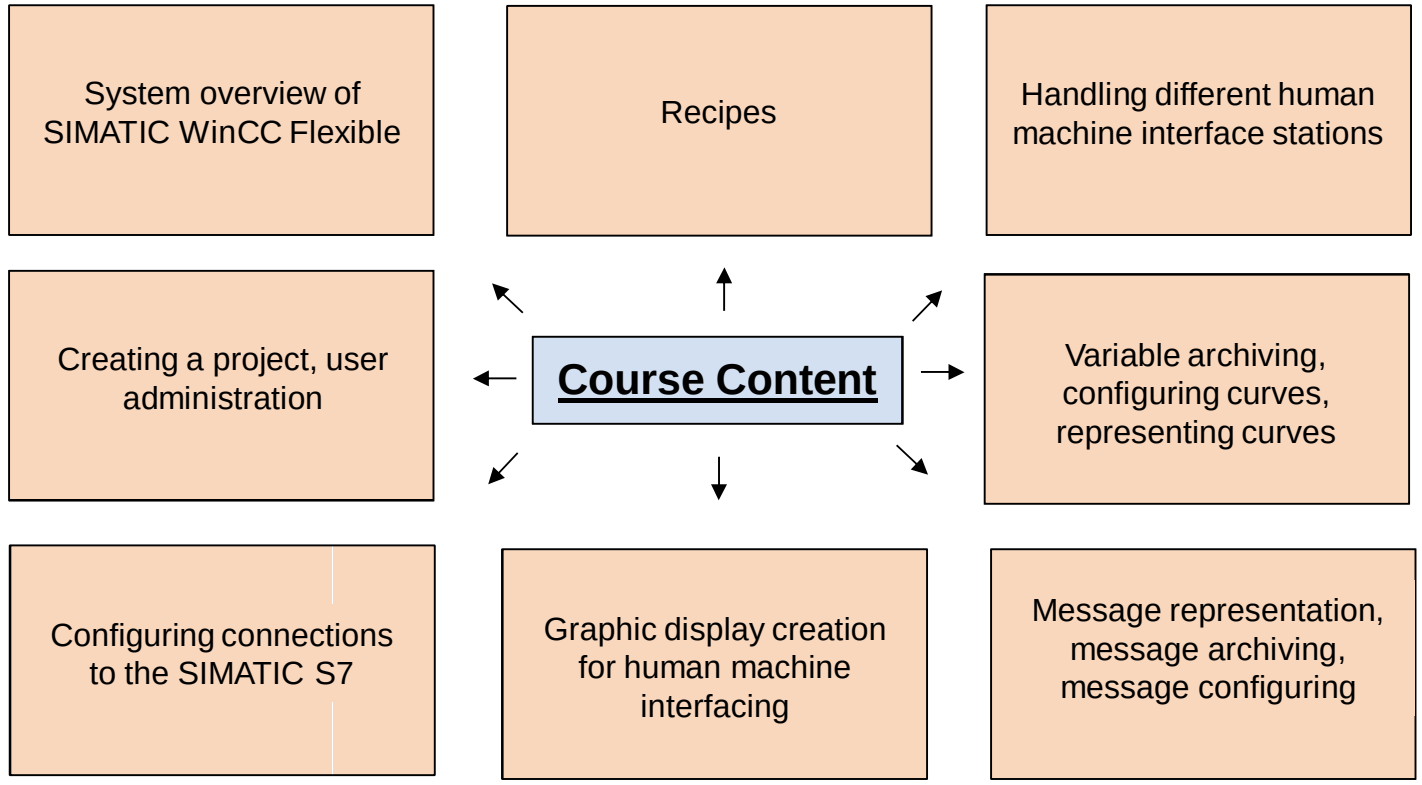
CONTENT OVERVIEW

Process Visualization with SIMATIC WinCC Flexible (***2 days***)

SIEMENS
Ingenuity for life

Course Description

- Configuration of machine-specific and plant-specific human machine interface tasks with the SIMATIC WinCC flexible software.
- Practical exercises on a plant model consists of an S7-300 automation system and human machine interface station.
- Work efficiency with WinCC flexible and create an optimal configuration for any given requirement.



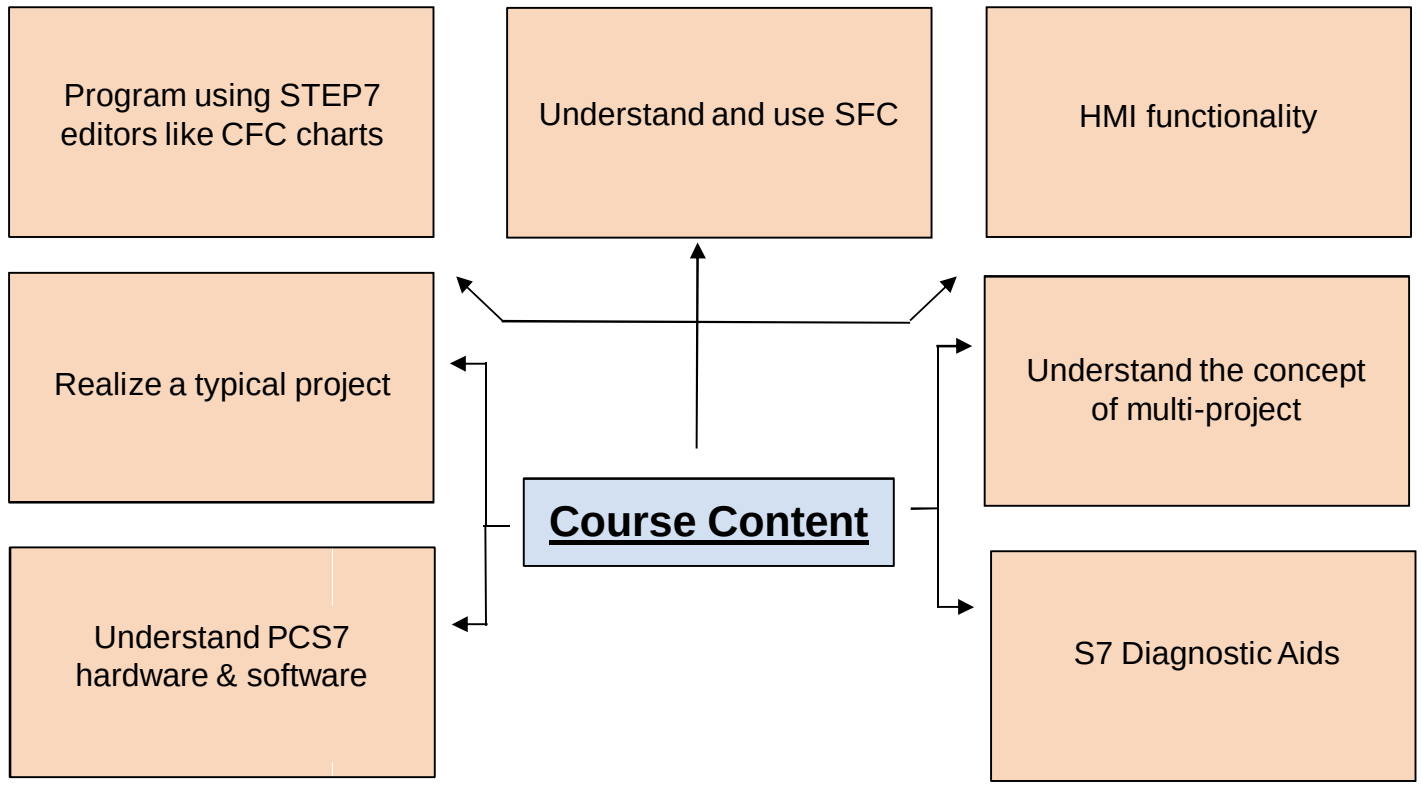
CONTENT OVERVIEW

Process Control System with SIMATIC PCS7 (**2-3 *days***)

SIEMENS
Ingenuity for life

Course Description

- Focus on the service and maintenance of plants with PCS 7 control systems.
- Practicing in diagnostic and correcting faults on training equipment and in typical projects.
- Enables to reduce standstill times and increase the efficiency of automation system when completed the course.



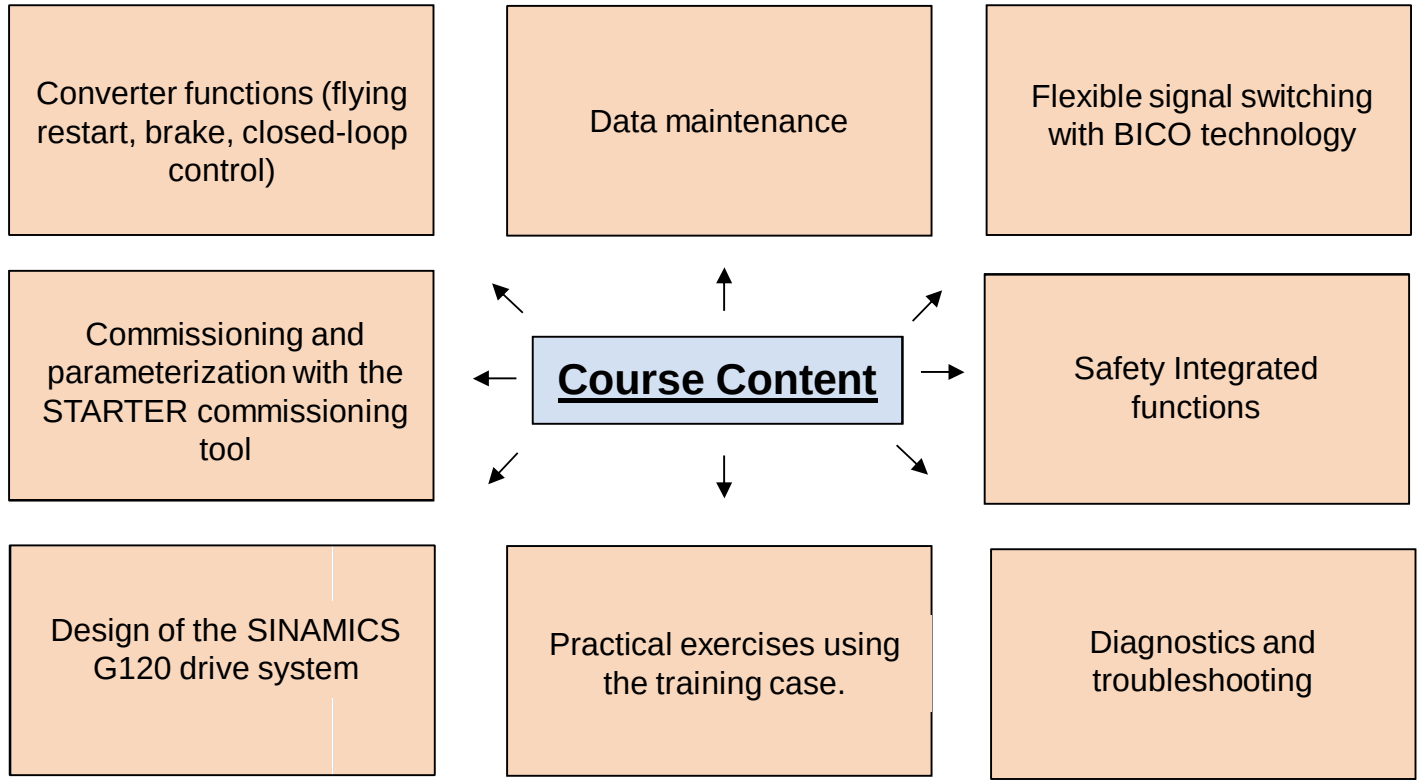
CONTENT OVERVIEW

Frequency converter MM420/SINAMICS G120 at a fieldbus with SIMATIC S7 (***2days***)

SIEMENS
Ingenuity for life

Course Description

- Configuring and initial startup of the SINAMICS G120 drive system.
- Familiarization with using different converter functions, optimize closed-loop controls.
- Practical exercies using a SINAMICS G120 Training Case.



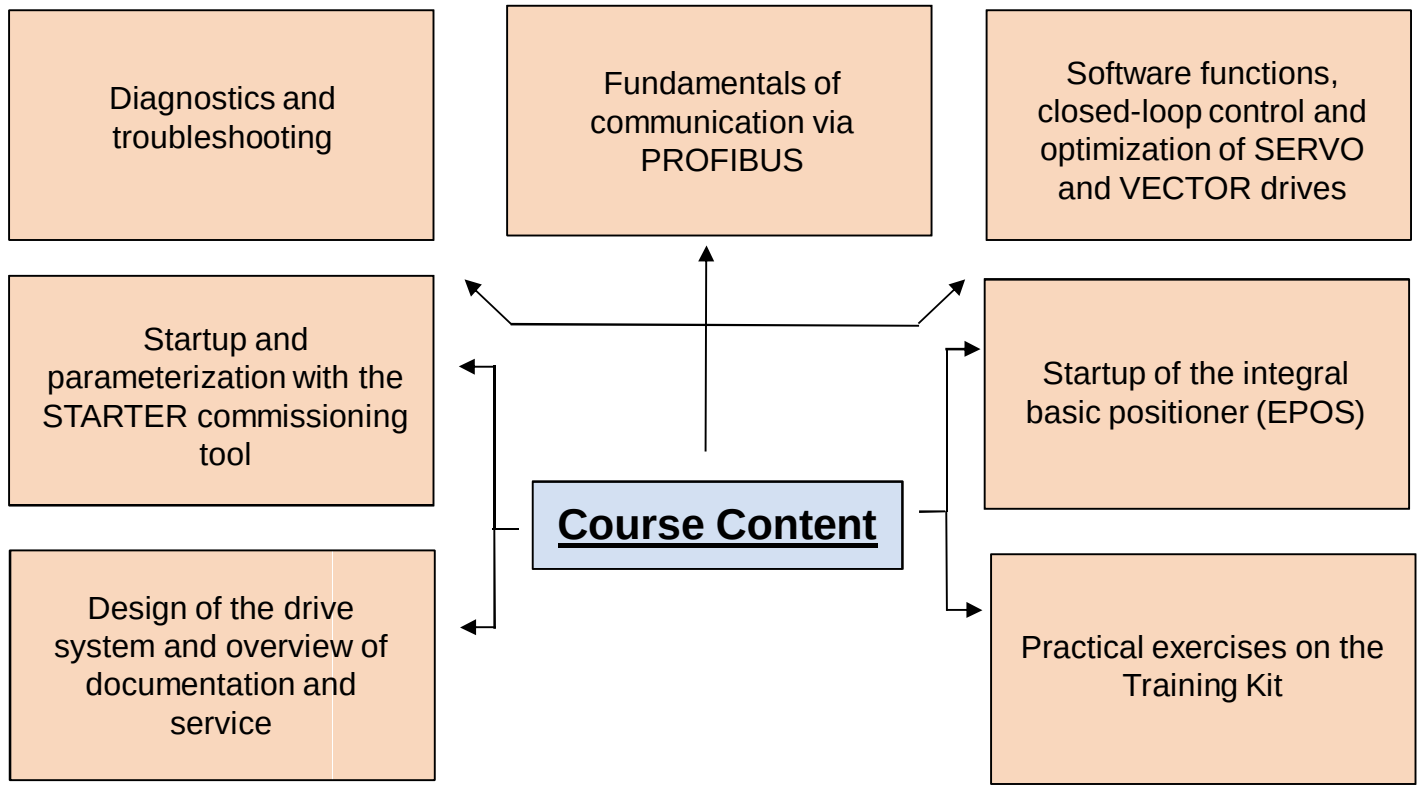
CONTENT OVERVIEW

Servo Drives SINAMICS S120 at a fieldbus with SIMATIC S7 (***2 days***)

SIEMENS
Ingenuity for life

Course Description

- Introduce basics of the SINAMICS S120 drive system which including startup, parameterization, drive optimization and troubleshooting.
- Practical exercises for einforcing the knowledge gained are carried out on the SINAMICS S120 Training case.
- Carry out and optimization of the SINAMICS S120 quickly and effectively with skilful use of the STARTER commissioning tool.



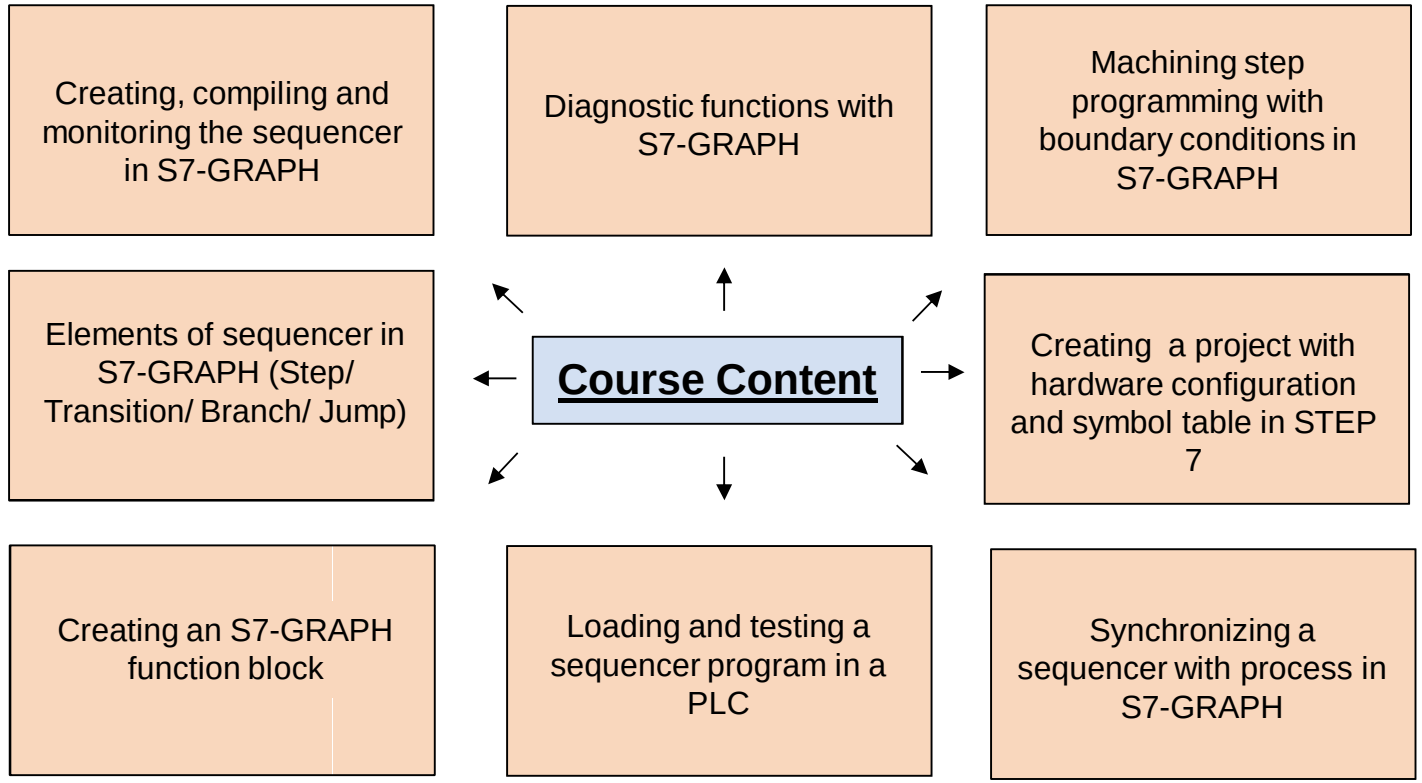
CONTENT OVERVIEW

Sequencers with S7-GRAPH (***2 days***)

SIEMENS
Ingenuity for life

Course Description

- Focused on program SIMATIC S7 using sequential controls with S7-GRAPH.
- Explaining the advantages of the SIMATIC S7-GRAPH.
- Practical exercies will including create, commission and test sequential controls programs.
- Information about the complete language and performance scope of sequential controls with SIMATIC S7-GRAPH.



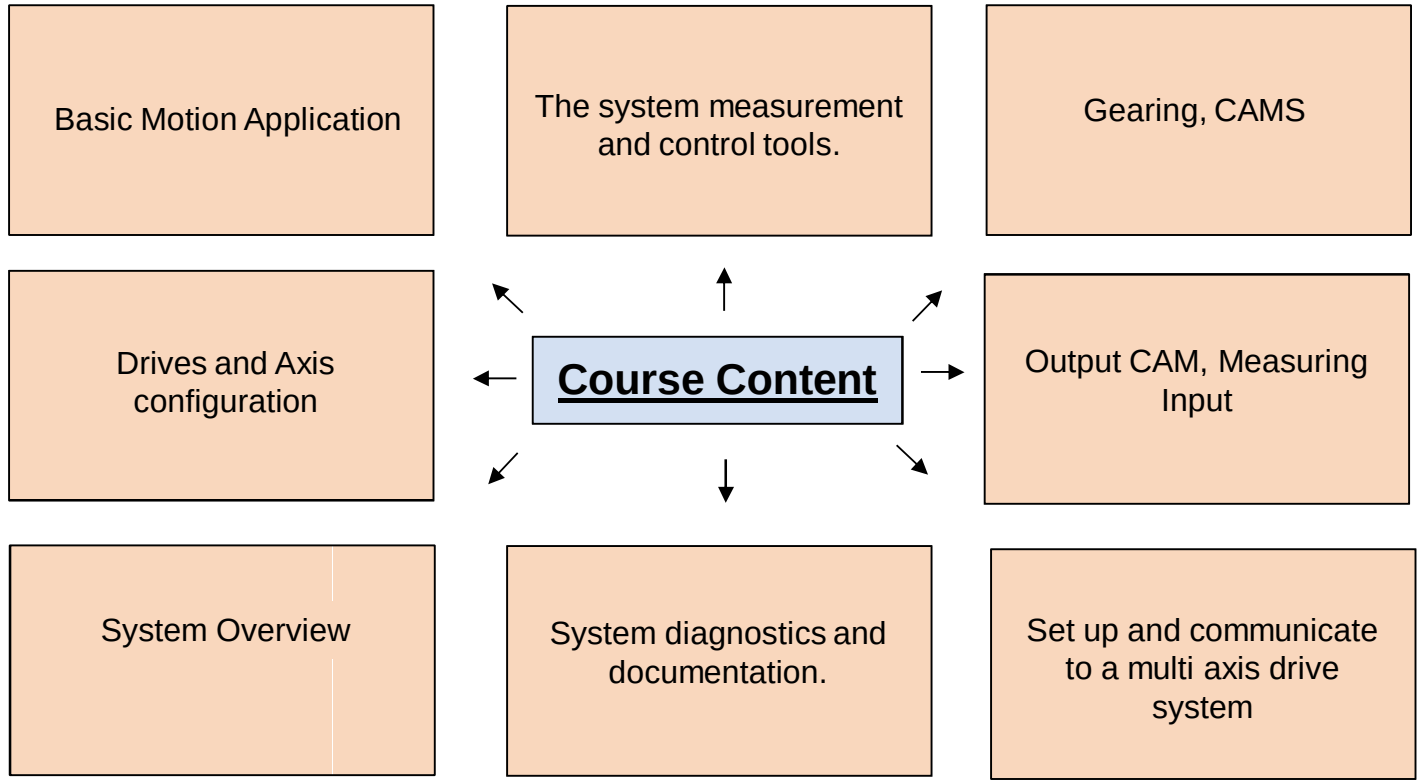
CONTENT OVERVIEW

Control technology with SIMATIC S7 (***2 days***)

SIEMENS
Ingenuity for life

Course Description

- Focused on the Siemens S7 Technology CPU Motion Control system.
- Focuses on the application of the S7 317-T.
- Practical exercies will review the basic set up and configuration issues of the system.
- Build a functioning motion cotrol project and use the system Technological Objects and Functions.



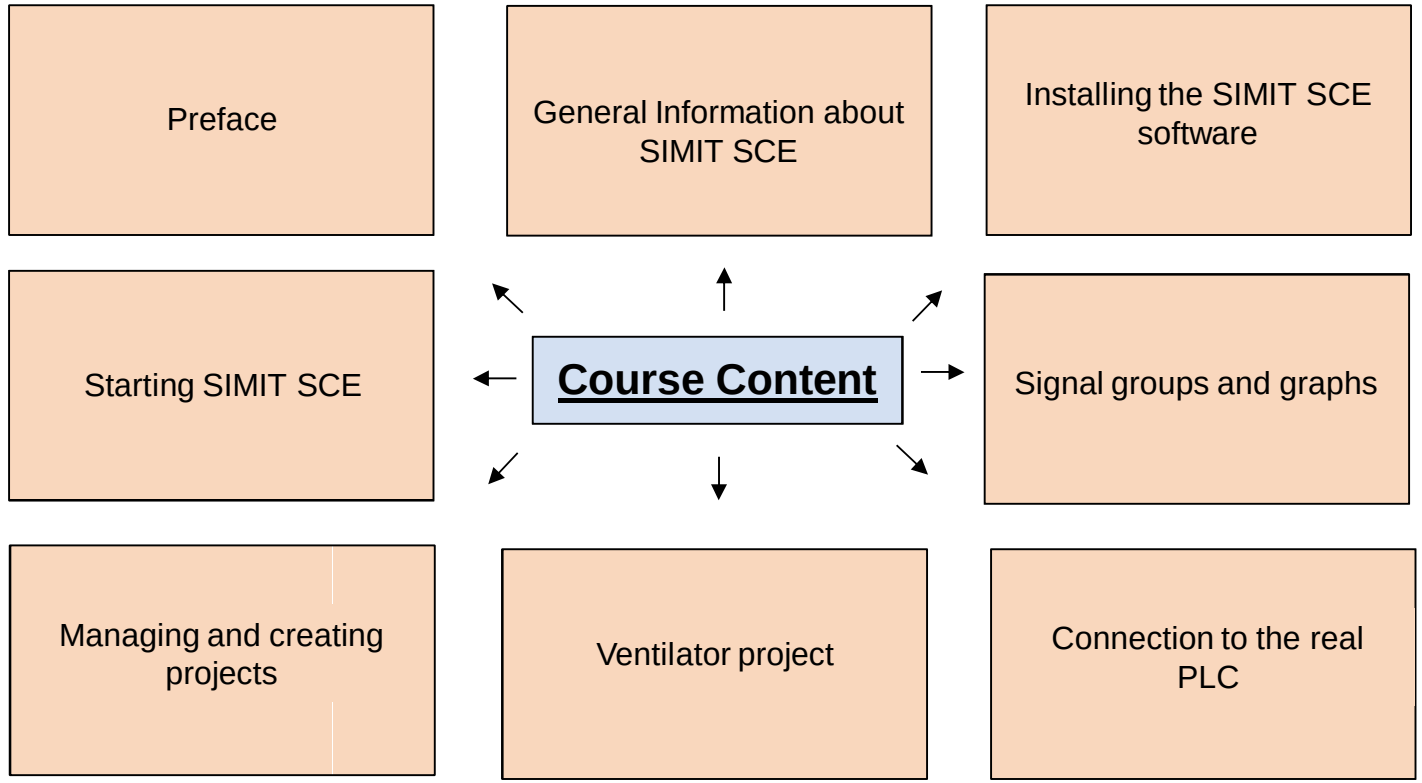
CONTENT OVERVIEW

SCE SIMIT Simulation – Simulating plants dynamically on the PC ***(2 days)***

SIEMENS
Ingenuity for life

Course Description

- Configuring the plant (information phase).
- Creating the PLC program in the SIMATIC Manager with STEP 7.
- Loading of the control program into the real PLC or the SIMATIC Simulator.
- Starting the dynamic plant model with interfacing to the PLC by means of SIMIT.
- First test at the computer simulated plant model.



CONTENT OVERVIEW

PROFIBUS/AS Interface with SIMATIC S7 ***(2 days)***

SIEMENS
Ingenuity for life

Course Description

- System knowledge of the AS-Interface standardized networking system.
- Necessary fundamental Fieldbus knowledge.
- Configure with help of asimon graphical Software Tool.
- Familiarization with the functions of the system and you will be able to plan.
- Configuration and start up the AS-Interface for your automation system.