

## Siemens Mechatronic Systems Instructor Certification: Level 2 (US-SMSCP2A)

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### Type

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Instructor-led Learning

### Duration and Continuing Education Units (CEU)

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10 Days  
6.5 CEUs

### Target Group

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- Other

### Short Description

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This course covers the application of Systems Approach to the content topics of the six Level 2 courses: Process Control Technologies; Introduction to Totally Integrated Automation; Automation Systems; Motor Control; Mechanics and Machine Elements; Manufacturing Processes. In In this course you will work with TIA portal, PROFINET and PROFIBUS, the SIMATIC S7 product family, and LabView.

### Objectives

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- Participants will be certified as a Siemens Mechatronic Systems Certified Instructor for Level 2
- Level 2 focuses on the in-depth technical competencies and troubleshooting skills needed for teaching technician-focused programs
- Level 2 also includes the development of troubleshooting and industry-oriented problem solving lessons that can be integrated into a classroom setting

### Content

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- System Approach paradigm and course-specific didactic training in Process Control Technologies
- Introduction to Totally Integrated Automation; Automation Systems; Motor Control; Mechanics and Machine Elements; Manufacturing Processes
- Overview of job profile for Level 2 (Associate, Technician)
- Review of Systems Approach
- Review course syllabi
- Hands-on exercises with mechatronic systems, modules, and sub-systems
- Commissioning in Industries / Software commissioning
- Networking
- Structured programming on mechatronic systems
- Sequential programming
- Introduction to process management and Lean
- Factory simulation, Ball Point Pen Factory
- Role of factory tours in study programs
- Control structures of drive trains in mechatronic systems
- Closed Loop/ Process Control in mechatronic systems
- Utilization of simulated desktop systems in a classroom setting
- Overview of Computer aided design (CAD), Computer aided manufacturing (CAM), and Computer numerical control (CNC) concepts

- Machine elements in mechatronic systems, such as gearboxes
- Microcontrollers in mechatronic systems
- Hardware fault implementation and troubleshooting
- Sample question review for Siemens student examination
- Troubleshooting strategies for systems
- Creation of sample lessons utilizing the Systems Approach
- Review additional Level 2 requirements for mechatronic systems
- Development of strategies for knowledge transfer from one system to another
- Implementation workshop for implementation of SMSCP locally

### **Mandatory Prerequisites**

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[Siemens Mechatronic Systems Instructor Certification: Level 1: US-SMSCP1A](#)

### **Language**

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English

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