SIEMENS

Siemens Mechatronic Systems Certification Program (SMSCP) Instructor Certification: Level 2 (SMSCP-L2)

Objectives

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.
This Instructor Certification is based on a Train-the-Trainer model: during this course you will apply the didactic teaching methods from the SAPW course to six courses that you can integrate and teach to students at your educational institution or employees at a training center. 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 industryoriented problem solving lessons that can be integrated into a classroom setting.

Target Group

Teachers
Engineering or Engineering Technology Faculty or Professors
Project Management Faculty or Professors
Technical Instructors for non-educational institutions
Engineers
Maintenance and Training Managers

Content

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

Prerequisites

Completion of Systems Approach Paradigm Week (SAPW) Instructor Certification course
Completion of Level 1 Instructor Certification course is strongly recommended
Teaching or industry background in Mechatronics or Electrical or Mechanical Engineering
Basic knowledge of Siemens PLCs and their programming

Note

In this course you will work with TIA portal, PROFINET and PROFIBUS, the SIMATIC S7 product family, and LabView

Type

Face-to-face training

Duration

10 days

Language

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