



TA Berlin & Sitrain @ Gujarat



# SIEMENS MECHATRONIC SYSTEMS CERTIFICATION PROGRAM

## Overview System Approach Paradigm and Instructor Certification

The Siemens Mechatronic Systems Certification Program (SMSCP) is a comprehensive industry skills certification offered together with partner schools worldwide. A central theme in the SMSCP is the System Approach, a special set of teaching and learning methods developed over 25 years in Siemens technical schools in Germany.

The Siemens Mechatronic Systems Certification Program is the international industry standard comprehensive skills certification in mechatronic systems offered together with their partner schools worldwide.

This program for a group of approximately 15 faculty members of Mechanical, Electrical and Electronics Engineering of esteemed institutes will focus on practical training and is designed to be integrated into college or university curriculum.

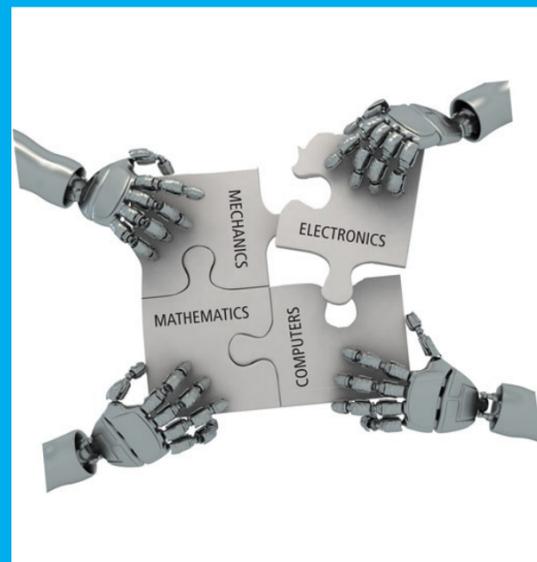
### Monday- 03/08/2015

13:00 Welcome & Ice Breaker

- Administrative Announcements
- Ice Breaker
- Siemens Professional Education

15:00 Introduction of Siemens Professional Education Berlin

- Apprenticeship Program
- Werner-von-Siemens Werkberufsschule
- Siemens Technik Akademie Berlin



### Tuesday- 04/08/2015\*

09:00 Siemens Mechatronic Systems Certification Program (SMSCP) Overview

- Levels & Job Profiles
- Relationship of Course Objectives to Job Profiles
- Role of Instructor Certification in SMSCP
- System Approach Introduction
- System Introduction
- Group Exercise Blockdiagram

10:30 Mechatronic Systems Teaching

- Totally Integrated Automation (TIA) System
- Modules and Subsystems
- System Approach Presentation
- Traditional Approach vs. System Approach

11:00 Application of System Approach in Mechatronic Systems Education

- Module Breakdown Diagram e.g. Gear Sorting Line
- Common Components
- System Function Descriptions: Energy, Mass and Information Flow
- Group Work: Module Function Chart Development

16:30 VCAT Introduction

- Online Content distribution Platform (VCAT)

### Wednesday- 05/08/2015\*

09:00 Troubleshooting Strategies

- Structure of an effective Troubleshooting Lesson utilizing a real System
- Group Exercise e.g. Troubleshooting
- Presentation of Fault Finding Strategy

13:45 Role of factory tours in study programs

- Implementation in Lesson Structure
- Preparation for Factory Tour
- Execute a factory tour
- Discussion/Review Factory Tour

14:30 Role of Task: Introduction Design of a Lesson Structure based on System Approach

- Presentation Announcement

15:00 System Approach Teaching Examples

- Pneumatic Cylinder actuation by a DCV



### Thursday- 06/08/2015\*

**Level 1 Content Week**

09:00 Introduction SMSCP Level 1

- Mechatronic Assistant – the Machine Operator
- SMSCP Level 1 Course Structure
- Role of the Job Profile
- Group Task: Hardware Fault Implementation & Troubleshooting

10:00 Introduction: Elements of Level 1, Course 1 (Electrical Components)

- Course Content
- Course Objectives and Syllabus

11:15 Introduction: Elements of Level 1, Course 3 (Electro- Pneumatic and Hydraulic Control Systems)

- Course Content
- Objectives and Syllabus

12:15 Introduction: Elements of Level 1, Course 2 continued (Mechanical Components and Electrical Drives)

- Course Content Overview

14:15 Introduction: Elements of Level 1, Course 4 (Digital Fundamentals and PLCs)

- Course Content
- Course Objectives and Syllabus

16:00 Introduction: Elements of Level 1

- Test Questions

### Friday- 07/08/2015\*

09:00 SMSCP Implementation Workshop

- Introduction of planned activities for the Implementation Workshop

11:00 Wrap Up/Group Discussion Program Feedback and Outlook

12:00 End

\* Everyday Breaks : 10:30 to 10:45 hrs / 12:30 to 13:30 hrs / 15:00 to 15:15 hrs.

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