



SCoE-MIT



Tamil Nadu Skill Development Corporation

Siemens Centre of Excellence

MIT Campus - Anna University,

Chennai - 600 044

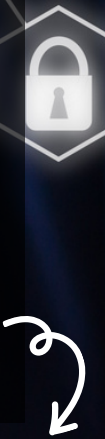
“Student Skill Enhancement Programme”

SSEP 2024

About SCoE

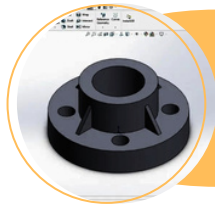
https://mitindia.edu/en/research-centres/mit_scoe

Scan for Syllabus & Registration



HIGHLIGHTS

- 48 hrs of Learning with 100% hands-on sessions with special sessions from relevant Industry
- Certificate will be issued jointly by Tamilnadu Skill Development Corporation(TNSDC) & SCoE-MIT
- Experiential learning with Real time Industrial Hardware & software
- Top Performing students will get opportunities for Industrial internship/work in R&D/Project etc.,
- Flexible Timings for Students Convenience



SSEP01

Siemens NX CAD with 3D Printing

<https://forms.gle/teiAFaN7ZkQ3jL6r9>



SSEP02

Industrial Automation with PLC & HMI

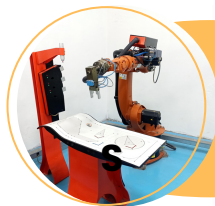
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SSEP03

Industrial Mechatronics

<https://forms.gle/qaVX1WBPqjPcGer7>



SSEP04

Industrial Robotics with KUKA Robots

<https://forms.gle/44uHnWgjuKwYb2X17>



REGISTRATION FEES

Rs. 1500 + GST 18% PER COURSE PER STUDENT

(The fee includes registration kit, Course Material and Certificate)

FOR QUERIES CONTACT

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Address:
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III floor-Production Technology Block,
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ANNA UNIVERSITY, CHENNAI 600 044.**

STUDENT SKILL ENHANCEMENT PROGRAMME – 2024

Syllabus & Registration

SSEP01 SIEMENS NX CAD WITH 3D PRINTING

| S.No | Topic Name | Hrs. | Eligibility |
|--------------|--|-----------|--|
| 1. | Introduction To CAD, NX & Software Interface | 6 | Participant must have completed a diploma or First year of a degree in Mechanical Engineering Stream. *Passed out Engineering Graduates are also eligible to apply. |
| 2. | Coordinate systems | 1 | |
| 3. | Creating Sketches | 4 | |
| 4. | Sweeping Geometry | 3 | |
| 5. | Creating And Editing Geometric Relations | 1 | |
| 6. | Creating Datum Plane for Geometry | 1 | |
| 7. | Editing And Manipulating Sketches | 8 | |
| 8. | Modify Geometry for Imported Parts | 2 | |
| 9. | Sheet Metal | 4 | |
| 10. | Assemblies | 7 | |
| 11. | Drafting | 3 | |
| 12. | 3D Printing in Stratasys F270 | 5 | |
| 13. | Industry Expert session | 3 | |
| Total | | 48 | |

Course Schedule:

| Slots | Slot 1 | Slot 2 | Slot 3 |
|--------------------|---|--|--|
| Timing | 5:00 PM – 7:00 PM (Monday to Friday) | 8:30AM – 12:30 PM (Saturday & Sunday) | 1:00 PM – 5:00 PM (Saturday & Sunday) |
| Total No. of Days | 24 | 12 | 12 |
| Total hrs. | 48 | 48 | 48 |
| Period (tentative) | 04.03.2024 – 05.04.2024 | 02.03.2024 – 07.04.2024 | 02.03.2024 – 07.04.2024 |

***Note: Slots can be Allocated for participants on flexible basis based on Mutual convenience.**

For Registration please click the link: <https://forms.gle/teiAFaN7ZkQ3JL6r9>

For any queries regarding Course Syllabus, Eligibility, Timings, Registration, etc. please contact the below:

Er. Prabakaran, Trainer

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**STUDENT SKILL ENHANCEMENT PROGRAMME – 2024
Syllabus & Registration**

SSEP02 INDUSTRIAL AUTOMATION WITH PLC & HMI

| S.No | Topic Name | Hrs. | Eligibility |
|--------------|---|-----------|--|
| 1. | Basics of PLC Programmable Logic Controllers- Parts of a PLC-Principles of Operation-PLCs versus Computers-PLC Size and Application-I/O Section- Discrete I/O Modules- Analog I/O Modules- Central Processing Unit. | 4 | Participants must have completed a diploma or first year of a degree in any of the engineering disciplines. *Passed out graduates in Engineering/ Diploma are also eligible |
| 2. | PLC Programming Languages Types of Programming Languages-Introduction to Ladder Diagram-Ladder Logic Programs. | 3 | |
| 3. | Practice Session Hands-on practice with ladder logic problems | 4 | |
| 4. | Programming Timers Timer Instructions On-Delay Timer Instruction -Off-Delay Timer Instruction -Retentive Timer -Cascading Timers | 3 | |
| 5. | Practice Session Hands-on practice with ladder logic problems using Timers. | 4 | |
| 6. | Programming Counters Counter Instruction, Up-Counter, Down-Counter. | 3 | |
| 7. | Practice Session Hands-on practice with ladder logic problems using Counters. | 4 | |
| 8. | Programming Timers & Counters Combining counters and Timers. | 4 | |
| 9. | Practice Session Hands-on practice with ladder logic problems using Timers & Counters. | 4 | |
| 10. | Advanced Special Instruction Program Control Instructions, Data manipulation instructions, Math instructions. | 4 | |
| 11. | HMI HMI Interfacing with PLC-System Overview – HMI Programs & Animation - Basic Exercises. | 4 | |
| 12. | Practice Session Hands-on practice with HMI Interfacing using Siemens S71200 PLC. | 4 | |
| 13. | Industry Expert session | 3 | |
| Total | | 48 | |

Course Schedule:

| Slots | Slot 1 | Slot 2 | Slot 3 |
|--------------------|---|--------------------------------|-------------------------------|
| Timing | 4:30 PM – 6:30 PM (Monday to Friday) | 8:30AM – 5:30 PM (Saturday) | 8:30 AM – 5:30 PM (Sunday) |
| Total No. of Days | 24 | 6 | 6 |
| Total hrs. | 48 | 48 | 48 |
| Period (tentative) | 04.03.2024 – 05.04.2024 | 02.03.2024 – 07.04.2024 | 02.03.2024 – 07.04.2024 |

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For registration please click the link: <https://forms.gle/knuhFd7uou5dxuPz8>

For any queries regarding course syllabus, registration, timings etc. please contact the below:

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**STUDENT SKILL ENHANCEMENT PROGRAMME – 2024
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SSEP03 INDUSTRIAL MECHATRONICS

| S.No | Topic Name | Hrs. | Eligibility |
|--------------|---|-----------|--|
| 1. | Introduction to Mechatronics and sensors: - Mechatronics Introduction – Electrical Components - Switches, Solenoids, Potentiometer, Indicators, Reed Contacts, Photoelectric Sensors, Ultrasonic - Proximity Sensors, Capacitive Sensors. | 4 | Participants must have completed a diploma or first year of a degree in any of the engineering disciplines. *Passed out graduates in Engineering/ Diploma are also eligible |
| 2. | Mechanical Components: - Principles, Application – Electro pneumatic Components - Signal Processing via Relays and PLC - Electrically Actuated Directional Control Valves (DCVs) | 3 | |
| 3. | PLC and Introduction to Service Units: - Digital Fundamentals - Programmable Logic Controller – Service Unit: - Introduction and technical Specifications - Operator Pa | 3 | |
| 4. | Distribution station: - Distribution station unit Introduction, technical Specifications and Hands on practice - customized kit | 7 | |
| 5. | Testing station: - Testing station unit Introduction, technical Specifications and Hands on practice - customized kit | 7 | |
| 6. | Processing station: - Processing station unit Introduction, technical Specifications and Hands on practice - customized kit | 7 | |
| 7. | Buffer station: - Buffer station unit Introduction, technical Specifications and Hands on practice – customized kit | 7 | |
| 8. | Sorting station: - Sorting station unit Introduction, technical Specification and Hands on practice - customized kit | 7 | |
| 9. | Industry Expert session | 3 | |
| Total | | 48 | |

Course Schedule:

| Slots | Slot 1 | Slot 2 | Slot 3 |
|--------------------|---|--|--|
| Timing | 5:00 PM – 7:00 PM (Monday to Friday) | 8:30AM – 12:30 PM (Saturday & Sunday) | 1:00 PM – 5:00 PM (Saturday & Sunday) |
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STUDENT SKILL ENHANCEMENT PROGRAMME – 2024

Syllabus & Registration

SSEP04 INDUSTRIAL ROBOTICS WITH KUKA ROBOTS

| S.No | Topic Name | Hrs. | Eligibility |
|--------------|--|-----------|--|
| 1. | Introduction of Robots, Introduction of KUKA Robots | 1 | Participants must have completed a diploma or first year of a degree in any of the engineering disciplines. *Passed out graduates in Engineering/ Diploma are also eligible |
| 2. | KUKA Robot Components | 2 | |
| 3. | Robot Safety | 1 | |
| 4. | Robot Operating System | 2 | |
| 5. | Robot Coordinate Systems | 4 | |
| 6. | KUKA Smart PAD Interface - Robot Jogging (Hands-on with 6-Axis Robot) | 6 | |
| 7. | Robot Mastering (Robot Axis Calibration) | 2 | |
| 8. | Robot Tool and Base Calibration | 5 | |
| 9. | Introduction of Material Handling, MIG Welding Processes, Spot-Welding Processes | 2 | |
| 10. | Cell Components - Cell Demo | 2 | |
| 11. | Basics of KRL Programming | 6 | |
| 12. | KRL Logical Programming, KRL Loop Programming | 2 | |
| 13. | Introduction to KUKA Sim pro 3.0 | 6 | |
| 14. | Robotic Digital Twin Work Cell Layout | 2 | |
| 15. | Modeling and Kinematics - Basic Simulation Techniques. | 2 | |
| 16. | Industry Expert session | 3 | |
| Total | | 48 | |

Course Schedule:

| Slots | Slot 1 | Slot 2 | Slot 3 |
|--------------------|--|--------------------------------|-------------------------------|
| Timing | 8:30 AM – 4:30 PM (2 hrs/day)(Monday to Friday) | 8:30AM – 4:30 PM (Saturday) | 8:30 AM – 4:30 PM (Sunday) |
| Total No. of Days | 24 | 6 | 6 |
| Total hrs. | 48 | 48 | 48 |
| Period (tentative) | 04.03.2024 – 05.04.2024 | 02.03.2024 – 06.04.2024 | 03.03.2024 – 07.04.2024 |

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