

A six-day skill development program on “Mechanical AutoCAD”
Organized by MITS SKILL DEVELOPMENT CELL
in Association with Department of Mechanical Engineering
From 19-02-2024 to 24-02-2024



Organized & submitted by: Dr. V.B. Thurai Raaj, Assistant Professor in EEE & SPOC, APSSDC t-SDI, Madanapalle Institute of Technology & Science, Madanapalle -517325, Annmayya Dist., Andhra Pradesh, India.
Co-coordinator: Dr. Manish Sharma, Assistant Professor, Mechanical Engineering, Department
Resource Person: Mrs. Karra Prasanna Lakshmi, Executive Technical Programmer, APSSDC, Vijayawada.
Total Participants: 58 -Students and 2- Faculties.
Venue: Computer Aided Design Lab (WB:015)
Mode of Conduct: Offline
Report Received on 01.03.2024

The APSSDC- Skill Development Cell, Madanapalle Institute of Technology and Science, Andhra Pradesh, Madanapalle in association with the Department of Mechanical Engineering, MITS, Madanapalle has organized a **six-day skill development program** from 19.02.2024 to 24.02.2024 on “**Mechanical AUTOCAD**”. In this program, about 58 participants participated and made the event grant success.



Dr. V B Thurai Raaj, Asst. Prof. in EEE & SPOC-APSSDC t-SDI addressing the Gathering
A summary of the skill development program is as follows:

Dr. P. Ramanathan, Professor & Vice Principal-Academics, MITS, and Dr. Anantha Raman L., Assistant Professor, Asst. Prof., Dept. of Mechanical Engineering, welcomed the resource person. Dr. Anantha Raman L, gave a brief introduction and importance of the six-day skill development program. Dr. P. Ramanathan, inaugurated the program with his motivational speech. Dr. V B Thurai Raaj, Assistant Professor in EEE & SPOC-APSSDC t-SDI, introduced the resource person and he handed over the session to the resource person.

The 58 students from the second year and two faculties from the Department of Mechanical Engineering participated in this six-day hands-on training program.

Day-1(19.02.2024)
Morning session:

- Introduction of the basics of Engineering Drawing, Overview of AutoCAD interface
- Understanding workspace, tools, and commands
- Basic navigation techniques
- Introduction to drawing and editing commands

Afternoon session:

- Drawing and modifying basic geometric shapes (lines, circles, rectangles, etc.)
- Exploring object snaps and drawing aids
- Understanding coordinate systems and input methods
- Introduction to layers and properties



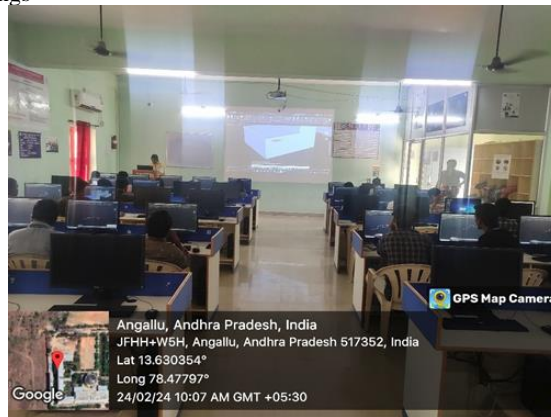
Day-2(20.02.2024)

Morning session:

- Introduction to dimensioning tools and techniques
- Annotation and text editing.
- Problem on different types of 2D drawings

Afternoon session:

- Exploring advanced editing commands (trim, extend, fillet, chamfer, etc.)
- Using grips for editing objects efficiently
- Understanding blocks and attributes
- Introduction to hatching and gradients.
- Practice session on 2D drawings



Day-3(21.02.2024)

Morning session:

- Understanding layer properties and management
- Layer filters and layer states
- Organizing drawing objects using layers effectively

Afternoon session:

- Creating and editing blocks
- Inserting and managing external references (Xrefs)
- Exploring design center and tool palettes
- Practice session 2D on drawings



Day-4(22.02.2024)

Morning session:

- Introduction and basics of Isometric Drawing

Afternoon session:

- Practice session of Isometric Drawing

Day-5(23.02.2024)

Morning session:

- Overview of 3D workspace
- Understanding 3D navigation tools
- Creating and modifying 3D solids and surfaces
- Introduction to 3D viewing and rendering options

Afternoon session:

- Practice on 3D Drawings



Day-6(24.02.2024)

Morning session:

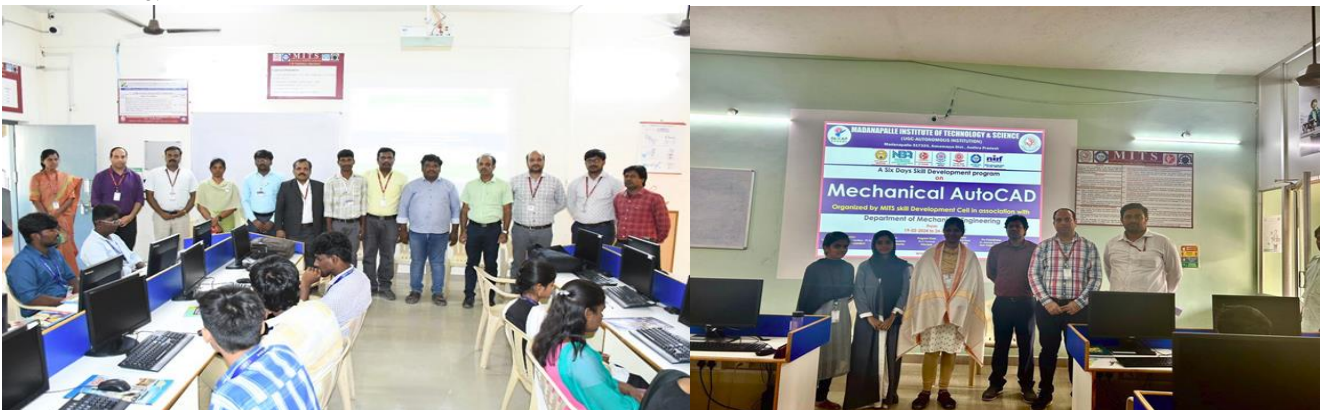
- Complex 3D drawings and commands

Afternoon session:

- Participants work on a small project to apply learned skills
- Review and Q&A session to address any doubts or questions
- Providing tips and resources for further learning and development

Outcomes: students can be able to

1. **Familiarity with AutoCAD Interface:** Participants will gain a thorough understanding of the AutoCAD interface, including navigation tools, workspace customization, and basic command functionalities.
2. **Drawing Fundamentals:** Participants will learn how to create and edit basic geometric shapes, utilize object snaps, and understand coordinate systems for accurate drawing.
3. **Precision Drawing Techniques:** Participants will acquire skills in using precision drawing techniques such as object tracking, polar tracking, and dimensioning tools to ensure accuracy in their drawings.
4. **Advanced Editing and Modification:** Participants will be proficient in using advanced editing commands, grips, and blocks to efficiently modify and organize drawing elements.
5. **Introduction to 3D Modeling:** Participants will understand the basics of 3D modelling, including creating, editing, and visualizing 3D objects and surfaces.
6. **Annotations and Dimensions in 3D:** Participants will learn how to add annotations and dimensions to 3D models, enhancing their ability to communicate design intent effectively.
7. **Rendering and Visualization:** Participants will be able to apply rendering techniques, materials, and lighting effects to create realistic visualizations of their 3D models.
- 8.



I expressed my gratitude to the Management and Dr. C Yuvaraj, Principal for giving permission and financial support to organize this program. I thank Dr. C. Kamal Basha, Professor & Vice Principal- Administration for providing the necessary needs in time and for his support. I Thank Dr. S. Baskaran, Professor & HOD/ME, for his continued guidance in all the parameters.