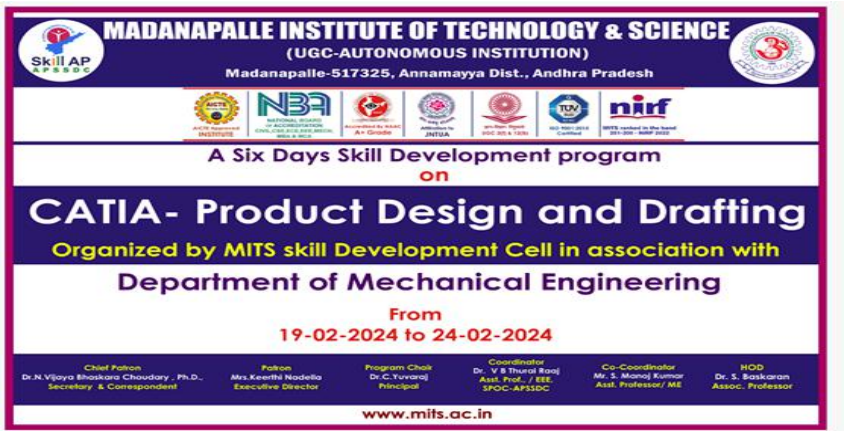
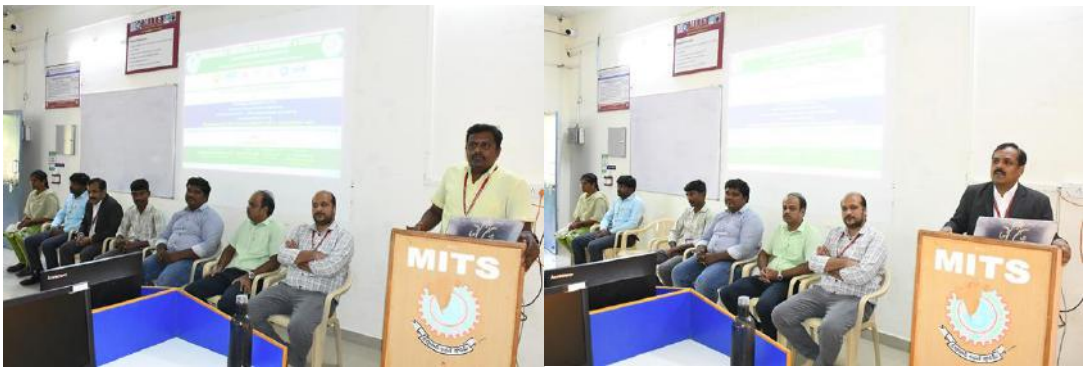
# A Report on six-day skill development program on
# "CATIA- Product Design and Drafting"
# Organized by SKILL DEVELOPMENT CELL
# in Association with Department of Mechanical Engineering
# From 19-02-2024 to 24-02-2024




**Organized & submitted by: Dr. V.B. Thurai Raaj, Assistant Professor in EEE & SPOC, APSSDC t-SDI.**
**Co-coordinator: Mr. S. Manoj Kumar, Assistant Professor, Mechanical Engg. Department**
**Resource Person: Mr. D. RAM BABU, Executive Technical Programmer, APSSDC, Vijayawada.**
**Venue: Computer Aided Design Lab-II (WB:106)**
**Total Participants: 66 - Students and 2- Faculties.**
**Report Received on 05.03.2024**
**Mode of Conduct: Offline**

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 **"CATIA- Product Design and Drafting".** In this program, about 58 participants participated and made the event grant success.




**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 66 students from the second year and two faculty members from the Department of Mechanical Engineering participated in this six-day hands-on training program.

**Training Objectives:**

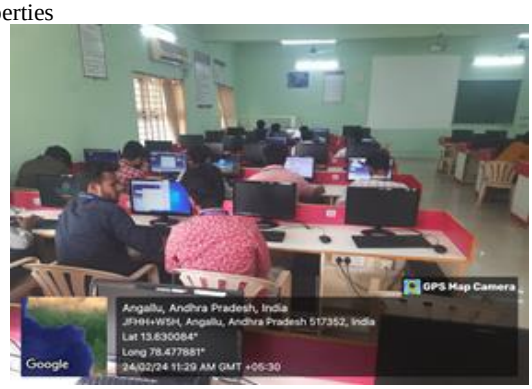
- To introduce participants to the basics of CATIA Drafting Software.
- To familiarize participants with technical drawing principles and practices.
- To develop participants' proficiency in creating 3D models and translating them into detailed technical drawings.
- To enhance participants' understanding of industry standards for drafting and design.

**Day-1(19.02.2024)**
**Morning session:**

- Introduction of the basics of Engineering Drawing, Overviw CATIA software 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

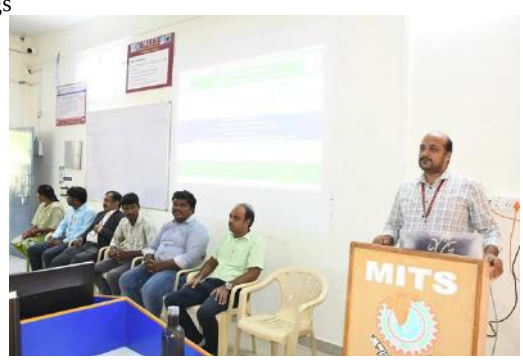



**Day-2(20.02.2024)**
**Morning session:**

- Introduction to dimensioning tools and techniques
- Annotation and text editing
- **Sketcher Module**

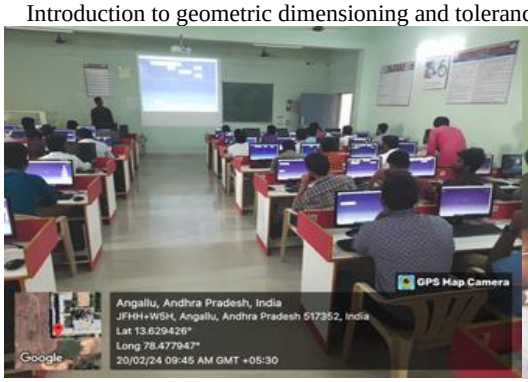
**Afternoon session:**

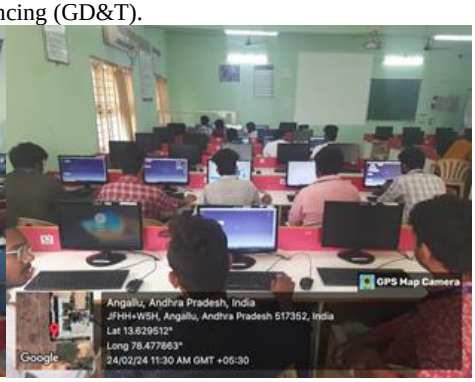
- Exploring advanced editing commands
- Using grips for editing objects efficiently
- Understanding blocks and attributes
- Introduction to hatching and gradients
- Practice session on 2D drawings




**Day-3(21.02.2024)**
**Morning session:**

- Understanding orthographic projections, section views, and auxiliary views.
- Dimensioning and tolerancing according to industry standards (e.g., ASME Y14.5).
- Introduction to geometric dimensioning and tolerancing (GD&T).



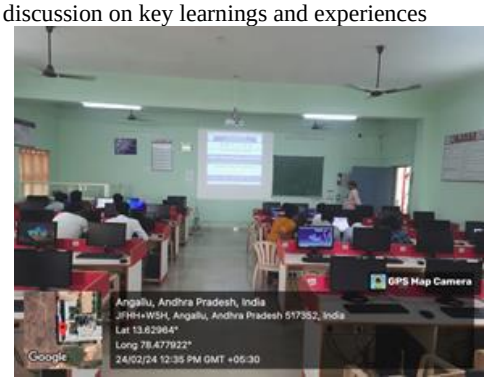




**Afternoon session:**

- 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)**

- Collaborative exercises using CATIA collaboration tools.
- Final project presentations by participants.
- Feedback sessions and discussion on key learnings and experiences




**Day-5(23.02.2024)**
**Morning session:**

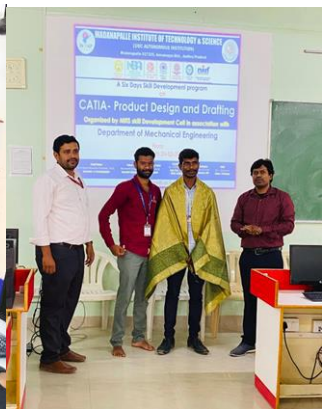
- Overview of 3D workspace
- Understanding 3D navigation tools
- Creating and modifying 3D solids and surfaces
- Introduction to 3D viewing and rendering options

**Afternoon session:**

- Practice on 3D Drawings

**Day-6(24.02.2024)**

- Exploring advanced features such as surface modeling and rendering.
- Application of CATIA Drafting Software in specific industries (e.g., automotive, aerospace).
- Hands-on practice with real-world projects and case studies.




**Outcomes**: **students can be able to**

1. Proficiency in Technical Drawing: Students will gain expertise in creating technical drawings, including orthographic projections, section views, auxiliary views, and detail views, which are essential skills for various engineering and design disciplines.
2. 3D Modeling Skills: CATIA drafting often involves creating 3D models of parts and assemblies. Students will learn how to accurately model objects in three dimensions, allowing them to visualize and analyze complex designs.
3. Understanding of Industry Standards: CATIA software adheres to industry standards for drafting and design. Students will become familiar with these standards, such as ASME Y14.5 for dimensioning and tolerancing, ensuring that their drawings meet professional requirements.
4. Collaboration and Communication: CATIA drafting software facilitates collaboration among team members by allowing them to share and review drawings electronically. Students will learn how to effectively communicate design intent and make revisions based on feedback from peers and instructors.
5. Problem-Solving Skills: Creating detailed technical drawings often involves solving complex design challenges. Through hands-on practice with CATIA software, students will develop problem-solving skills essential for success in engineering and design fields.
6. Preparation for Careers in Engineering and Design: Proficiency in CATIA drafting software is highly valued in industries such as aerospace, automotive, manufacturing, and architecture. By mastering CATIA, students will enhance their employability and be better prepared for careers in these fields.

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.