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A Report on Five-day skill development program on "Autodesk Fusion 360" Organized by Skill Development Cell In association with Department of Mechanical Engineering From 21.07.2025 to 25.07.2025

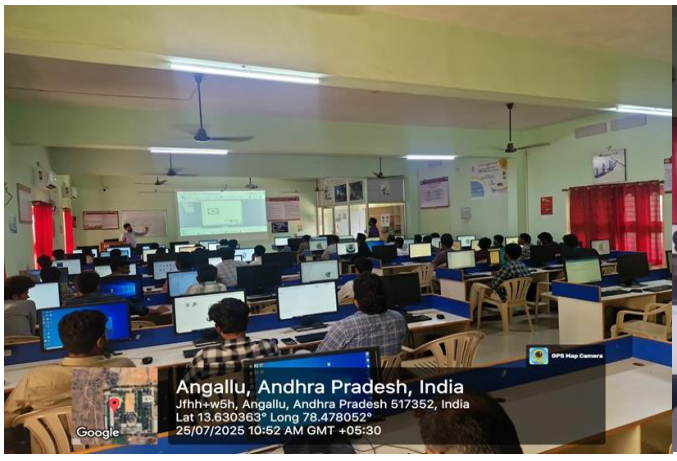
Report Submitted by: Dr. V. B. Thurai Raaj, Assistant Professor in EEE, Coordinator-Skill Development Cell & SPOC, APSSDC t-SDI.
Event Coordinators: Dr. Thota S S Bhaskara Rao, Assistant Professor, Department of Mechanical Engineering; Mr. G Kumar, Assistant Professor, Department of Mechanical Engineering.
Resource Person Details: Mr. Kumar Mayank Priyadarshi, Aylin Technologies Private Limited, Delhi.
Venue: CAD LAB -WB:015
Total Participants: 52 students from the Department of Mechanical Engineering
Report received on 14.08.2025.

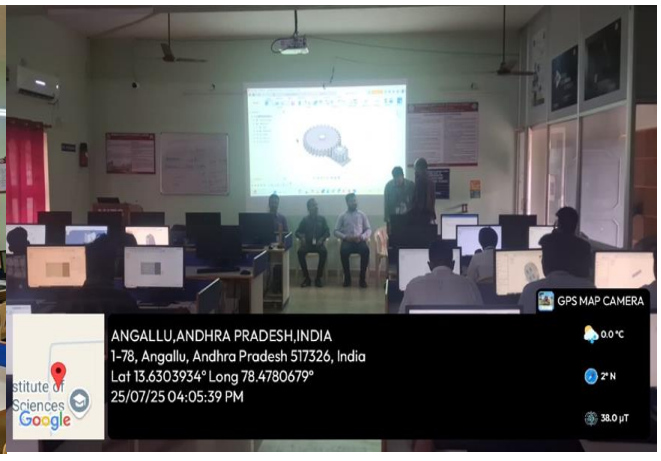
The Skill Development Cell of Madanapalle Institute of Technology and Science, Andhra Pradesh, Madanapalle, in collaboration with the Department of Mechanical Engineering at MITS Madanapalle, organized a five-day skill development program on "Autodesk Fusion 360" from July 21 to 25, 2025. A total of 52 students participated in the program. As part of the Skill Enhancement Program aimed at equipping mechanical engineering students with industry-relevant tools, a dedicated training module on Autodesk Fusion 360 was conducted. This report details the objectives, structure, key learnings, and outcomes of the program.

The main objective of this training was to:

- Introduce students to 3D CAD, CAM, and CAE features within a unified cloud-based platform.
- Develop proficiency in digital design, simulation, and manufacturing using Autodesk Fusion 360.
- Improve students' employability by aligning their skills with current industry standards in product design and development.

Autodesk Fusion 360 is an integrated CAD, CAM, and CAE tool that enables collaborative product development. It offers parametric and direct modelling, rendering, simulation, and CNC programming, all within a single platform. Its cloud-based architecture allows for real-time collaboration and accessibility from anywhere.





A summary of the skill development program is as follows: The program was delivered in both theoretical and hands-on practical sessions over 5 days, covering:

Day 1 to 3: Basics and Design Fundamentals

- Introduction to Fusion 360 Interface
- Sketching and Constraints
- Solid Modeling Techniques
- Assemblies and Joints
- Parametric Design Concepts

Day 4 & 5: Advanced Features and Simulation

- Surface Modeling and Sheet Metal Tools
- Rendering and Animation
- Static Stress Simulation
- Introduction to CAM and CNC Toolpath Generation
- Collaborative Design and Cloud Features
- Autodesk Fusion 360 Educational License
- Laptops/Desktops with recommended specifications
- Online Tutorials and Autodesk Learning Hub
- Sample Design Projects for Practice

Outcomes and Benefits

By the end of the training, students were able to:

- Design fully functional 3D models and assemblies.
- Simulate and analyze components under different loading conditions.
- Create technical drawings for manufacturing.
- Generate CNC toolpaths for automated production.
- Collaborate with peers on design projects using cloud-based features.

The participants' feedback indicated high satisfaction. Students appreciated the hands-on approach and reported increased confidence in using CAD software for academic and professional projects. The Autodesk Fusion 360 training program effectively connected classroom learning with industrial practices. It equipped students with practical design skills and encouraged a mindset of innovation and teamwork. Such skill development initiatives are essential in preparing students for modern engineering challenges.

I, Dr. V B Thurai Raaj, Event Organizer and Coordinator of the Skill Development Cell, extend my gratitude to the Management and Dr. C. Yuvaraj, Principal, for granting permission and providing financial support to host this program. I thank Dr. C. Kamal Basha, Professor and Vice Principal of Administration, for offering the necessary support on time. I appreciate Dr. S. Baskaran, Associate Professor and HOD/ME, for his continuous guidance in all aspects. I also thank Dr. Thota S S Bhaskara Rao and Mr. G Kumar, Assistant Professors in the Department of Mechanical Engineering, for their ongoing support as event coordinators during this training. I want to take this opportunity to thank the entire SDC team.