

One-Day Workshop on Introduction to 3D Printing

3D printing technology is a rapidly growing field with wide-ranging applications across industries such as manufacturing, healthcare, agriculture, smart cities, etc. It democratizes manufacturing and empowers young startups to bring their ideas to life faster, cheaper, and with greater flexibility than ever before. It fosters a culture of innovation and creativity, driving entrepreneurship and economic growth in diverse industries. The Department of Mechanical Engineering is going to organize one-day workshop on “Introduction to 3D Printing” under the initiative of SSIP 2.0. The contents of this workshop are as follow:

- **Introduction to 3D Printing:** Basic understanding of what is 3D printing, its history, and its applications across various industries.
- **Hands-On Experience:** Hands-on experience with 3D printers, including operating the printers, preparing 3D models for printing, and troubleshooting common issues.
- **Understanding 3D Modeling Software:** Basics of creating and modifying 3D models using 3D modeling software tools.
- **Design Principles for 3D Printing:** Design considerations specific to 3D printing, such as support structures, wall thickness, and overhangs, to help them create printable and functional objects.
- **Material Selection and Properties:** Different types of 3D printing materials (e.g., PLA, ABS, PETG) and their properties, including strength, flexibility, and heat resistance.
- **Safety Precautions:** Safety protocols when working with 3D printers and associated materials, including proper ventilation, handling of heated components, and maintenance procedures.
- **Troubleshooting Skills:** Identify and troubleshoot common issues that may arise during the 3D printing process, such as print failures, adhesion problems, and nozzle clogs.

Overall, participants can gain a fundamentals of 3D printing technology and develop the necessary skills to embark on their own 3D printing projects with high level of confidence.

Organizing Team:

Dr. Jignesh Thaker, Associate Professor, Mechanical Engineering Dept., Adani University

Dr. Partho Mukherjee, Assistant Professor, Mechanical Engineering Dept., Adani University

Mr. Darshit Patel, Teaching Assistant, Mechanical Engineering Dept., Adani University

Mr. Meet Dave, Technical Expert, MAKE3D.in

Mr. Naseem Shaikh, Technical Expert, MAKE3D.in

Workshop Schedule (30th April 2024)	
8.30am to 9.00am	Registration/Reporting
9.00am to 10.00am	Introduction to 3D printing technology and its applications
10.00am to 10.30am	Inauguration
10.30am to 12.15pm	Live demonstration on working operation of 3D printer (Model: Pratham 3.0 having printing capacity 300×300×300 mm)
12.15pm to 1.00pm	Lunch
1.00pm to 3.00pm	Hands on Training Session
3.00pm to 3.15pm	Quiz
3.15pm to 3.30pm	Feedback and Vote of Thanks