

## Introduction to 3D Printing and CAD Modeling

**90 Hrs. (Self Paced)**

**Medium of Instruction: English**

### Objective

This course explains how technology shifts throughout history have made 3D Printing possible, Understand how the designer role has evolved over time and how it is likely to change as we move towards mass customization, Use the principles of Design Thinking and document their design process, Navigate the CAD software being used for this course, Apply the unique advantages of 3D Printing to their designs using Slicing softwares, OEM Drivers/tools being covered in this course, Printing the STL file on 3D Printer. After completion of this course; the student will be able to compare additive manufacturing technologies with traditional technologies and choose the best technology for a given application.

Pursuing Graduation /Graduate/ Diploma

### Eligibility

### Prerequisite

- ✓ Candidate must have latest computer/laptop with preferably 4GB RAM or higher.
- ✓ Internet connection with good speed (preferably 2 Mbps or higher).

Rs. 4000/- (Inclusive of GST)

### Course Fees

### Certificate

Certificate will be provided to the participants after the online test, conducted at the end of the course.

- ✓ Instructor-led live classes for Queries
- ✓ Fully Recorded Sessions
- ✓ Continuous Assessment to Track the Progress
- ✓ Content Access through E-Learning Portal
- ✓ Self Paced Learning

### Methodology

### Outcome

Students who complete this programme should be able to demonstrate the viability of utilizing additive manufacturing technology to develop product prototypes, develop skills to design for prototype models for a range of products to be produced, develop skills for CAD Modeling.

## Course Content

Module	Course Outline	Hours
01	Introduction to Additive Manufacturing <ul style="list-style-type: none"> <li>• Evolution of 3D printing</li> <li>• Various 3D printing technologies</li> <li>• Fused deposition modeling (FDM) in detail</li> </ul>	35 hrs
02	CAD Modeling <ul style="list-style-type: none"> <li>• Creating support less designs</li> <li>• Optimizing for orientation</li> <li>• Achieving accuracy and fit</li> </ul>	35 hrs
03	Prototyping using 3D Printer <ul style="list-style-type: none"> <li>• Design guidelines for printing</li> <li>• Designing assemblies</li> <li>• converting CAD model to .stl format</li> <li>• Print settings</li> </ul>	20 hrs
	Total	90 hrs

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