



U.S Institute of 3D Technology

(California, USA)

Certification Course

(300 Hours)

1. Introduction: What is 3D Printing? History and evolution of additive manufacturing concept and its application in 3D Printing.
2. Various 3D printing technologies available.
3. Types of 3D Printers & their applications. How to choose the right 3D printer.
4. Type of FDM 3D Printers & other printers & how they work.
5. Print process in FDM printers & other systems.
6. Layer 3D Printing
7. Materials used in 3D Printing & their special characteristics.
8. How to choose & use materials. Factors responsible in their selection.
9. Dos & Don'ts of selection process
10. Introduction of Designing in 3D Printing.
11. Computer Aided Manufacturing /Machines
12. Concept of 2D Drawing and 3D Printing Drawing
13. Basic shapes identification.
14. 3D Printing Designing Concept & Technologies
15. Designing for 3D Printing. Introduction to various soft wares & their application
16. Installing 3D Printing Software
17. Essentials of Fusion 360 software.
18. Essentials of Blender software.
19. Essentials of Solidworks software
20. CAD software in 3D Printing. Essentials of 'Free CAD' software.
21. Scaffolding & Mesh
22. Creating models with Design

23. Setting parameters. Their importance in final finished products.
24. Basics of handling 3D Printing Files
25. Software interface & Conversion of 3D Printing files
26. Introduction of Manufacturing Techniques
27. CNC & Laser Machines
28. Understanding Additive Manufacturing & Subtractive Manufacturing.
29. 3D Printing technology Vs traditional manufacturing technologies
30. Advance Technique in 3D Printing
31. DLP 3D Printing
32. Metal 3D Printing
33. 3D Printing in fabrication & Manufacturing
34. Printing through 3D Pen & 3D Printer
35. New emerging job opportunities
36. Scanner fundamentals. The role of scanners in 3D Printing.
37. Types of scanners & their applicability in 3D printing.
38. Industries that have specific advantages in using 3D printers.
39. Industrial visit to engineering and manufacturing units.
40. Identifying problems in manufacturing processes.
41. Identifying problems and limitations in R&D Process
42. Providing suggestions to overcome those problems using 3D Printing.
43. Applications of 3D printers in Aerospace-Defense, Content Creation, Architecture-Geo, Concept Molding, Art-Entertainment, Prototyping, Automotive, Casting Patterns and Patterns, End-use Parts, Education, Injection Molding, Energy, Healthcare, Hobbyist, Jewelry, Culinary etc.

- Please note that the course syllabus may vary according to the content and the technologies involved in 3D Printing