



Technical Workshop Series -2024

3D FusionCraft Series – 1

Think - Design - Build
- Organized by Venture Center -

Potential gains	<ul style="list-style-type: none">• 3D CAD modeling streamlines design processes, enabling efficient iteration and visualization, leading to accurate and precise representations that minimize errors and enhance overall product quality.• The technology facilitates collaborative teamwork, reduces costs through early identification of design flaws, and expedites the product development cycle.• 3D printing offers rapid prototyping, enabling quick and cost-effective production of physical models for design validation• Valuable skills for rapid prototyping, enabling to transform ideas into physical models efficiently.• Valuable skills for efficient design, creation and visualization.
Organized by	Protoshop at Venture Center
For whom	<ul style="list-style-type: none">• Early stage inventive enterprises and science-based startups• Budding/ aspiring entrepreneurs (Researchers, students, engineers, clinicians etc)• Engineers and Researchers
When	<ul style="list-style-type: none">• Day 1: Feb 02, 2024 09:30 to 13:00 Introduction to 2D and 3D CAD modeling• Day 2: Feb 03, 2024 09:30 to 13:00 Hands on 3D CAD modeling• Day 3: Feb 09, 2024 09:30 to 16:30 Hands on 3D Printing (Batch -1, 2)• Day 4: Feb 10, 2024 09:30 to 16:30 Hands on 3D Printing (Batch -3, 4)
Where	Lecture Theatre & Protoshop, Venture Center, 300 NCL Innovation Park, Dr. Homi Bhabha Road, Pashan, Pune-411008
Contact	Registration queries: Mr. Adarsh Lodhi 8956226076 adarsh.lodhi@venturecenter.co.in Mr. Anjan Kumar N 8956457047 anjan@web.venturecenter.co.in
Cost	<ul style="list-style-type: none">• Complete workshop series : Rs. 4500/-• Introduction to 2D &3D CAD modeling + Hands on 2D & 3D modeling : Rs. 2500/-• Hands on 3D Printing : Rs. 2500/- <p>"Special discount for Venture Center Incubates: Complete workshop series only @ Rs. 3500/-"</p> <ul style="list-style-type: none">• Only 20 seats: First come first serve• Register online at: "3D Fusion Craft Series – 1" <p>Note:-</p> <ul style="list-style-type: none">• Registration closes once 20 seats are full• Attendance only after confirmation of registration by organizers.• Organizers reserve the right to accept or refuse or delay registrations so to optimize the



composition of the group and hence maximize learning for all participants.

- Fees paid is not refundable and non transferable under any circumstances.

Introduction

In this workshop, participants will embark on a journey into the realms of 3D CAD modeling and 3D printing, exploring the convergence of digital design and advanced manufacturing. From the fundamentals of creating three-dimensional digital models to the transformative process of bringing these designs to life through 3D printing, this course offers a comprehensive introduction to the tools and techniques shaping the future of product development and innovation.

Event Outline

This Course on the “**3D FusionCraft Series – 1**” contains the following:

- **2D and 3D CAD Modeling Fundamentals:**
 - Master the basics of popular CAD software - SolidWorks for creating detailed and precise three-dimensional digital models.
 - Explore techniques for efficient design iteration, visualization, and collaboration within a digital environment.
- **Introduction to 3D Printing Technologies:**
 - Gain insights into various 3D printing technologies, including Fused Deposition Modeling (FDM), Stereolithography (SLA), and Selective Laser Sintering (SLS).
 - Understand the principles behind additive manufacturing and its applications in rapid prototyping and production.
- **Best Practices and Optimization:**
 - Learn best practices for designing models suitable for 3D printing, considering factors such as material constraints, print orientation, and support structures.
 - Explore optimization techniques to enhance the efficiency and quality of the 3D printing process.
- **Hands-On Project Work: (Take away that you build)**
 - Apply learned concepts through practical, hands-on projects that guide participants from designing a 3D model to successfully printing a physical prototype.
 - Explore real-world case studies showcasing the impact of 3D CAD modeling and printing across diverse industries.

Terms and Conditions

- Participants shall arrange their own devices (preferably Laptop) to work on the workshop assignments
- Attendance is mandatory for all sessions once registration is confirmed
- No sessions will be repeated if a participant is unable to attend due to any reasons



Event includes

- Free membership in mailing list to follow-up on program and intimation of relevant events/ funding opportunities from Venture Center
- Certificates will be given to only those candidates who complete the workshop assignments and have 100% attendance.

Schedule

Time (hrs)	Session	Venue	Faculty
Day 1: Feb 02, 2024 09:30 to 13:00 Introduction to 2D and 3D CAD modeling			
09:30-10:00	Registration	Lecture Theatre	Protoshop team
10:00-10:10	Welcome and background of Venture Center and Protoshop Introduction to Workshop	Lecture Theatre	Protoshop team
10:10-12:30	Talk /lecture	Lecture Theatre	Protoshop team
	Hands on session	Lecture Theatre	Protoshop team
12:30-13:00	Activity + Q & A	Lecture Theatre	Protoshop team
Day 2: Feb 03, 2024 09:30 to 13:00 Hands on 3D CAD modeling			
09:30-10:00	Registration	Lecture Theatre	Protoshop team
10:00-12:30	Introduction to 3D CAD modeling	Lecture Theatre	Protoshop team
	Hands on session for 3D CAD modeling	Lecture Theatre	Protoshop team
	Introduction to 3D printing and its parameters	Lecture Theatre	Protoshop team
12:30-13:00	Activity + Q & A	Lecture Theatre	Protoshop team
Day 3: Feb 09, 2024 09:30 to 16:30 Hands on 3D Printing			
09:30-10:00	Protoshop tour	Protoshop	Protoshop team
10:00-12:30	Hands on 3D Printing for batch - 1 (5 participants)	Protoshop	Protoshop team
14:00-14:30	Hands on 3D Printing for batch - 2 (5 participants)	Protoshop	Protoshop team
Day 4: Feb 10, 2024 09:30 to 16:30 Hands on 3D Printing			
09:30-10:00	Protoshop tour	Protoshop	Protoshop team
10:00-12:30	Hands on 3D Printing for batch - 3 (5 participants)	Protoshop	Protoshop team
14:00-14:30	Hands on 3D Printing for batch - 4 (5 participants)	Protoshop	Protoshop team



Speakers (in alphabetical order of last names)



Adarsh is working as a Senior Engineer – Product Design and Prototype. He is a Mechanical Engineer with 4 years of industry experience in product design of medical devices. Adarsh lives and breathes design and feels that through good design specialists in different fields can collaborate and create better living conditions for everyone.



Anjan is working as a Lead - Product Design & Prototyping in Venture Center. He is a Mechanical Engineer graduate from CMR Institute of Technology, Bengaluru. He is responsible for supporting the startups, innovators, budding entrepreneurs at Venture Center in Product Design and Prototype Development. He has specialization in designing of functional and non-functional prototypes, developing POC's, converting POC to Prototype and end Products, Reverse Engineering and also comes up with strong problem solving skill. He has actively involved in the development of prototypes majorly in healthcare, automobile, renewable energy, biotech, cutlery, agro based, etc. He is also responsible for running facilities at Protoshop and also setting up technical and non-technical workshops at Protoshop.

About the organizers



Protoshop combines Tinkering lab and Prayashala, which are the prototyping facilities at Venture Center. Protoshop is an initiative of Venture Center (a technology business incubator hosted by CSIR-NCL) with the generous support from in-house funds and the host Institution. It aims at providing services to the Inventors and Entrepreneurs to design and build their prototypes and bringing their ideas into life.

For more information about Protoshop: <http://www.protoshop.in/>



The Tinkering Lab is a facility developed and managed by Venture Center, NCL Innovation Park, Pune, India. The main aim of the Tinkering Lab is to help inventors and entrepreneurs to build prototypes of their ideas and generally “tinker” around exploring new ideas. The focus is on electronics, instrumentation and optics besides related prototyping and design.

For more information, visit <http://tinkeringlab.co.in/>



Entrepreneurship Development Center (Venture Center) – a CSIR initiative – is a Section 25 company hosted by the National Chemical Laboratory, Pune. Venture Center strives to nucleate and nurture technology and knowledge-based enterprises by leveraging the scientific and engineering competencies of the institutions in the Pune region in India. The Venture Center is a technology business incubator supported by the Department of Science & Technology's National Science & Technology Entrepreneurship Development Board (DST-NSTEDB). Venture Center's focuses on technology enterprises offering products and services exploiting scientific expertise in the areas of materials, chemicals and biological sciences & engineering.

For more information, visit: <http://www.venturecenter.co.in/>