PROTOSHOP

VENTURE CENTER

Technical Workshop Series –2024

3D FusionCraft Series – 2

Think - Design - LASER Cut - Build

- Organized by Venture Center -

Potential gains	• 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. • Learn to operate laser cutting equipment, honing precision skills for intricate cutting and engraving tasks. • Gain hands-on experience in controlling the laser beam for precise material removal, contributing to refined craftsmanship. • Acquire the ability to transform digital designs into physical prototypes swiftly using laser cutting technology. • Learn to optimize designs for laser cutting, considering factors such as kerf width, cutting speed, and material constraints. • Develop an understanding of how design choices impact the efficiency and quality of laser-cut projects.
Organized by	Protoshop at Venture Center
For whom	• Innovators & Entrepreneurs, Students
When	• Day 1: Feb 28, 2024 | 09:30 to 1300 | Introduction to 2D and 3D CAD modeling • Day 2: Feb 29, 2024 | 09:30 to 1300 | Hands on 3D CAD modeling • Day 3: Mar 01, 2024 | 09:30 to 1630 | Hands on LASER cutting (Batch -1, 2) • Day 4: Mar 02, 2024 | 09:30 to 1630 | Hands on LASER cutting (Batch -3, 4)
Where	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	• Complete workshop series : Rs. 4500/- • Introduction to 2D &3D CAD modeling + Hands on 2D & 3D modeling : Rs. 2500/- • Hands on LASER cutting : Rs. 2500/- **"Special discount for Venture Center Incubates: Complete workshop series only @ Rs. 3500/-"** • Only 20 seats: First come first serve • Register online at: https://forms.gle/CgUNYKtRvSL8i7Sz6 Note:- • Registration closes once 20 seats are full

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	• 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 course, 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. It is the dynamic fusion of creativity and precision in our 3D CAD Modeling and Laser Cutting Workshop. This immersive experience combines the power of digital design with the precision of laser cutting technology, offering participants the opportunity to explore the entire journey from concept to tangible creation. Laser Cutting is an immersive experience designed to unlock the potential of precision fabrication and creative design. Laser cutting technology has revolutionized the way we bring ideas to life, enabling the transformation of digital designs into intricately cut and engraved physical objects. This workshop offers participants a hands-on journey into the world of laser cutting, equipping them with the skills to turn concepts into tangible reality.

Event Outline

This Course on the **"3D FusionCraft Series – 2"** 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 LASER cutting Technologies:**
  - Laser Cutting : Principles and Applications
  - Understanding Laser-Compatible Materials and Techniques for Precision Cutting and Engraving
- **Design Optimization Techniques:**
  - Explore design considerations for both 3D CAD modeling and laser cutting, ensuring that digital designs are seamlessly translated into physical prototypes.
  - Learn techniques to optimize designs for efficiency, precision, and material utilization.
- **Hands-On Project Work: (Take away that you build)**
  - Translate digital designs into tangible prototypes through hands-on projects that guide participants through the entire design-to-prototype process.
  - Explore how 3D CAD models can be transformed into laser-cut masterpieces.

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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 28, 2024 | 09:30 to 1300 | Introduction to 2D and 3D CAD modeling			
0930-1000	Registration	Lecture Theatre	Protoshop team
1000-1010	Welcome and background of Venture Center and Protoshop Introduction to Workshop	Lecture Theatre	Protoshop team
1010-1230	Talk /lecture	Lecture Theatre	Protoshop team
	Hands on session	Lecture Theatre	Protoshop team
1230-1300	Activity + Q & A	Lecture Theatre	Protoshop team
Day 2: Feb 29, 2024 | 09:30 to 1300 | Hands on 3D CAD modeling			
0930-1000	Registration	Lecture Theatre	Protoshop team
1000-1230	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
1230-1300	Activity + Q & A	Lecture Theatre	Protoshop team
Day 3: Mar 01, 2024 | 09:30 to 1630 | Hands on LASER cutting			
09:30-1000	Protoshop tour	Protoshop	Protoshop team
1000-12:30	Hands on LASER cutting for batch - 1 (5 participants)	Protoshop	Protoshop team
02:00-04:30	Hands on LASER cutting for batch - 2 (5 participants)	Protoshop	Protoshop team
Day 4: Mar 02, 2024 | 09:30 to 1300 | Hands on LASER cutting			
09:30-1000	Protoshop tour	Protoshop	Protoshop team
1000-12:30	Hands on LASER cutting for batch - 3 (5 participants)	Protoshop	Protoshop team
02:00-04:30	Hands on LASER cutting for batch - 4 (5 participants)	Protoshop	Protoshop team

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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 design and 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	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/
Tinkering Lab	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/
VENTURE CENTER 15 years of service to the Nation	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/