Do It Yourself –Hands-on Workshop Series –2025-26

"Floating Table – Jr" Workshop

Think - Design - Build

- Organized by Venture Center -

Potential gains	• **Creative Thinking:** Discover the magic of optical illusions and tensegrity structures, fostering imagination and innovation. • **Laser Cutting Expertise:** Learn to use laser cutting technology to precisely shape and engrave acrylic or plastic sheets, bringing your designs to life with accuracy. • **Digital Design Skills:** Gain hands-on experience in CAD design, transforming digital models into real-world creations with laser-cut precision. • **Material Exploration:** Work with lightweight yet durable materials like acrylic, understanding their properties and applications in design. • **Precision & Technical Skills:** Develop accuracy in measuring, designing, and assembling components to achieve a stable and visually striking floating table. • **Problem-Solving Abilities:** Tackle design and assembly challenges, ensuring structural integrity while maintaining the illusion of levitation. • **Hands-on Prototyping:** Experience the thrill of creating a real, working model from scratch, applying laser-cutting techniques in a fun and engaging way.
Organized by	Protoshop at Venture Center
For whom	9-15 Yrs
When	26 July 2025 | 09:30 AM – 05:30PM
Where	Protoshop, Venture Center, 300 NCL Innovation Park, Dr. Homi Bhabha Road, Pashan, Pune-411008
Contact	**Registration queries:** Manisha Kharat | 9156465131 | library@venturecenter.co.in
Cost	INR 1500/- per participant Only 10 seats: First come first serve Register online at: https://www.townscript.com/e/-build-a-floating-table-a-handson-workshop-in-science-design-engineering-122104 Note:- • Registration closes once 10 seats are full • Attendance only after confirmation of registration by organizers. • Snacks and Lunch will be provided to all the participants • Organizers reserve the right to accept or refuse or delay registrations so as to optimize the composition of the group and hence maximize learning for all participants

Welcome to the Junior level Floating Table Workshop – Tensegrity Table!

We're excited to have you here for a hands-on experience where creativity meets technology! In this workshop, you'll explore the fascinating world of optical illusions by building your very own **Floating Table**—a structure that appears to defy gravity.

Using **laser cutting and CAD design**, you'll craft precision-cut acrylic or plastic components, assembling them into a striking tensegrity structure. This workshop introduces you to the power of digital fabrication, showing how design software and laser technology can bring ideas to life with accuracy and creativity.

No prior experience? No problem! This engaging and accessible session will guide you through the entire process, helping you develop valuable **design, problem-solving, and prototyping skills**. Get ready to **think, create, and innovate**—and leave with a one-of-a-kind masterpiece that challenges perception and sparks curiosity!

1. Introduction
- Welcome and introductions
- Overview of the workshop goals and schedule
- Explanation of **tensegrity structures** and how they create the illusion of floating
- Examples of real-world tensegrity designs

2. Design Fundamentals
- Understanding the concept of balance and stability in tensegrity structures
- Introduction to **CAD (Computer-Aided Design)** for precision modeling
- Overview of the materials: **acrylic/MDF/plastic sheets, , laser-cut components, and connectors**

3. Digital Design & Laser Cutting
- Basics of CAD software and how to create a design for laser cutting
- Hands-on session: Participants design their table components digitally
- Laser cutting demonstration and guided practice

4. Assembly & Construction
- Step-by-step **assembly of laser-cut parts**
- Understanding tension and compression in the structure
- Properly securing strings and connectors for stability

5. Creating the Floating Effect
- Fine-tuning the table to enhance the illusion of floating
- Exploring different design variations for added creativity
- Adding finishing touches and personalizing the table

6. Show and Tell
- Participants showcase their completed floating tables
- Discussion on the challenges faced and how they solved them
- Sharing ideas on how to apply laser cutting in future projects

7. Conclusion
- Recap of key skills learned: **CAD design, laser cutting, and tensegrity structures**
- Encouraging further exploration of digital fabrication

Terms and Conditions
• No sessions will be repeated if a participant is unable to attend due to any reasons

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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. • Snacks and Lunch

Schedule			
Time	**Session**	**Venue**	**Faculty**
09:30 AM-10:00 AM	Registration	Conference Room	Protoshop team
10:00 AM-10:10 AM	Welcome and background of Venture Center and Protoshop Introduction to Workshop agenda	Conference Room	Protoshop team
10:10 AM-10:30 AM	Theory session: Optical illusions & Tensegrity design principles	Conference Room	Protoshop team
10:30 AM – 11:00AM	Morning snacks	Cafeteria	
11:00 AM – 01:00AM	Introduction to CAD design & Laser Cutting Basics | Session on techniques, process involved in the making of the Floating table	Protoshop	Protoshop team
01:00 PM-02:00 PM	Lunch	Cafeteria	
02:00 PM-05:00 PM	Hands-on session: Laser cutting, assembly & finishing of the Floating Table	Protoshop	Protoshop team
05:00 PM-05:30 PM	Evening Tea and coffee	Near protoshop	
05:30 PM-06:00 PM	Certificate distribution and event conclusion	Conference Room	Protoshop team

Speakers

	Himanshu is working as an Associate Protoshop in Venture Center. He has completed his integrated M.Sc. in Physics from the Center for Basics Sciences, Pt. Ravishankar Shukla University, Raipur, C.G. He is responsible for planning and execution of various services in Protoshop and providing high quality PCB layout designs to the clients.
	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 skills. He has been 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.

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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	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/