

DynaMind Learning

Advanced Additive Manufacturing and 3D Printing

Age Group: 10 to 15 years

Mode: Online

Duration: 24 sessions (1 hour each)

Program Overview

This program immerses students aged 10 to 15 in the exciting world of advanced additive manufacturing and 3D printing. Through engaging, hands-on projects, participants will learn to design 3D models, understand slicing software, and prepare designs for printing. The program emphasizes both creativity and functionality, allowing students to create innovative and practical projects while building their knowledge of cutting-edge manufacturing techniques.

Learning Outcomes

By the end of the program, participants will:

- Gain a strong foundation in CAD design and 3D printing concepts.
- Develop proficiency in slicing software and printer operations.
- Understand real-world applications of additive manufacturing.
- Create functional and creative 3D-printed projects, including tools, decorative items, and prototypes.
- Build problem-solving and critical-thinking skills by applying design concepts to real challenges.

Topics Covered

- **Introduction to Additive Manufacturing:** Overview of 3D printing technologies, applications, and benefits.
- **CAD Software Mastery:** Learning to design, align, group, and customize shapes with tools for 3D modeling.
- **Functional Design Principles:** Incorporating dimensions, tolerances, and ergonomic principles into designs.
- **Creative and Decorative Projects:** Designing items like keychains, lamps, and nameplates.
- **Mechanical Design Concepts:** Creating gears, pulleys, and hinged structures.
- **Slicing Techniques:** Preparing designs for 3D printing using slicing software.
- **Advanced Projects:** Combining aesthetics and functionality in multi-tool, trophy, and complex assemblies.
- **Creative Challenges:** Applying learned skills to design solutions for open-ended problems.

Highlights of the Program

- **Hands-On Learning:** Students will complete multiple projects such as rockets, phone stands, gear mechanisms, and mini toolboxes.
- **Practical Knowledge:** From slicing to final printing, students will learn every step of the 3D printing process.
- **Interactive and Engaging:** Classes balance theory with fun, project-based activities to inspire creativity.

Let your child dive into the future of technology with this comprehensive program that combines learning with innovation!



