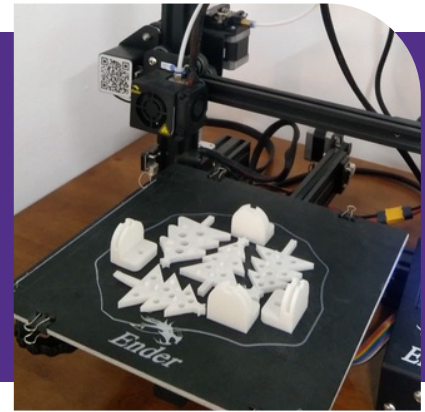



3D Design and Printing

9-11 Years old




COURSE DESCRIPTION


An introduction to 3D design and printing, where students use computers to create 3D models and prototypes. Students plan, develop, and evaluate their designs, gaining practical experience with 3D printers.




Expected Learning Outcome




DESIGN THINKING



CRITICAL THINKER




COLLABORATION



TECHNICAL SKILLS

TOPIC COVERS				
Intro to Tinkercad	2D Sketching	Shape Modification	TinkerCAD Tools	Object Assembly and Creation
Combining Shapes	Design Principles	3D Printing Technologies	Engineering Design Process	End of Course Project



COURSE RUBRIC

Quizzes: 10%

Attendance: 10%

Homework: 10%

Class Participation: 20%

End of Course Project: 50%

TEACHING/LEARNING APPROACH

- **Hands-on prototyping:** Students actively engage in building and testing coding projects to reinforce learning through practical application.
- **Iterative design process:** Emphasis is placed on planning, testing, refining, and improving projects to develop critical thinking and persistence.
- **Peer collaboration:** Team-based tasks encourage knowledge sharing, communication, and collaborative problem-solving.
- **Project presentations:** Students present their final work to build confidence, reflect on their learning, and celebrate creative outcomes.

PARENTAL SUPPORT

Parents play a key role by encouraging regular attendance, showing interest in their child's projects, and supporting practice at home. Active involvement reinforces learning and keeps students motivated.

STUDENT COMMITMENT

This weekend course requires consistent attendance, focus during sessions, and a willingness to explore and complete projects. A positive attitude and steady participation help students gain the most from the program.

Important Note: To receive a Certificate of Completion, students must attend at least 60% of the total class sessions (8 sessions out of 12).

Rev. 2.0 / 02 May 2025