Orchard View School

Maker Workshop HS

Credits: 10
CTE
Graduation Requirements: Practical Arts

Course description
Maker Workshop is a hands-on class where students learn to design, create and innovate using a variety of tools, materials, and technologies. The course will cover a wide range of topics including 3D printing and design, electronics and robotics, woodworking, metalworking, and art and crafts. Students will learn to use tools such as 3D printers, laser cutters, soldering irons, and various hand and power tools to create a variety of projects. The course will also emphasize the importance of safety in using these tools and equipment. By the end of the course, students will have developed a range of skills and have a portfolio of projects to showcase their learning. The Maker Workshop is designed to be a fun and engaging course that encourages students to explore their interests, learn new skills, and develop their creativity.

Course objectives
The course objective is to help students develop their critical thinking, problem-solving, collaboration, and creativity skills through project-based learning.

Prerequisites
Grade 9 or above

Materials
To be provided in class

Grading Policy
Students will be graded on their participation, completion of assignments, and final projects. Final projects will be presented in class and evaluated by the teacher and peers based on creativity, technical skill, and overall effectiveness
Note: This syllabus is meant to be flexible and can be modified to fit the specific needs and interests of the students and the available equipment and resources in the workshop.

Course Content

Semester 1

Unit 1:
Introduction to Maker Workshop, Orientation to workshop tools and equipment, Safety procedures

Unit 2:
Introduction to 3D printing
Design software basics, Printing and post-processing techniques

Unit 3:
Introduction to traditional arts and crafts techniques Exploring different materials and mediums, Combining art with technology

Semester 2

Unit 1: Advanced 3D Printing and Design, Advanced design software, Printing more complex objects

Unit 2: STEM and STEAM Activities, Introduction to STEM and STEAM concepts, Building and testing machines, Incorporating artistic elements into technical projects

Unit 4: Capstone Project, Developing and executing a large-scale project Incorporating skills and techniques learned throughout the course, Presenting the project to the class and community