

## Course Overview

- This course includes scope & sequence, lesson plans and resources (including videos, project supports, teacher's scripts, student reading materials, teacher presentations, and more) to implement one 18-week session.
- The Course Curriculum covers a full 18-week semester, but can be customized for a shorter delivery or to supplement gaming/coding courses.
- Suggested Duration: 2 to 3 hours per week of student facing time
- Certification results from passing the FabMaker Studio exam.
- While developed for Middle Schools as a pathway to High School and College courses, this course can be leveled as appropriate for 4th-10th grade students.

## Certification in FabMaker Studio

This course is a foundation for a high school design and engineering CTE programs and provides an in-depth opportunity to explore careers in engineering to facilitate career planning. Students will be introduced to the history of technology and the interweaving of creativity and problem solving in advances in technology and production. Students will explore creative problem solving supported by design thinking tools. Students will consider answers to some of the world's big engineering challenges and consider how changes in technology will impact their future and their career options.

Course experiences will include the mastery of FabMaker Studio desing and engineering software features and functions which will allow easy and cost effective designing with paper prototyping.

## Course Objectives

1. Describe influences that societal, economic and technological change have on employment trends and future training.
2. Develop skills to locate, evaluate and interpret career information and employability
3. Identify and demonstrate processes for making short and long term goals.
4. Demonstrate employability skills such as working in a group, problem solving and organizational skills and the importance of entrepreneurship
5. Understand the relations between educational achievement and career choices/post-secondary potions
6. Identify career clusters and related standards
7. Demonstrate an understanding of the characteristics and scope of technology.
8. Demonstrate an understanding of the attributes of design
9. Demonstrate an understanding of engineering design.
10. Demonstrate the ability to apply the design process.
11. Demonstrate an understanding of the role of troubleshooting, research and development, invention and innovation, and experimentation in problem solving.
12. Demonstrate an understanding of the influence of technology on history.
13. Identify evolving technologies of production systems