



Scope and Sequence: Design/Engineer Thinking Middle School CTE Program

Each week requires 2 - 3 hours of student facetime

Course Objectives:

The student will be able to:

- Demonstrate an understanding of Design career pathways.
- Apply leadership and communication skills.
- Use information technology tools.
- Create presentations, including sound, color, and motion presentation tools.
- Demonstrate an understanding of the attributes of design.
- Demonstrate an understanding of engineering design.
- Demonstrate an understanding of the role of troubleshooting, research and development, invention and innovation, and experimentation in problem solving.
- Demonstrate the abilities to apply the design process.

Teacher Description:

You will have: An increased capacity to implement lessons covering the iterative design process and career exploration. This curriculum will provide you with a broad understanding of the learning strategies that support creativity and how teachers can encourage creative thinking, collaboration, communication, and critical problem solving with purpose. You do not need to be a specialist; you only need to be willing to lead students through their own independent journeys.

Course Description:

The Iterative Design/Engineer Process – Games is appropriate for 5th- 8th grade students. This course is a foundation course for high school CTE programs. This course provides preparatory background and skills related to professional certification in the design industry and is aligned to middle school state CTE frameworks and industry outcome expectations. This course inspires students to implement the iterative design process as they begin to build their professional portfolio. Certification is available. This course includes the use of Kneoworld's blended learning program and other free digital tool resources (ex. PowerPoint).



Course Includes:

- Course Scope & Sequence
- Course lesson plans and resources (including videos, project supports, teacher’s scripts, student reading materials, teacher presentations, and more) to implement the entire course
- Professional Development (for using software and facilitating the course)
- Certification

Week	Big Ideas & Objectives
	Careers & Design/Engineer Thinking
1	What are My Interests?
2	Brief History of Design/Engineer Thinking
3	What Does It Take? Skills for a Career as a Designer
	Play Concepts
4	Design and play
5	Basic Design Tools
6	Kinds of Play
7	The User Experience
	Iterative Design
8	Iterative Design Process
9	Design Values
10	Design Documentation
11	Collaboration and Teamwork
	Practice
12	Conceptualization of New Ideas
13	Prototyping

14	Testing
15	Evaluating
16	Preparing for Production
17	Showcase
18	Exam