Unit 1.2: Design Charrette

Content Area: **Science**
Course(s): **Civil Eng & Arc**
Time Period: **Semester 1**
Length: **1 week**
Status: **Published**

Standards

CS.9-12.8.2.12.NT.1	Explain how different groups can contribute to the overall design of a product.
CS.9-12.8.2.12.NT.2	Redesign an existing product to improve form or function.
CS.9-12.NT	Nature of Technology
TEC.9-12.8.1.12.A	Technology Operations and Concepts
TEC.9-12.8.1.12.A.2	Produce and edit a multi-page document for a commercial or professional audience using desktop publishing and/or graphic software.
TEC.9-12.8.1.12.C.1	Develop an innovative solution to a complex local or global problem / issue in collaboration with peers and experts and present ideas for feedback in an online community. Engineers use science, mathematics, and other disciplines to improve technology. Increased collaboration among engineers, scientists, and mathematicians can improve their work and designs. Technology, product, or system redesign can be more difficult than the original design.

Enduring Understandings

- Civil engineers and architects apply math, science, and discipline-specific skills to design and implement solutions.
- Civil engineering and architecture careers are comprised of several specialties and offer creative job opportunities for individuals with a wide variety of backgrounds and goals.
- Civil engineers are problem solvers involved in the design and construction of a diverse array of projects in a wide range of disciplines including structural, environmental, geotechnical, water resources, transportation, construction and urban planning.
- Architects primarily focus on designing the interior and exterior “look and feel” of commercial and residential structures meant for human habitation.
- An effective method for brainstorming possible solutions involves a collaboration of many stakeholders with a variety of skills coming together in an organized meeting called a charrette.

Essential Questions

- What abilities and interests do you possess that could translate to a career field related to civil engineering or architecture?
- What advantages are there to bringing together a group of people with varying backgrounds and skills

for brainstorming a solution to a design problem?

Knowledge and Skills

Students will be able to:

- Identify the primary duties, and attributes of a civil engineer and an architect along with the traditional path for becoming a civil engineer or architect.
- Identify various specialty disciplines associated with civil engineering.
- Participate in a design charrette and recognize the value of using a charrette to develop innovative solutions to support whole building design.
- Understand the relationship among the stakeholders involved in the design and construction of a building project.

Assessments

https://docs.google.com/document/d/1wR7bQF-8AQoRrt0g4C3hKja0yjwDjC9_BiAmONWbTcI/edit

Modifications

https://docs.google.com/document/d/1ODqaPP69YkcFiyG72fIT8XsUIe3K1VSG7nxuc4CpCec/edit

Resources

- DesignCharrette.doc
- StakeholderRole.doc
- DesignCharretteRubric.doc
- Concept Map.ppt
- WHRHS - Site Plan
- WHRHS - Rendering
- Example Design Charrettes