

# Civil Engineering Design and Presentation

**Local Course #:** 82644

**State Course ID:** 13036600

## **Course Description:**

In this course, students will learn important aspects of building and site design, and then they apply what they know to design a building. They will use math, science, and standard engineering practices to design both residential and commercial projects and document their work using 3-D architectural design software.

## **Link to TEKS:**

[https://texas-sos.appianportalsgov.com/rules-and-meetings?\\$locale=en\\_US&interface=VIEW\\_TAC\\_SUMMARY&queryAsDate=08%2F05%2F2025&recordId=225704](https://texas-sos.appianportalsgov.com/rules-and-meetings?$locale=en_US&interface=VIEW_TAC_SUMMARY&queryAsDate=08%2F05%2F2025&recordId=225704)

## **First 9 Weeks Major Topics:**

History of Civil Engineering and Architecture. students will learn about the history of civil engineering and architecture. They will begin to build a vocabulary around both, including the principles and elements of design and architectural styles.

## **Second 9 Weeks Major Topics:**

Residential Building Design and Construction. In this lesson students will design a basic shed. This lesson allows students to become familiar with common building practices and terminology. During this lesson students will design an affordable home for a client using sustainable practices. Using 3D CAD software students will start with a simple shed before working on a house design.

## **Third 9 Weeks Major Topics:**

Commercial Building Systems. Research Land Use regulations to identify zoning designations and allowable uses of property. Comply with specifications, regulations, and codes during a design process. Use 3D architectural design software to incorporate revisions for the redesign of a building and to create appropriate documentation to communicate a commercial building design.

## **Fourth 9 Weeks Major Topics:**

Commercial Building Design Problem. Students will take the lessons and skills learned to research and design their own commercial property and design while following building codes and regulations. They will use 3D software to design and create documentation and create a final presentation.