

CFISD Engineering Design & Problem Solving K Scope and Sequence

Course Description:

Engineering Design and Problem Solving reinforces and integrates skills learned in previous mathematics and science courses. This course emphasizes solving problems, moving from well-defined toward more open-ended, with real-world application. Students apply critical thinking skills to justify a solution from multiple design options. This course is intended to stimulate students’ ingenuity, intellectual talents, and practical skills in devising solutions to engineering design problems in a project-based learning environment. Students use the engineering design process cycle to investigate, design, plan, create, and evaluate solutions. At the same time, this course fosters awareness of the social and ethical implications of technological development.

- Grades 11 – 12
- Required Prerequisite: Algebra II, Chemistry, Physics (or concurrent), Engineering Design and Presentation I or Manufacturing Engineering Technology K (ARC)

[TEKS](#)

Program of Study: Engineering

Cluster: (Science, Technology, Engineering & Mathematics)

Endorsement: STEM

- Meets advanced course requirement (Y/N): Y
- Meets foundation requirement for math, science, fine arts, English, LOTE (Y/N-area): Y

Industry Certification/Credentials: n/a

Instructional Units	Pacing
Introduction to Engineering Discovering Design Reverse Engineering Understanding Data	1st Semester
Data-Driven Design Algorithms and Programming Engineering Systems	2nd Semester

Primary Instructional Materials: Engineer Your World