

CFISD Engineering Design & Problem Solving K

Scope and Sequence

Endorsement: Business & Industry (or STEM with math/science requirements)

Meets advanced course requirement? YES ▾

Cluster: Engineering

Program of Study: Engineering Foundations

Meets foundation requirement for math, science, fine arts, English, LOTE? YES ▾

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.

[TEKS link](#)

- 1 credit
 - Grades 11-12
 - Lab supplies or fee may be required
- Required prerequisites: Algebra II, Chemistry, Physics (or concurrent), **AND** [Engineering Design & Presentation I **or** Robotics II K]

Industry Certification/Credential: n/a

Instructional Units	Grading Period
Introduction to Engineering Discovering Design	N1 (fall)
Reverse Engineering Understanding Data	N2 (fall)
Data-Driven Design	N3 (spring)
Algorithms and Programming Engineering Systems	N4 (spring)

Primary Instructional Materials: Engineer Your World curriculum from University of Texas at Austin