

Crandall ISD offers courses in the Science, Technology, Engineering and Mathematics career cluster. We have designed a program of study that will allow you to complete three or four years of coursework preparing you for a great career in STEM.

STEM Endorsement with Science, Technology, Engineering and Mathematics Cluster Courses:

Concepts of Engineering & Technology

Engineering Design & Presentation

Engineering Design & Problem Solving

Business Information Management I and Professional Communications can be used with each cluster for a coherent sequence of courses.



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Equal access to Career & Technical programs and activities is assured students in the Crandall Independent School District without regard to race, color, national origin, gender, or disability.



CRANDALL HIGH SCHOOL

SCIENCE, TECHNOLOGY, ENGINEERING AND MATHEMATICS



WHAT COURSE SHOULD I TAKE?

The Science, Technology, Engineering & Mathematics cluster includes chemists and civil engineers. In STEM, you might choose to focus on Engineering and Technology or Science and Math in high school and college. The electives you choose can complement your core academic studies.

CONCEPTS OF ENGINEERING & TECHNOLOGY

1 Credit Grades 9-12

Prerequisites: None

Concepts of Engineering and Technology provides an overview of the various fields of science, technology, engineering, and mathematics and their interrelationships. Students will use a variety of computer hardware and software applications to complete assignments and projects. Upon completing this course, students will have an understanding of the various fields and will be able to make informed decisions regarding a coherent sequence of subsequent courses. Further, students will have worked on a design team to develop a product or system. Students will use multiple software applications to prepare and present course assignments.

ENGINEERING DESIGN & PRESENTATION

1 Credit Grades 11-12

Prerequisites: Concepts of Engineering & Technology

Students enrolled in this course will demonstrate knowledge and skills of the process of design as it applies to engineering fields using multiple software applications and tools necessary to produce and present working drawings, solid model renderings, and prototypes. Students will use a variety of computer hardware and software applications to complete assignments and projects. Through implementation of the design process, students will transfer advanced academic skills to component designs. Additionally, students explore career opportunities in engineering, technology, and drafting and what is required to gain and maintain employment in these areas.

ADVANCED DESIGN & PRESENTATION

1 Credit Grades 9-12

Prerequisites: Concepts of Engineering & Technology and Engineering Design & Presentation

This course will provide students the opportunity to master computer software applications in a variety of engineering and technical fields. This course further develops the pro-

cess of engineering thought and application of the design process.

ENGINEERING DESIGN & PROBLEM SOLVING

1 Credit Grades 11-12

Prerequisites: Concepts of Engineering & Technology, Engineering Design & Presentation and Advanced Design & Presentation

Engineering design is the creative process of solving problems by identifying needs and then devising solutions. This solution may be a product, technique, structure, process, or many other things depending on the problem. Science aims to understand the natural world, while engineering seeks to shape this world to meet human needs and wants. Engineering design takes into consideration limiting factors or "design under constraint." Various engineering disciplines address a broad spectrum of design problems using specific concepts from the sciences and mathematics to derive a solution. The design process and problem solving are inherent to all engineering disciplines.