

CFISD Engineering Mathematics K (ARC)

Scope and Sequence

Course Description:

Engineering Mathematics is a course where students solve and model design problems. Students will use a variety of mathematical methods and models to represent and analyze problems that represent a range of real-world engineering applications such as robotics, data acquisition, spatial applications, electrical measurement, manufacturing processes, materials engineering, mechanical drives, pneumatics, process control systems, quality control, and computer programming. This course satisfies a high school mathematics graduation requirement.

- Grade 11
- Required prerequisites: Algebra II, Digital Electronics K and enrollment in CFISD ARC Academy
- A Lab fee will be required.

TEKS

Program of Study: Automation, Robotics & Computer Science

Cluster: STEM (*Science Technology Engineering and Mathematics*)

Endorsement: STEM (*Science Technology Engineering and Mathematics*)

- Meets advanced course requirement (Y/N): *Yes*
- Meets foundation requirement for math, science, fine arts, English, LOTE (Y/N-area): *No*

Industry Certification/Credentials: *None*

Instructional Units	Pacing
<p>1st Semester</p> <p>Mathematics in Engineering</p> <p>Mathematically Based Hydraulics Concepts</p> <p>Mathematical Concepts of Structure Design</p> <p>Trigonometry in Spatial Applications</p> <p>Multi-View Computer-Aided Drafting and Design</p> <p>Measuring Electronic Quantities</p>	<p>1st Grading Pd</p> <p>2nd Grading Pd</p>
<p>2nd Semester</p> <p>Mathematical Principles of Pneumatic Pressure and Flow</p> <p>Mathematical Principles of Material Engineering</p> <p>Mathematical Principles for Mechanical Drives</p> <p>Mathematical Principles for Mechanical Drives Part II</p> <p>Mathematical Principles of Quality Assurance</p> <p>Employability Skills</p>	<p>3rd Grading pd</p> <p>4th Grading Pd</p>