



Chandler Unified School District

EGR720 Engineering – Design and Modeling

SY 2023-24



Course Overview

Course Description

This hands-on course introduces the Engineering Design Process. Students will learn basic 3D modeling techniques, multiview and isometric sketching, CAD (Computer-Aided Design), and other engineering skills. Students will engage in collaborative activities to design solutions to various problems.

AP/IB/Dual Enrollment

No

Prerequisite/Fee(s)

None

Course Materials

Class materials will be provided. However, donations are always appreciated.

Please refer to the Amazon Wish List on my website. Currently, we are in need of rockets and engines.

We consistently need:

- recyclables like toilet paper, wrapping paper and paper towel holders
- foam sheets
- felt sheets
- small cups
- pipe cleaners
- old Lego parts or other building system pieces
- any additional crafting supplies

Adopted Resource(s)

Students will be tasked with problem-based design challenges. In addition, they will be designing and 3D printing various projects. We will be using Autodesk Fusion 360, an industry-level computer-aided design software package. It is free for education and recommended for students ages 13+. If you do not want your child to use this software, please notify me.

**An asterisk will indicate a resource containing sexually explicit materials per legislative definitions. CUSD has determined that all resources listed above are of exceptional educational value.*

Site and Faculty Information

School name and address:

Arizona College Prep Middle School, 1150 W Erie St, Chandler, AZ 85224

Building principal:

Manjula Reddy
reddy.manjula@cusd80.com

Teacher:

AnnMarie Filiere BA
filiere.ann@cusd80.com

Office hours: Monday and Wednesday 7:15-7:45

Course Access

90% - 100%

80% - 89%

70% - 79%

60% - 69%

<60%

Quarter grades

Students have every opportunity to earn an "A" in this class if they are respectful, hardworking, follow directions and work positively with peers. Each project has a rubric with a set of criteria and constraints. Students will provide input, assessing how well their project solution matches the criteria provided. Students will also be given the opportunity for personal growth reflections as well as offering feedback on teammates during collaborative projects.

During problem-based learning time, students will be completing self-reflections based on the criteria below:

- I follow our class norms.
- I am kind and respectful to everyone.
- I am a diligent and dedicated team member demonstrated by my efforts to ensure project success.
- I demonstrate a high level of focus, perseverance, and on-task behavior.
- I always have a positive attitude, even if things are not going so well during challenges.
- I collaborate positively by listening to and respecting varying opinions, effectively communicating, and engaging in compromise.
- I maintain self-control and do not interfere with a student's right to learn.
- I take responsibility for my words and actions.
- I have academic integrity.
- I work safely with tools and take care of all materials. If something accidentally breaks, I notify Mrs. Filiere immediately.
- I help contribute to a positive classroom environment including during clean-up.
- I understand that Mrs. Filiere is here to help support my personal, social and academic growth; I can reach out to her at any time.

Semester grades

Semester grades are calculated using 40/40/20: Each quarter accounts for 40% of the semester grade and the final exam accounts for the remaining 20%.

Units of study

Units for EGR720 Engineering – Design and Modeling

The Design Process

Orthographic Projection Including Isometric Drawings

Measurement and Dimensioning

History of Engineers and Their Contributions to Society

Computer-Aided Design and 3D Printing

Application of the Design Process to Solve Real World Problems

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Parent/Guardian

Acknowledgment

Parents/Guardians should indicate if they “Acknowledge” or have a “Potential Conflict” with their student’s participation in the following units by checking the appropriate box for each unit of study listed. Students cannot opt out of a standards-based unit. Marking “Potential Conflict” will prompt the teacher to make contact regarding assignment alternatives.

Unit of study	Acknowledge	Potential Conflict
The Design Process		
Orthographic Projection Including Isometric Drawings	<input type="checkbox"/>	<input type="checkbox"/>
Measurement and Dimensioning	<input type="checkbox"/>	<input type="checkbox"/>
History of Engineers and Their Contributions to Society	<input type="checkbox"/>	<input type="checkbox"/>
Computer-Aided Design and 3D Printing	<input type="checkbox"/>	<input type="checkbox"/>
Application of the Design Process to Solve Real World Problems	<input type="checkbox"/>	<input type="checkbox"/>

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By signing and returning this form, the parent/guardian acknowledges they have reviewed the resources and units of the study included in the syllabus.

- As the parent/guardian, I understand that I may contact the teacher if I have questions about the resources, content, or units of study.
- As the parent/guardian, I understand I can check my student’s grades in Infinite Campus anytime during the school year.

Student name (printed)

Student signature

Parent/Guardian name (printed)

Parent Signature

Date

Please return this page to your student’s teacher.