

Engineering and Design

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Course Introduction

Welcome to Engineering at Corbett. This is an elective class that will focus on introductory concepts in engineering and across engineering disciplines. We will focus on the engineering design process and how it is applied in the different fields of engineering. We will learn the associated decision-making and problem-solving techniques that are used in the fields of engineering. This will be a project based class with the goals of learning about engineering and having fun! You will work in groups and learn to apply teamwork strategies and effective communication skills to successfully complete projects and communicate your results.

Almost all of class activities are posted on google classroom. You will need to use your school email to sign up for this class. It is important to check here for the days activities and if you are absent for any work that has been missed.

Grading

The vast majority of our class work will be project based. This is where you will demonstrate that you understand the topics covered and are willing to explore them. Most projects will be groups based with some individual. You will be expected to participate fully in your group. Groups self-assessments may be used to help motivate this. In addition to projects, there will be routine classwork to help reinforce, through practice, the concepts covered in class. There will be an occasional exam and/or quiz on certain topics. The approximate course weighting is as follows (and is subject to change with ample notice!):

- Classwork 30%
- Assessments 10%
- Projects 60%

Course Outline

We will approach the following topics in the listed order. There is not a time frame listed so as to allow us the freedom to explore further or move on as justified by the needs of the class. This outline is subject to change with ample notice:

- Introduction to engineering
- The engineering design process
- Civil engineering
- Urban/City planning
- Civil engineering manufacturing and construction techniques
- Manufacturing and design
- 3D printing
- Mechanical Engineering
- Electrical Engineering
- Robotics
- Computer Aided Design
- Aerospace Engineering

Behavior

Standard classroom behavior is expected. Be respectful...of yourself, your classmates, me, and the school's equipment. I do not have complicated sets of rules, if you can't handle being in class, or comply with the teacher's reasonable requests, you will be asked to leave and not participate in class that day.

Phones - Nope. Sorry. I'll ask you once to put it away, then I will just keep it safe for you for the rest of the day. There may be a time and place to use your phone in class. When I am lecturing is definitely not a time. If you need to use your phone. Quietly get up and leave the room. Return when you are finished.

Computer Acceptable Use - We will be using computers often in the class. This means that it is just automatically assumed that you aren't going to do anything stupid. Stay on task and stay appropriate. You will be held to the schools computer use policy which can be found in the student handbook.

Safety - We will, on occasion, be working with tools and materials that can pose a safety risk if mishandled. Safety is important and you will learn the appropriate ways to use and work with any equipment we may need. You will be expected to comply when asked to wear appropriate safety gear (i.e. goggles) when needed and employ correct safety practices.