



Grandview High School – Course Syllabus

Course Name: Introduction to Engineering Design (IED)

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2 trimester course, 2021-22

Course Description

IED is an entry level engineering class that will challenge the students to think outside the box to create solutions to some of the world's problems while meeting certain constraints and criteria. This course will allow the students to work together and generate solution ideas. It will require students to use the design process and follow certain steps to ensure that their ideas and solutions are the best for given problems. This course uses hand sketching, computer sketching and also requires the students to build, construct, invent and innovate.

Course Goals

1. A goal for this course is to teach students how they can benefit from perseverance through the use of the design process.
2. To generate unique ideas and act on them as a team, being a team member, sharing team roles and being held accountable for your role in a design team's efforts to meet strict deadlines.
3. To maintain precision in both measuring and scale factors for hand sketches and computer design sketches.
4. To be able to create parts on the computer design program and create business style sales pitches for your individual ideas

Text and Reading Materials

1. All reading and text materials will be provided by the instructor for this course.
2. Online resources will be available for students to do work outside of the classroom
3. Computer labs will be available for students to complete work after school

State Standards:

This course is designed to meet the national and state standards for Science, Technology, Engineering and Math. It will also align with the ELA common core state standards.

Required Supplies

- Engineering notebook (Composition notebook with graph paper acceptable)
- Metal ruler for sketching
- Colored pencils
- Pens and regular pencils

Course Outline

- Students will create, design, invent and innovate while meeting constraints and limitations
- Students will know how to build, sketch and model ideas using the computer design software
- This course will contain an end of course exam that requires students to show proficiency levels are being met

Course Schedule

IED is a project-based course, which means most of the heavy assignments are going to be projects that the students are working on together. This means that the students' attendance and discipline are a vital part to the success of this course. Exams and assessments will be given to review whether or not expectations, vocabulary and general engineering rules are being met.

Major Assignments

This course contains a couple major projects that will make up a large percentage of your grade. All major projects will contain a 30% and 70% completion checkpoint, which are normal in an engineering career. The major assignments will also require student presentation at 100% completion and will be assessed by rubric.

Assessment Format

Assessment will be both formative and summative and based on quizzes, tests, presentations, and assignments amongst other methods.

Classroom Expectations

- Students will be expected to adhere to all policies, procedures, and rules as outlined in their Grandview High School student handbook.
- Students will also be expected to follow the following classroom rules and regulations:
 1. Be on time and in your seat when the bell rings ready to learn.
 2. Be prepared- Bring proper materials, and study for tests, quizzes, etc.
 3. Students are encouraged to ask questions, but be courteous to others around them. Raise your hand to ask and answer questions, and be ready to be called upon.
 4. If you are absent it is up to you to find out what you missed. This includes all homework assignments and lecture notes.
 5. Cheating, plagiarism, and other types of academic dishonesty will not be tolerated and will be dealt with as outlined in the student handbook.
 6. Treat all staff, students, guest speakers, etc. with a great deal of respect. These individuals are vital to your success and are here to see all of you succeed.

Absence and Tardy Policy

Attendance is mandatory. **If you are not in your seat when the bell rings you are considered tardy.**

Grading Scale

Point Value	Letter Grade	High Percentage	Low Percentage
4.00	A	100.00	93.00
3.70	A-	92.99	90.00
3.30	B+	89.99	87.00
3.00	B	86.99	83.00
2.70	B-	82.99	80.00
2.30	C+	79.99	77.00
2.00	C	76.99	73.00
1.70	C-	72.99	70.00
1.30	D+	69.99	67.00
1.00	D	66.99	60.00
0.70	F	59.99	57.00
0.30	F	56.99	53.00
0.00	F	52.99	

Grading Policy

- Student attendance, effort, attitude and other behaviors will be reported separately from achievement.
- Late work will not be marked down.

- Students will have a minimum of five (5) school days beyond the assignment or assessments posted due date or the date it was returned, to complete it, unless there are extenuating circumstances. A zero will be placed in the grade book until the work is complete or until the end of the five days. When the work is complete the grade will be changed to the earned grade permitting it is within the timeframe specified above.
- In the case of academic dishonesty, the student will be referred to the office to receive their consequence. Students will also be given the opportunity to take the test over or receive a zero.
- Students have a right to make up work missed due to absences.
- Grades will be based on the achievement towards district course/grade level standards. Therefore, the grades will be organized and recorded by unit of study.
- Students will be able to track their progress through Skyward.

Caveat

This is a general syllabus and cannot possibly detail the entire scope of the curriculum. Due to the changeable nature of daily school activities and the dynamics of specific classes, the order and scope of the class may vary.

Student Name Printed