

# Introduction to Engineering Design

## 2016/2017

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### Course Description:

Welcome to Introduction to Engineering Design. Introduction to Engineering Design (IED) is a high school level foundation course in the Project Lead the Way (PLTW) Engineering Program. In IED students are introduced to the engineering profession and a common approach to the solution of engineering problems, an engineering design process. Utilizing the activity- project-problem-based (APB) teaching and learning pedagogy, students will progress from completing structured activities to solving open-ended projects and problems that require them to develop planning, documentation, communication, and other professional skills.

### Units Covered:

#### IED Unit Summary

Unit 1.....	Design Process
Unit 2.....	Technical Sketching and Drawing
Unit 3.....	Measurement and Statistics
Unit 4.....	Modeling Skills
Unit 5.....	Geometry of Design
Unit 6.....	Reverse Engineering
Unit 7.....	Documentation
Unit 8.....	Advanced Computer Modeling
Unit 9.....	Design Team
Unit 10.....	Design Challenges

### How to be Successful:

1. Cultivate outstanding study habits: complete reading material prior to lecture, work on problems concurrent with lecture, etc.
2. Listen during lectures, take accurate, thorough notes to focus your attention, and ask questions.
3. Keep an awesome Engineering Notebook.
4. Seek help during 7<sup>th</sup> period.
5. Use your class time to work on IED material only.

### Course Materials:

1. You must bring your Engineering Notebook every day to class.
2. ALL STUDENTS WILL NEED TO PROVIDE THEIR OWN **SCIENTIFIC CALCULATOR**.
3. A flash drive is required to save your work from the computer. Never save to the computer, always log off after using the computers.
4. Students should keep an organized three-ring binder, which might include the following sections: Notes, Activities, Quizzes and Homework. **Finals are cumulative** and old quizzes, worksheets, and notes are the best study guides. Please organize your notebook in a way that works for you.

### Course Assessment/Grading:

Your semester grade will be determined using a weighted average, which means that each of the grading categories described below will represent a certain percentage of your final grade.

#### **Homework:**

I have never believed in busy work, so the homework that you are assigned is meant to reinforce what we are learning. This category is worth **25%**.

**Quizzes:**

This category will represent **45%** of the final grade. They will be based on the homework that is assigned, so another reason to complete the homework. Quizzes assess the students understanding of the material on a frequent basis.

**Participation:** Active, positive engagement in the course is crucial for success. This category is **10%** of the grade.

**Semester Final:**

At the conclusion of each semester students will be given a cumulative test assessing their level of understanding of the previous material. This category is worth **20%**.

**Grading structure:**

A+ 97.0%	B+ 87.0%	C+ 77.0%	D+ 67.0%
A 94.0%	B 84.0%	C 74.0%	D 64.0%
A- 90.0%	B- 80.0%	C- 70.0%	D- 60.0%

**Cheating**

Copying with the intention of passing another's work off as your own is cheating. This includes copying homework, copying lab data, copying lab reports, and copying on tests and quizzes. You will receive a zero on the assignment, an academic dishonesty referral and a call home. Most importantly you will have lost my respect and will always have the eye of suspicion upon you.

**Class Policies:**

1. I don't award extra-credit points. If you want a good grade, strive to do well on the assigned work.
2. You should expect approximately 1-2 hours of homework every week. Much of your success depends on the amount of time and effort spent in preparation for this class.
3. Work missed due to an **unexcused** tardy, absence, or truancy may not be made up. Refer to the student handbook for specific information.
4. For an **excused** absence, it is your responsibility to come in on the off day and find out what you missed. Talk to me between classes, lunch or 7<sup>th</sup> period. *"I didn't know what the assignment was"* is not an excuse. Phone a friend, email, text, email me.
5. If you miss a test or a quiz (**excused absence only**) it is your responsibility to make the test up **on your own time**, usually during 7<sup>th</sup> period support time. Be responsible and don't miss class.
6. Each student will have two bathroom passes per semester. Once they have been used you're stuck in class.
7. **Absolutely no cell phones, ipods, or other electronic devices in class.** If I see it, or hear it, it's mine!!!

