

# Orange High School

## Intro to Engineering Design Syllabus

Instructor: Ms. Sonya Nikolaidis

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Parents/Guardians are encouraged to contact me regarding any concerns with your child in my class. You can reach me at my email address or using Remind (text messaging app). I will do my best to return emails within 24 hours and text messages within a few hours.

While in virtual learning we will also be communicating through Google Classroom. All parents are encouraged to join their students' Google Classroom and see what we are doing in class. Please leave your email if you would like to be invited to Google Classroom.

### **Course Description:**

Introduction to Engineering Design (IED) is a high school level course that is appropriate for students who are interested in design and engineering. The major focus of the IED course is to expose students to design process, research and analysis, teamwork, communication methods, global and human impacts, engineering standards, and technical documentation. Students will learn how engineers apply a design process to solve real-world problems. They'll also work individually and in teams to apply math, science, and a variety of engineering tools, including 3D modeling software, to design, document, and communicate their engineering work.

The course assumes no previous knowledge, but students should be concurrently enrolled in college preparatory mathematics and science.

This course is a Project Lead the Way (PLTW) course and is followed by Principles of Engineering (POE) and Design of Electronics (DE).

**Course Objectives/Outline:**

Unit 1: Design and Problem Solving

Unit 2: Assembly Design

Unit 3: Thoughtful Problem Design

Unit 4: Making Things Move

**Course Materials:**

PLTW.org

**Required Supplies:**

- Pencil, pen and eraser
- Notebook (required by the district)
- If your student is having trouble with Kami software, a grid / graphing Notebook will be required

**Grading Policy:**

Each nine weeks, grades will be based on quiz/test performance, homework, class work, class participation and authentic assessments.

**Tests:** 25% (at least 2 per marking period)

**Authentic Assessments:** 25% (at least 2 per marking period)

**Quizzes:** 20% (at least 3 per marking period)

**Class Work:** 20% (at least 9 per marking period)

**Homework:** 10% (at least 9 per marking period)

Grades are regularly updated in genesis and are available for review at any time.

**Homework:** Homework will be assigned regularly in this course.

Homework is a way to practice concepts covered in class, as well as help you retain skills over the course. Practice is essential for mastery and success. Without practice, without doing your homework, you will have a difficult time passing. It is your responsibility to turn in your homework on time, whether it be virtually or in person.

**Late Homework:**

For students having trouble with homework, I am available for Office Hours Wednesdays and Fridays from 1:30PM to 2:30pm.

After the due date, **I will not accept late homework unless you come to see me in Office Hours.** I will not be accepting a pile of late assignments at the end of the marking period.

### **Class Work:**

Students will have classwork during every class, including a “do now”, an “exit ticket” and possible other work throughout the class period.

Whether it is individual work or group work, students are expected to actively work on these assignments. Students can get extra credit on classwork for answering questions and explaining to others.

### **Authentic Assessments:**

As this class is about solving problems, there will be many projects graded as authentic assessments throughout the course. Students will receive a rubric ahead of time explaining how their projects will be graded. In group projects, students will receive both a group and an individual grade reflecting their contribution.

### **Quizzes/Tests:**

Students will have at least one quiz and test in each topic. All quizzes will be announced at least one class period before and tests will be announced at least 4 days in advance.

### **Absence Policy:**

In the event of missing class, you are responsible for getting all the information that was covered in class. You will not be able to make up do nows, exit tickets or classwork, BUT it will not count against you.

Homework can be made up for full credit in the event of missing class. If you miss a test or quiz, we will discuss your situation on a one-to-one basis to determine if and when a make-up test/quiz will be given.

### **Classroom Rules of Conduct (virtual and in person):**

1. Bring your materials to class everyday: pencil, eraser, notebook or grid notebook.
2. Be on time and be prepared to begin as soon as the bell rings.

(In the case of virtual classes make sure that you log in before the designated start time and are prepared to work when class starts.)

3. Be considerate of other people's feelings, opinions and thoughts. Virtually, only one person should speak at a time and all others should have their microphones muted.
4. Pay attention and participate in class, whether virtually or in-person, you should ALWAYS have your camera on so that I can see that you are actually there and participating.
5. All cell phones/electronics will be on silent and put away during class. All ear buds will be removed when in in-person instruction.
6. Profane language will not be tolerated in the classroom.
7. Be polite and respectful to any visitors to our class. Virtually, you may not be aware that another teacher, vice-principal, principal, superintendent or other guest is in the room, so always be on your best behavior.
8. Students will adhere to all OHS rules and policies.

This syllabus may be amended during the school year. I wish you and your child much success this school year! Please discuss this syllabus with your parent/guardian and sign it virtually.

### **Intro to Engineering Design Syllabus Agreement**

Students Printed Name: \_\_\_\_\_

Student's Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Parent's Printed Name: \_\_\_\_\_

Parent's Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Current Parent Phone Number(s): \_\_\_\_\_

Current Parent Email: \_\_\_\_\_

Would you like to be invited to your child's Google Classroom? \_\_\_\_\_