Engineering Design & Development (EDD)
Syllabus & Course Expectations
2022-2023

Instructors/Course Titles

- **Mr. Corey Eckhart-** Applications of Physics in Engineering
- **Ms. Breanna Snyder**- PLTW Engineering Design and Development
- **Ms. Andie Shore**- English for Engineering

Google Classroom Code:
** Learning for all three courses will be managed through google classroom**

Course Description

Engineering Design and Development (EDD) is the capstone course in the PLTW high school engineering program. It is an engineering research course in which students work in teams to research, design and develop an original solution to a valid open-ended technical problem by applying the engineering design process. At the end of the course, student teams must submit a final written report as well as report and defend their final solution. In addition, students will complete smaller group projects during the first semester. In addition, this course is a look to the world of engineering while examining it through the lens of physics. In this course we will examine the tools and processes that engineers use in their work. We will work on design and building challenges which get students to go through the engineering process themselves while applying the laws of physics to help us understand how to design a working model and, later, to help us understand how our designs work. Lastly, this course will help you to hone the critical reading and thinking, research, and writing you will need to succeed in your career. This course is also preparing students to write as engineers in professional environments. You will learn to synthesize information, find answers, and present ideas to some of the different audiences you will encounter. Learning to write well will enable you to present yourself in an authentic and professional manner, as well as guide you through processing the work you complete with internal reflection. You will learn how to communicate your knowledge, plans, and ideas in a professional manner, but more importantly, you will learn to do so with intellect and advanced diction. By the end of the course, students should be confident in utilizing this knowledge in the construction and completion of a writing portfolio and self assessment.

Donation Request

State law requires us to provide a public education free of charge. Subject to certain exceptions, the right to a free public education means we cannot require students or their families to purchase supplies. Santa Monica High School will provide all necessary supplies for your child to have a quality educational experience. Students enrolled in Santa Monica High School are not required to pay any fee, deposit, or other charge for participation in an educational activity offered by the school or the Santa Monica-Malibu Unified School District, except as authorized by law. Donations are sought and accepted for various activities and supplies, and are at times critical to the continued success of classes and activities, but donations are voluntary.

Due to limited funding for necessary materials/supplies we ask that parents/guardians make a donation to the PLTW Engineering Class to purchase materials for the upcoming capstone projects, and for potential transportation costs to JPL, We are requesting a donation of $50 per student, but any amount is greatly appreciated. These funds will make the 4th year engineering class better for all students. You may send this donation by check made out to Santa Monica High School ASB and write " PLTW Engineering" in the memo.

I thank you in advance for your willingness to help support the program.

Classroom Materials

Students enrolled in Santa Monica High School are not required to pay any fee, deposit, or other charge for participation in an educational activity offered by the school or the Santa Monica-Malibu Unified School District, except as authorized by law and consistent with the California constitution and Hartzell v. Connell (1984) 35 Cal.3d 899. For more information, go to http://www.smmusd.org.

Topics:

Unit 1:	**Unit 2:**	**Unit 3:**	**Unit 4:**
Ethics in Engineering	JPL Invention Challenge	Research Project: Justification and Design	Research Project: Build, Test & Reflect

Expectations of Students

Students are expected to follow all classroom procedures as well as the school wide policies for behavior.

- ***Classroom Policy:***
  - *Students are expected to participate in class enthusiastically and safely, and complete all assigned work.*
  - *Students are expected to follow the laboratory safety rules during all laboratory projects*
    - *Student attire must be school appropriate, and appropriate attire must be worn to complete laboratory assignments (closed-toe shoes for labs)*
  - *Students are expected to have cell phones or other technology distractions put away or turned off during class.*
- ***Attendance:***
  - *Students are expected to attend all class periods and will be marked "absent" if not in attendance.*
  - *If you are absent it is your responsibility to check google classroom and complete the work that you missed. You may get additional help for a missed class during flex time or office hours. The best way to get missed work is to download the work from Google Classroom.*

Grading Categories

- Assessments (80%)
  - Assessments include Projects, Presentations, and Labs
  - Students will be given the opportunity to resubmit any Project for full credit. The project reassessment score will replace 100% of the original assessment score
- Assignments (20%)
  - Assignments include updating and managing a digital portfolio (Website/Blog) and any other in Class Activities
  - Assignments will be graded based on the following types of feedback and may include (but are not limited to): points/grades on Aeries, in-class review of overall trends/patterns, self-correction, peer review, group work, class discussion, teacher written or verbal comments.
  - Grace Period for Assignments – Assignments completed after the due date will be accepted until at least the end of the grading period with no late penalty.
  - Samohi Homework Policy

Grading Scale & Distribution

A	93-100%
A-	90-92%
B+	87-89%
B	83-86%
B-	80-82%
C+	77-79%
C	73-76%
C-	70-72%
D+	67-69%
D	63-66%
D-	60-62%
F	50-59%

Schoolwide Classroom Policies

- **Attendance Policy**
  - Students will be allowed one day per day missed in order to make up work.
  - Students who are absent on a test or quiz day will take that assessment the following day during class. If a student is absent for an extended period of time, it is the student's responsibility to make arrangements with the teacher on the day that they return.
  - Students will be required to make up missed labs during a designated time (usually flex time) as decided on by the student and teacher
- **Academic Honesty Policy**
- **Electronics and Cell Phone Policy**
- Minimum F Policy
  - All assignments, assessments and exams within each grading period will use 50% as a minimum F grade.