



# Engineer Your World

Greg Poe

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2021-2022

Jackson High School



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**Instructor:** Gregory Poe

**Room:** C204

**Office Phone:** (425)-385-7000

**Tutorial/Office Hours:**

2:05 – 3:00 Tuesday, Thursday, or by appointment

\*\*\* I do not tutor students that show up after 2:30 without prior approval

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**Website:** [bit.ly/misterpoe](https://bit.ly/misterpoe)

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**Course Description:** This course introduces students to engineering through a series of projects like creating a pinhole camera, designing an earthquake-proof tower, building an aerial imaging device, etc. Students often express their love for this course because it's project-based, meaning there are no worksheets or tests. Each project lasts about a month and teaches a core engineering practice.

## Course Outline:

### FALL SEMESTER

Unit 0: Introduction to Engineering

Unit 1: Designing Pinhole Cameras

Unit 2: 3D Modeling

Unit 3: Programming Electronic Music

Unit 4: Creating Aerodynamic Cars

### SPRING SEMESTER

Unit 5: Reverse Engineering

Unit 6: Electronic Circuitry

Unit 7: Build Earthquake-Proof Buildings

Unit 8: Aerial Imaging project

**Paternity Leave:** My first child, Anderson, should be born around mid-October. There'll be a substitute from that time until the end of the first semester. She'll introduce herself when we get to that point. Much of this syllabus will probably change at that time.

**Pandemic Learning:** As of the beginning of this school year, students are required to socially-distance by 3 feet and wear masks. Masks must cover their mouth and nose at all times. If students need a drink of water, they must lift their mask over one ear, take a sip, and immediately put it back.

**Canvas:** Students need to bring their charged laptops every day. This class implements Canvas as much as possible. Assessments, and peripheral software are accessed, submitted, and graded via Canvas. Parents may view our Canvas, but they cannot interact with its assignments. I recommend that parents download "Canvas Parent" that students download "Canvas Student" on their phones. More information about accessing Canvas can be found [here](#).

**Gradebook:** Parents and students can access grades [here](#). Note, all assignments are unweighted, meaning that they don't affect the average. I implement standards-based grading, which assigns grades for *learning*, not for individual assignments. Students earn about 12 weighted grades per semester, mostly determined by assessments.

**Communication:** The best way to reach me is via email. Parents and students may email me to request a date and time to conference. Additionally, I periodically email newsletters to parents.

**Office Hours:** I'm available for tutoring on Tuesdays and Thursdays after school from 2:05pm until 3:00 pm. I'm also free by appointment if those times don't work. During that time, students and parents can come to my classroom, email me to ask questions or initiate a Zoom meeting.



**Late Work:** At the end of the day, I grade portfolios, not daily tasks. If a student completes their project late, that's not going to affect their grade. I do not penalize for late assignments. However, it's wise to keep up with the class, because falling behind can leave students overwhelmed.

**Grading:** 100% of students' grades are determined by their portfolio. For each project, students must gather information, take photos, etc., and compile that for a portfolio entry. If we complete 10 projects, that means students should have 10 portfolio entries, each of which having several pages. I will conference with students periodically to make sure they're completing their portfolios correctly. All instructions are on Canvas.

Portfolio Scores follow this rubric:

Mastery	4	A	The portfolio includes all required information. The student proves that they've mastered the concepts. They've applied their knowledge to something new. Additionally, the entry is neat and professional.
Proficient	3	B	The portfolio includes all crucial information. The student proves that they understand the basic concepts intended for them, but they do not extend their knowledge.
Developing	2.2	C	The portfolio is missing some information. The student has some grasp of the concepts, but has some holes in their understanding.
Beginning	1.5	D	The portfolio is missing much information. The student has little grasp of the concepts.
No Evidence	0	F	The student either did not complete a portfolio entry, or there's no evidence that they understood any concepts