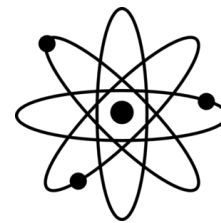




Physics by Design
Course Syllabus
2018-2019
Jackson High School



Instructor: Greg Poe

Website: bit.ly/misterpoe

Room: C150

Office Phone: (425)-385-7000

Email: gpoe@everettsd.org

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

Course Description & Objectives: This course introduces students to basic physics concepts and problem-solving strategies. Students explore dynamics, electromagnetism, and a variety of other topics through a series of real-world scenarios. This course provides problem-solving skills that are essential in the real world.

Required Materials: Students will need the following by Monday September 10th:

- A scientific calculator (it needs tan, sin, and cos buttons)
- A folder to store loose papers such as quizzes, worksheets, etc.
- A charged laptop and electronic pen

Onenote: We're attempting to have a (mostly) paperless classroom this year. All notes, warm-ups, homework, and even quizzes will be completed on student laptops instead of traditional binders. That way, students won't lose their assignments and I can easily grade notebooks from home. Here's an overview video of Onenote: bit.ly/onenote_overview. I will grade Onenote Notebooks at the end of each unit, so students must keep their notebooks up-to-date. It's imperative to charge laptops every day because, without a charged laptop, students will not be able to complete daily assignments.

Remind: My preferred way of communicating information is through Remind. It sends informational text messages to parents and students. If you'd like to sign up for Remind, go to bit.ly/poeremind. You'll receive regular reminders such as, "Don't forget that your Thermodynamics test is tomorrow!"

Google Classroom: Google Classroom is a virtual classroom where I'll post assignments, missing work, extra credit, etc. This is similar to a class website whereas Onenote is more like a binder.

Homework: Any classwork not completed before the bell rings will be homework. In my experience, most students finish their homework in class. Regardless, homework assignments are graded with Onenote Notebooks at the end of each unit. Students will receive reminders through the Remind app.

Cell Phone Policy: Unless I say otherwise, this is a phone-free classroom. If I see a student using their cell phone in class without my permission, I will take it with no warning and they will have to wait until after class to get it back. If a student refuses to give up their phone, it will be an automatic referral and call home. In emergency situations, students can ask permission to use their phone.

Tardies: Students are marked as tardy if they aren't in the classroom when the bell rings. It is extremely important that we begin class on time, and that means that every student must be sitting and working on their warm-up the second the bell rings.

If a student is tardy 3 or more times in a unit (typically 3-4 weeks), they will be required to come before/after school and scrape the gum off the bottom-side of desks for 30 minutes. If the problem persists, I will call home and write a referral to the principal.

Bathroom Policy: Only one student may go to the bathroom at a time, and they must leave their cell phone with me. Bathroom breaks are limited to 5 minutes unless the student asks for an extension. Failure to be back on time will cause students to lose their bathroom privileges.

Standards-Based Grading: I prefer using standards-based grading over a percentage-based system because it make learning more visible. See the example below. The value on the left represents a D on an electromagnetism test. What did the student get incorrect? He doesn't know. Now, look at the values on the right; this is the same test, except it's separated into three standards. The student now knows he must redo the magnetism portion of the test.

Percentage-Based

Electromagnetism Test
65%

Standards-Based

Electrostatics	Circuits	Magnetism
2	3	1

Parents and students are sometimes put off by standards-based grading because of the numbers. What exactly does a 3 mean? I've translated the grades below to help you understand.

Score	Definition	Translated Score
4	Above and Beyond Proficient	100%
3	Proficient Understanding	85%
2	Basic Understanding	70%
1	Requires Improvement	55%
0	No Evidence of Understanding	40%
M	Missing	0

Grade Distribution: What exactly makes up the final grade? See the breakdown below:

Onenote and daily assignments	20%
Tests/Projects	70%
Final Exam	10%

Retesting: Students may redo any assignment for full credit, even tests! It's typical for students to earn a B on their first attempt, retest, and end with an A. However, retests must be complete within one week and students can only attempt a higher grade once. After that, the highest grade they can earn on a retest is a 2.

Late Work: If a student is absent, they have 2 weeks to redo their missing work or else they will not receive one-on-one tutoring from me. It's difficult to tutor students on information they learned months in the past and 2 weeks is plenty of time to redo an assignment.

Course Outline:

FALL SEMESTER

Unit 1: Scientific Method, Math, and Measurement

Unit 2: Kinematics and Frames of reference

Unit 3: Vectors and 2D motion

Unit 4: Forces, Newton's Laws, and Friction

Unit 5: Circular Motion (Centripetal Force, Universal Gravitation, Torque)

SPRING SEMESTER

Unit 6: Work, Power, Energy, and Thermodynamics

Unit 7: Impulse, Momentum, and Collisions

Unit 8: Electricity and Magnetism

Unit 9: Waves and Sound

Unit 10: Light and Optics

Unit 11: Quantum Physics